

**APPENDIX E**  
**Archaeological Impact Study**



**Alton Gas Storage Project:  
Archaeological Impact Assessment**

(A2011NS33)

Submitted by:  
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For:  
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## **Executive Summary**

Stantec archaeologists conducted a walkover of the RoW for the proposed natural gas pipeline leading from the main M&NP pipeline to the storage facility near Alton, Hants County. The walkover found high potential for First Nation's archaeological resources only where the proposed pipeline crosses the Stewiacke River. The two proposed crossing areas were subjected to shovel testing but all of the tests were negative. It is recommended that the proposed project proceed as planned without the need for further archaeology.

## **Project Overview**

Alton Natural Gas Storage Limited Partnership (Alton, the Proponent) proposes developing an underground hydrocarbon storage facility in a series of engineered salt caverns near Alton, Nova Scotia (the Project). The proposed Project is initially intended to help manage the supply of natural gas in eastern Canada and the United States and may also be used for the storage of other hydrocarbons. The Project will consist of multiple caverns developed by solution mining in underground salt deposits. Solution mining is the process where water is used to dissolve salt deposits to form caverns, which then can be used as storage facilities. These salt deposits are natural geological formations located at depths of over 700 m. The caverns and their accompanying facilities will be capable of storing billions of cubic feet of natural gas produced during peak production/low demand periods and delivering it back to the gas pipeline system during periods of supply deficits. Salt cavern natural gas storage has been used extensively in North America for approximately five decades.

Key Project features include:

- buried pipelines from the area overlaying the salt formation to the Shubenacadie Estuary (the Estuary), at a distance of approximately 12 km, where water will be drawn to the facility near Alton with diluted brine returned to the Estuary during the cavern development process; and
- an underground natural gas storage facility in engineered salt caverns near Alton, Nova Scotia.

Initially, four caverns of approximately 226,000 m<sup>3</sup> (60 m diameter by 80 m in height) will be formed over 18 to 24 months, with construction commencing in the fall of 2007. Depending on

future market demand, the Project may develop as many as 10 to 15 caverns at a later date. If so, brining and gas storage operations may operate concurrently as additional caverns are developed.

The caverns will be developed in accordance with the requirements of the latest edition of Canadian Standards Association (CSA) Standard Z341, Storage of Hydrocarbons in Underground Formations, which are among the highest safety standards in the world and will ensure the safe development and operation of these underground storage facilities. Under the adherence of these safety standards, there has never been a significant safety event involving facilities developed and in use in Canada.

Water for solution mining and dilution will be drawn from the Estuary. Alton designed the proposed method of discharge so that the brine is diluted by pumped estuary water prior to being discharged into the Estuary. This will be accomplished by a holding pond and mixing pond which will be used to hold brine, dilute brine with estuary water and control the discharge back to the Estuary. The diluted brine will be discharged around high tide to minimize the difference in salinity between the effluent and the receiving water body and to maximize the potential for mixing. Modeling results indicate that the salinity of the diluted brine discharged into the Estuary will be within the range of salinities that are normally experienced in the Estuary. This, as well as using relatively small amounts of water, compared to overall flow at the intake site, will minimize any potential impact on the aquatic environment.

## **Background Research**

### **Recorded Archaeological Sites**

While there are no recorded archaeological sites within the study area, background research indicates the presence of at least five recorded pre-Contact archaeological sites within 6 km of the SA – BgCt-01, 03, 04, 05, and BhCt-01. The proximity of these sites and the location of the study area suggest that there is a high potential for SA containing intact archaeological resources.

### **Archaeological Potential - Historic**

The background research found no archaeological concerns within the RoW and, therefore, the historic archaeological potential is considered to be low.

### **Archaeological Potential - First Nations**

While there are a number of minor watercourses running through the RoW all are considered as having low archaeological potential, mainly based on the fact that they are too narrow and shallow to have been navigable. The one major watercourse running through the RoW is the Stewiacke River, which contains a number of recorded archaeological sites, and both banks of this river are considered as having high archaeological potential

## **Archaeological Fieldwork**

### **Pedestrian Survey**

This survey began at the south end of the alternate route and traveled along that route, meeting the preferred route and traveling south back to the car. The start point is on the east side of a decline to a small watercourse. The forest in this area but appeared to be secondary growth of spruce, pine, and some young maples. Much of the terrain in this area was low, damp, scrub forest of spruce with moss-covered ground. There were four small watercourses encountered in alternate route leg of the survey, varying in width from 1 to 2m wide and in depth from 10 to 15cm deep. All were confirmed to not be navigable and were confirmed to be low potential. The survey then turned south and traveled along the preferred route back to the starting point. There were two small watercourses encountered in this leg of the survey; one was about 1 to 1.5m wide , about 15 to 20cm wide with a steady flow to the west. The forest in this area was mainly

first growth maple, elm, spruce, ferns and moss along the banks. The terrain was flat with a slope up to the north flat and a wet area to the south. There was no terracing evident. The second watercourse was 2 to 3m wide with a deep, steady flow from east to west. The forest was mainly softwoods with ferns and sedges along the stream bank. There was a slight rise with a relatively flat area on the south side. This area appears to be low potential given the small size of the stream and the fact that it does not lead to a large body of water.

The second leg of the survey continued north toward the Stewiacke River. There were a number of small watercourses through the RoW, but none were considered to be of any significance. The largest watercourse was at Stevens Road but it was small, marshy, with no archaeological potential.

The survey reached the south bank of the Stewiacke, which was a very steep grade down to the river, over undulating, moss-covered ground. It does level off to a certain degree about 30 to 40m from the river, but this still does not seem to be desirable area given its low nature. The vegetation was a second growth of young spruce and birch, with moss-covered ground. This area should be considered low potential both because of the slope, which would not be conducive to living on, as well as the wet ground, which would have been a breeding ground for insects in the spring and summer.

The north bank of the Stewiacke River, which, at the centreline was c. 25-30m wide with a steady flow from east to west, was evaluated. The bank on this side was level and flat, although it is a 10m-wide strip with a wet area to the north. Approximately, 10m north of the wet area the land rises sharply up to a large hill. The riverbank had been eroded by the spring high water and the banks were examined to see if there were artifacts present. Nothing was found. The wooded area is quite open with mature spruce and the occasional birch. The banks are roughly 8m wide and grass-covered. The water is too muddy to judge depths but it is certainly several metres deep. The woods continue upslope for c. 100m to the north before they hit a large clear-cut. From this point the land slopes up to a large terrace. The strip of ground immediately adjacent to the river



was considered to have moderate to high potential and it was determined that it should be shovel tested.

### **Shovel Testing**

The testing area (preferred route) was on the north bank of the Stewiacke River, an area that had been flagged as having archaeological potential during the pedestrian survey. During that same survey the south bank was determined to have low potential for containing archaeological resources because it had a slope that exceeded 30°.

The testing area consisted of an 8m-wide, flat, strip of river bank that was actively eroding, a strip of relatively high ground north of the river bank, a 20m-wide wet area, and a long upslope to the top of a large hill. It was determined that the narrow strip of dry ground north of the river was of low to moderate potential and would warrant some limited shovel testing, which could help to clarify its potential. The decision was made to place a single 40m-long test line perpendicular to the centre of the testing area with test pits placed every five metres. A north-south baseline was established using a gps to establish the approximate location of the centreline and the test lines were run perpendicularly from this baseline. The western half of the test line only ran for 10m before it hit the wet area and the east half was run for 20m from the centreline and shovel test locations were flagged at five metre intervals. The centreline test was designated as 0N 0E, the last test on the western line was 0N -10E, and the easternmost test was 0N 20E.

A total of seven tests were excavated along the test line. All tests were dug by hand and the soils were screened through a 6mm mesh. Standard shovel test record forms were filled out for every test and photographs were taken of each. The soils from all of the tests were basically the same: an organic-rich Ah-horizon overlaying a reddish-brown silty sand B-horizon and/or a brown silty sand B-horizon, that overlays a compacted, reddish-brown silty sand C-horizon. The average depth of the seven tests was 78.43cm, with the shallowest being 58cm and the deepest 92cm. No cultural material was recovered from any of the tests.

The area where the centreline of the alternate route crosses was examined and it was basically the same as the preferred route although the testable area was somewhat broader. This area was not tested at this stage as the proposed pipeline will be horizontally direct drilled, which will have little to no impact on the potential area. The results of the shovel testing at the preferred route also suggests that this area would have a low potential for containing archaeological resources.

There were no First Nation's artifacts recovered from any of the shovel tests excavated along the test line of the preferred route. The testable area was very narrow in this location and the presence of a wetland so close to it would make it a fairly unpleasant area to live, especially during the spring. There do seem to be much better places for the Mi'kmaq to have settled, particularly the flatter area downstream and, of course, the confluence of the Stewiacke and Shubenacadie Rivers, which has the highest archaeological potential in the area. The proposed project also involves horizontal direct drilling under the Stewiacke River, which would minimize any negative impacts along the river banks.

### **Conclusion and Recommendations**

The pedestrian survey identified the banks of the Stewiacke River as having a high potential for containing First Nation's archaeological resources. Based on the findings of the pedestrian survey a shovel testing program was conducted on the two propose crossing areas. All of the shovel tests were negative and it is recommended that no further archaeology is necessary for the project to proceed.

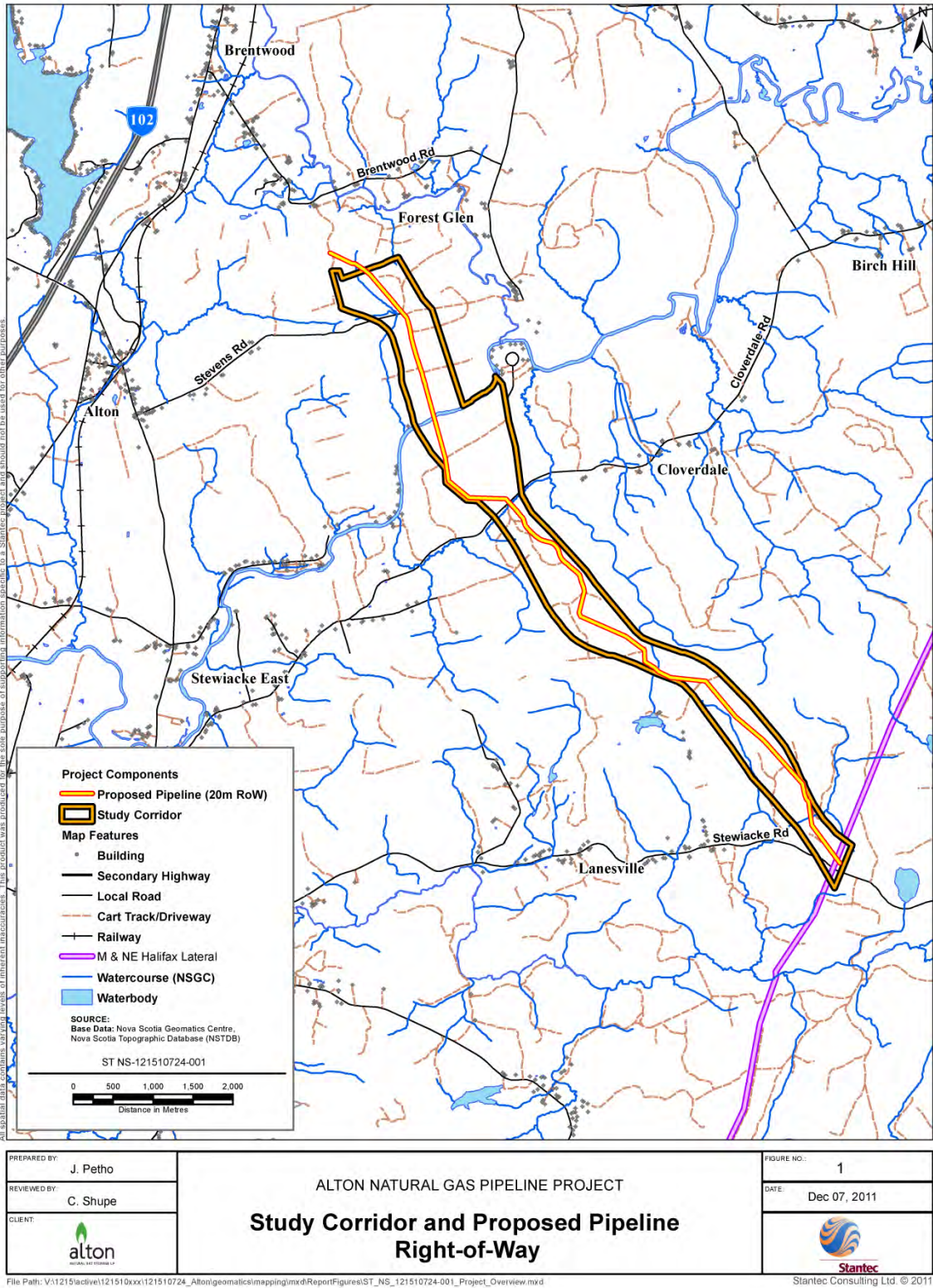


Figure 1: Project Overview

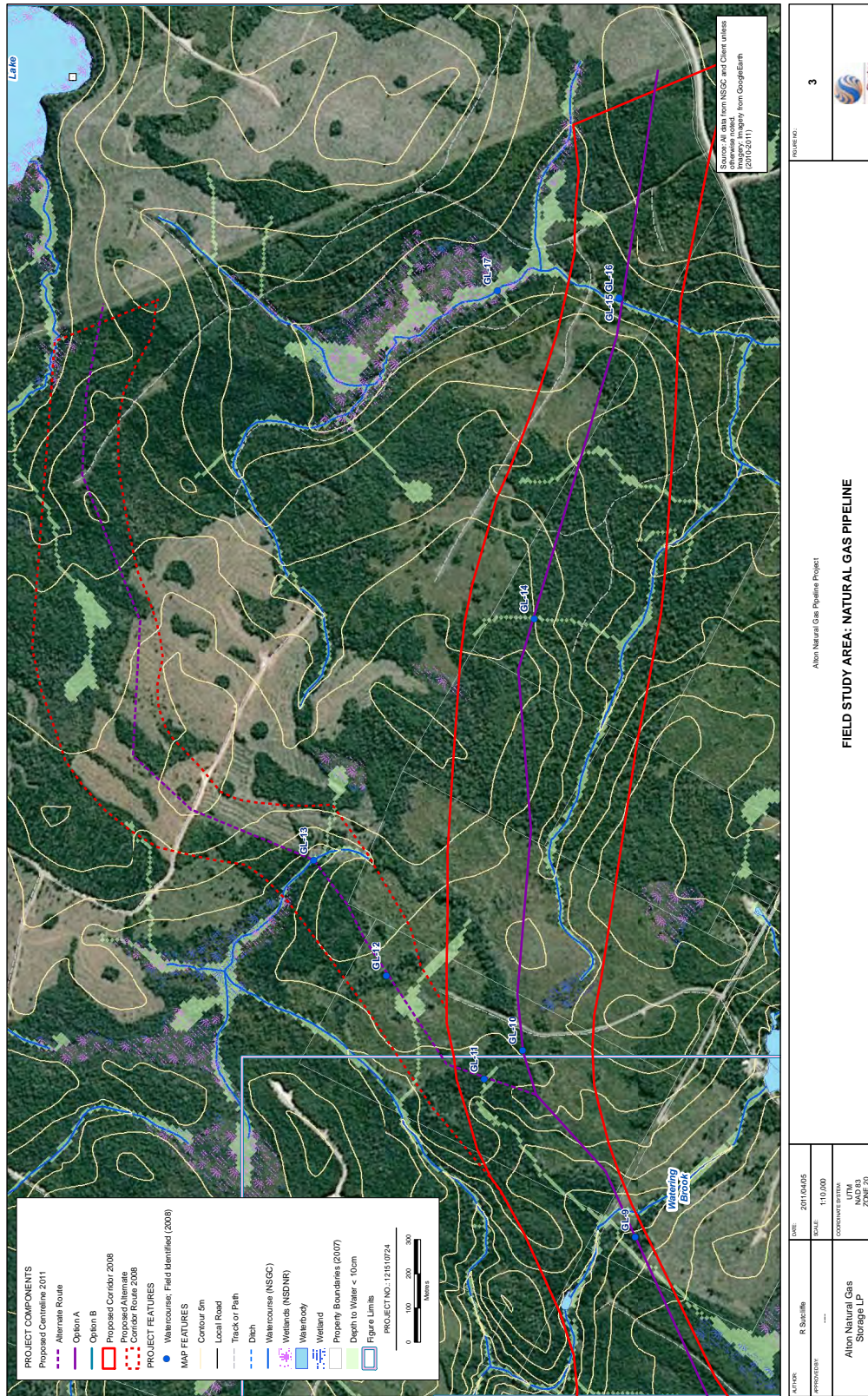


Figure 2: Fieldsheet 3.

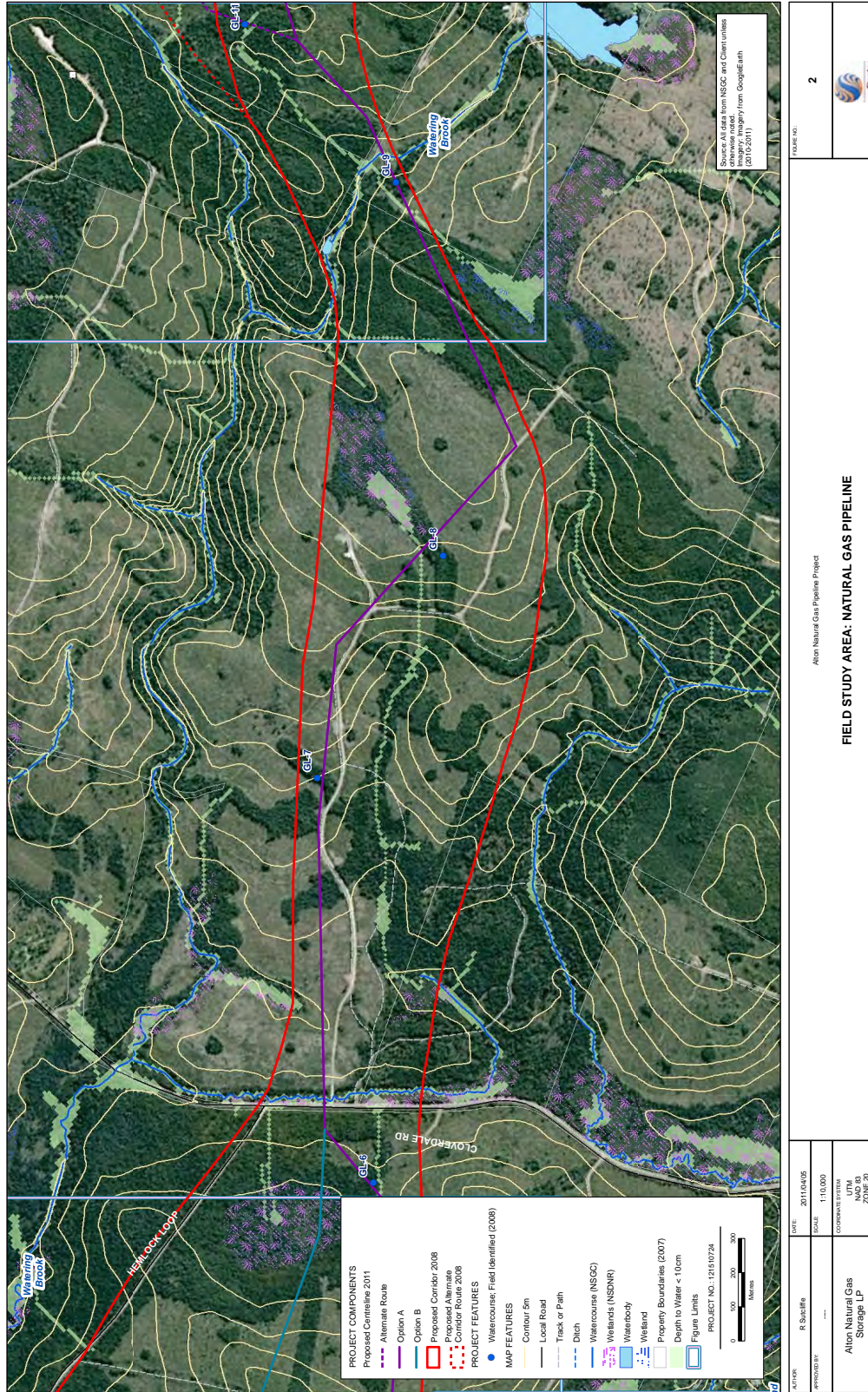


Figure 3: Fieldsheet 2.

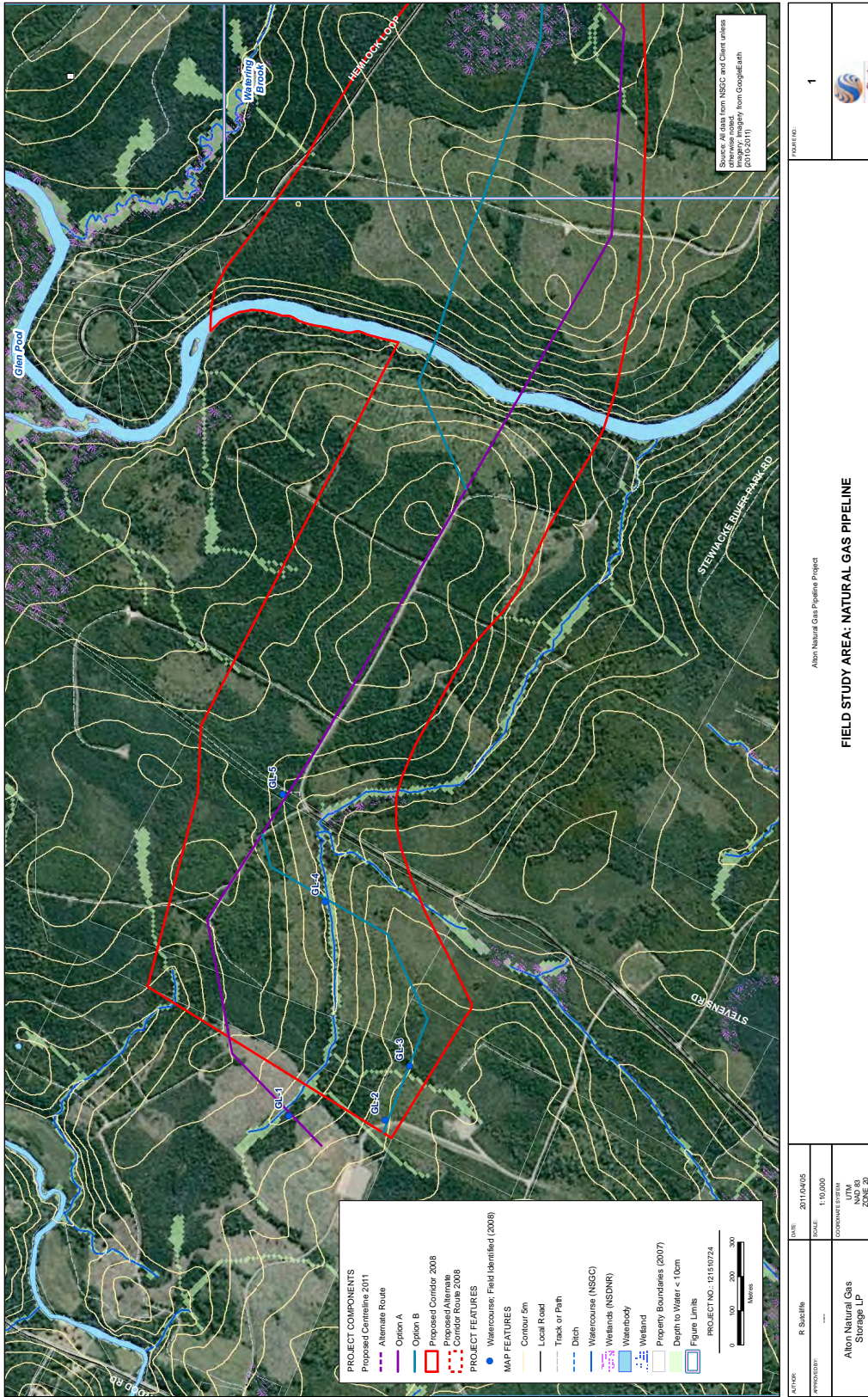


Figure 4: Fieldsheet 1.

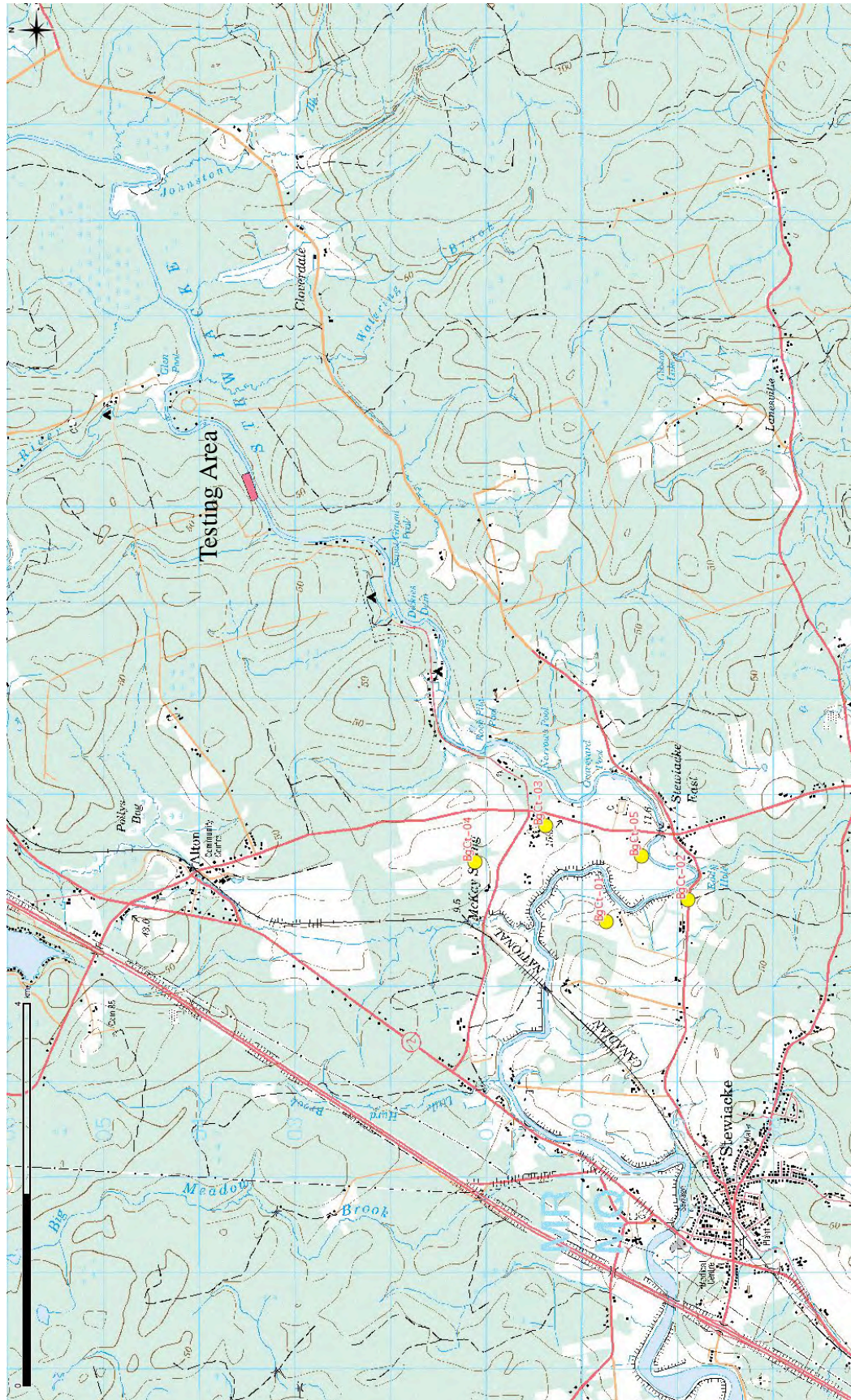


Figure 5: Testing area in relation to recorded sites.

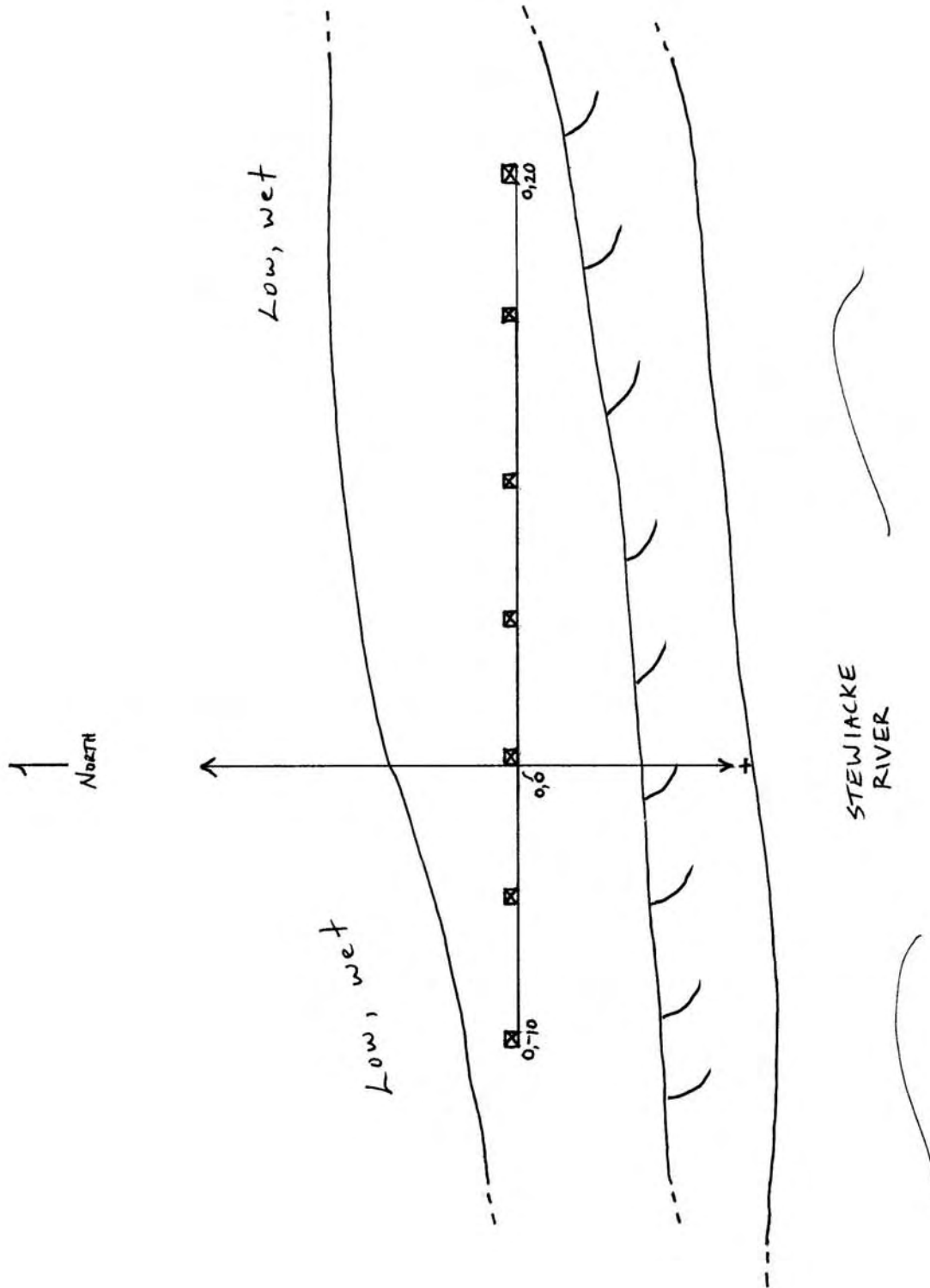


Figure 6: Plan view, Test Area 1.





Plate 1: Stewiacke River looking south from the north bank.



Plate 2: Test area 2, looking east.



Plate 3: Small tributary near test area 2, looking south.



Plate 4: Test area 2, looking east.



Plate 5: Small tributary near test area 2, looking south.



**Appendix 1: Shovel Test Recording Forms**



Permit #: A2011NS33

# Shovel Test Record

reviewed	<input type="checkbox"/>
correlated	<input type="checkbox"/>
entered	<input type="checkbox"/>

Site: Alton Gas

Date: May 2, 2011

Excavator[s]: MM & LN

Unit Ref: 0,-5

Base Excv. (DBS): 75

Surface Elev (m ASL): \_\_\_\_\_

GPS ref:  \_\_\_\_\_

**Presence/Absence**  or **N** & depth (DBS) \_\_\_\_\_

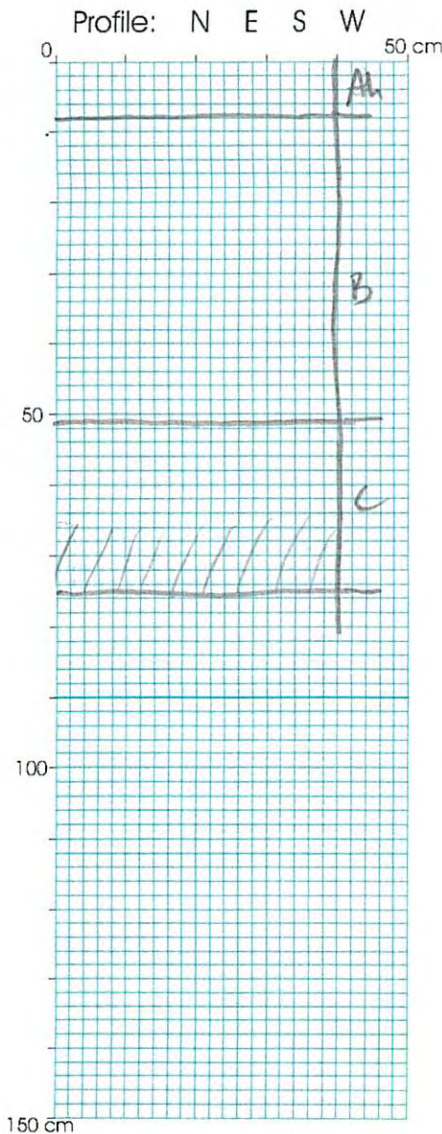
poorly sorted sand: <input type="checkbox"/>	till: <input type="checkbox"/>	Artifacts: <input type="checkbox"/>
laminated sand: <input type="checkbox"/>	regolith: <input type="checkbox"/>	<sup>14</sup> C samples: <input type="checkbox"/>
paleosol: <input type="checkbox"/>	other: <input type="checkbox"/>	Soil Samples: <input type="checkbox"/>

unit grid & dimensions



### Stratigraphic Descriptions

colour - matrix - texture - structure - inclusions



Ah - (0-8cm)

B - light orange-brown, medium, silty sand (8-51cm)

C - red-brown, medium, silty sand, compacted in the last 10 cm (51-75)

Fieldnotes: \_\_\_\_\_

Photographs:  Canon D10

Photo ID #: 2702-2704

continued on reverse  \_\_\_\_\_



STP 0,-5



Permit #: A2011NS33

# Shovel Test Record

reviewed	<input type="checkbox"/>
correlated	<input type="checkbox"/>
entered	<input type="checkbox"/>

Site: Alton Gas

Date: May 2, 2011

Excavator[s]: MM & LN

Unit Ref: 0,-10

Base Excv. (DBS): 62

Surface Elev (m ASL): \_\_\_\_\_

GPS ref:  \_\_\_\_\_

**Presence/Absence**  or **N** & depth (DBS) \_\_\_\_\_

poorly sorted sand:  \_\_\_\_\_

fill:  \_\_\_\_\_

Artifacts:  \_\_\_\_\_

laminated sand:  \_\_\_\_\_

regolith:  \_\_\_\_\_

<sup>14</sup>C samples:  \_\_\_\_\_

paleosol:  \_\_\_\_\_

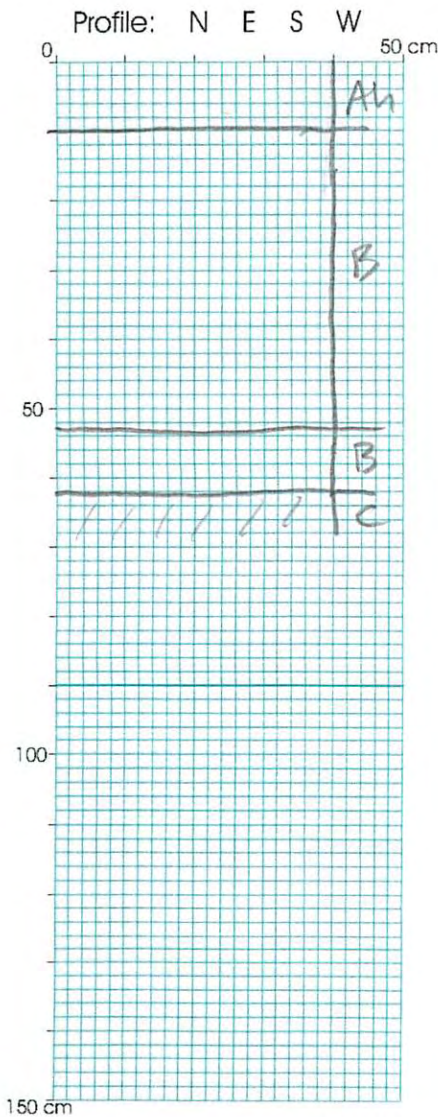
other:  \_\_\_\_\_

Soil Samples:  \_\_\_\_\_

unit grid & dimensions

40

**Stratigraphic Descriptions**  
colour - matrix - texture - structure - inclusions



Ah - (0-10cm)

B - very pale, red-orange/brown, medium, silty sand

(10-53cm)

B - light brown, medium, silty, sand (53-62cm)

C - red-brown, medium, silty sand, compacted (62cm)

Fieldnotes: \_\_\_\_\_

Photographs:  Canon D10 \_\_\_\_\_

Photo ID #: 2705-2706

continued on reverse  \_\_\_\_\_



STP 0,-10

Permit #: A2011NS33

# Shovel Test Record

reviewed	<input type="checkbox"/>
correlated	<input type="checkbox"/>
entered	<input type="checkbox"/>

Site: Alton Gas

Date: May 2, 2011

Excavator[s]: MM & LN

Unit Ref: 0,0

Base Excv. (DBS): 90

Surface Elev (m ASL): \_\_\_\_\_

GPS ref:  480077-5003424

**Presence/Absence**  or **N** & depth (DBS) \_\_\_\_\_

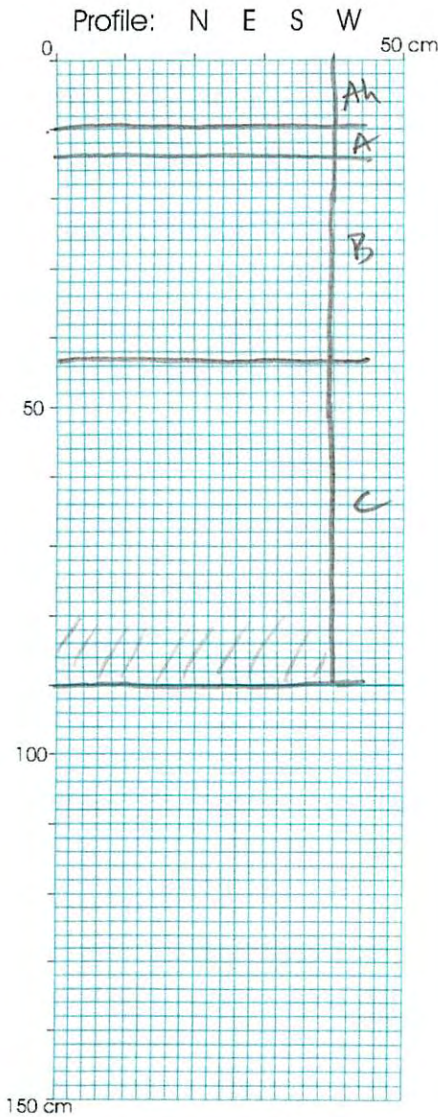
poorly sorted sand: <input type="checkbox"/>	till: <input type="checkbox"/>	Artifacts: <input type="checkbox"/>
laminated sand: <input type="checkbox"/>	regolith: <input type="checkbox"/>	<sup>14</sup> C samples: <input type="checkbox"/>
paleosol: <input type="checkbox"/>	other: <input type="checkbox"/>	Soil Samples: <input type="checkbox"/>

unit grid & dimensions



### Stratigraphic Descriptions

colour - matrix - texture - structure - inclusions



Ah - (0-10cm)

A - grey-brown, medium, sandy silt (10-14cm)

B - light orange-brown, medium, silty sand (14-43cm)

C - red-brown, medium, silty sand, compacted in the last 10 cm (43-90cm)

Fieldnotes: \_\_\_\_\_

Photographs:  Canon D10

Photo ID #: 2697-2701

continued on reverse



STP 0,0

Permit #: A2011NS33

# Shovel Test Record

reviewed	<input type="checkbox"/>
correlated	<input type="checkbox"/>
entered	<input type="checkbox"/>

Site: Alton Gas

Date: May 2, 2011

Excavator[s]: MM & LN

Unit Ref: 0,+5

Base Excv. (DBS): 58cm

Surface Elev (m ASL): \_\_\_\_\_

GPS ref:  \_\_\_\_\_

**Presence/Absence**  or **N** & depth (DBS) \_\_\_\_\_

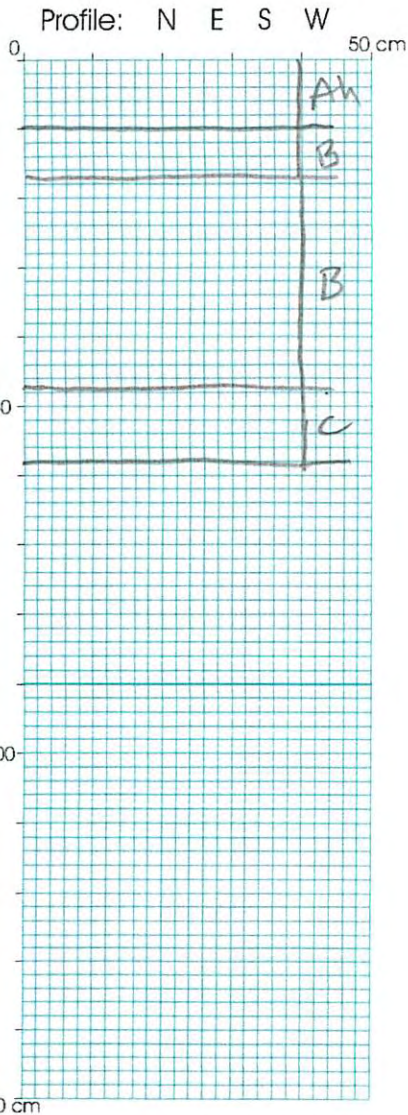
poorly sorted sand: <input type="checkbox"/>	fill: <input type="checkbox"/>	Artifacts: <input type="checkbox"/>
laminated sand: <input type="checkbox"/>	regolith: <input type="checkbox"/>	<sup>14</sup> C samples: <input type="checkbox"/>
paleosol: <input type="checkbox"/>	other: <input type="checkbox"/>	Soil Samples: <input type="checkbox"/>

unit grid & dimensions



### Stratigraphic Descriptions

colour - matrix - texture - structure - inclusions



Ah - (0-10cm)

B - dark brown, medium sand (10-17cm)

B - light brown, medium, silty sand (17-47cm)

C - red-brown, medium to fine, silty sand (47-58cm)

Fieldnotes: \_\_\_\_\_

Photographs:  Canon D10

Photo ID #: 2707-2708

continued on reverse

Scale 1:10



STP 0, 5

Permit #: A2011NS33

# Shovel Test Record

reviewed	<input type="checkbox"/>
correlated	<input type="checkbox"/>
entered	<input type="checkbox"/>

Site: Alton Gas

Date: May 2, 2011

Excavator[s]: MM & LN

Unit Ref: 0, +10

Base Excv. (DBS): 90cm

Surface Elev. (m ASL): \_\_\_\_\_

GPS ref:  480093-5003428

**Presence/Absence**  or **N** & depth (DBS) \_\_\_\_\_

poorly sorted sand:  \_\_\_\_\_

till:  \_\_\_\_\_

Artifacts:  \_\_\_\_\_

laminated sand:  \_\_\_\_\_

regolith:  \_\_\_\_\_

<sup>14</sup>C samples:  \_\_\_\_\_

paleosol:  \_\_\_\_\_

other:  \_\_\_\_\_

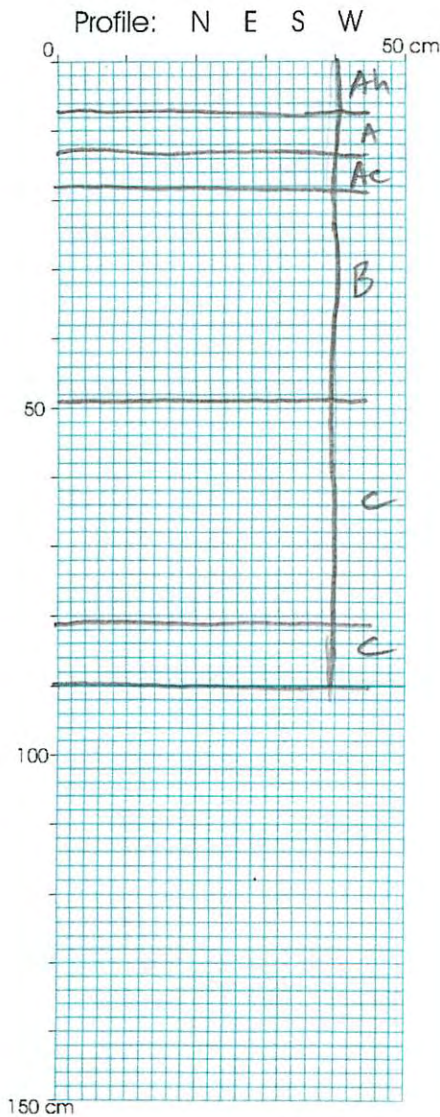
Soil Samples:  \_\_\_\_\_

unit grid & dimensions



## Stratigraphic Descriptions

colour - matrix - texture - structure - inclusions



South wall

Ah - (0-7cm)

A - dark grey, medium sand (7-13cm)

Ae - grey, medium sand (13-18cm)

B - orange-brown, fine to medium, silty sand (18-49cm)

C - red-brown, fine, sandy silt (49-81cm)

C - same matrix, compacted (81-90cm)

Fieldnotes: \_\_\_\_\_

Photographs:  Canon D10

Photo ID #: 2709-2710

continued on reverse





Permit #: A2011NS33

# Shovel Test Record

reviewed	<input type="checkbox"/>
correlated	<input type="checkbox"/>
entered	<input type="checkbox"/>

Site: Alton Gas

Date: May 2, 2011

Excavator[s]: MM & LN

Unit Ref: 0+15

Base Excv. (DBS): 82cm

Surface Elev (m ASL): \_\_\_\_\_

GPS ref:  \_\_\_\_\_

**Presence/Absence**  or **N** & depth (DBS) \_\_\_\_\_

poorly sorted sand:  \_\_\_\_\_

till:  \_\_\_\_\_

Artifacts:  \_\_\_\_\_

laminated sand:  \_\_\_\_\_

regolith:  \_\_\_\_\_

<sup>14</sup>C samples:  \_\_\_\_\_

paleosol:  \_\_\_\_\_

other:  \_\_\_\_\_

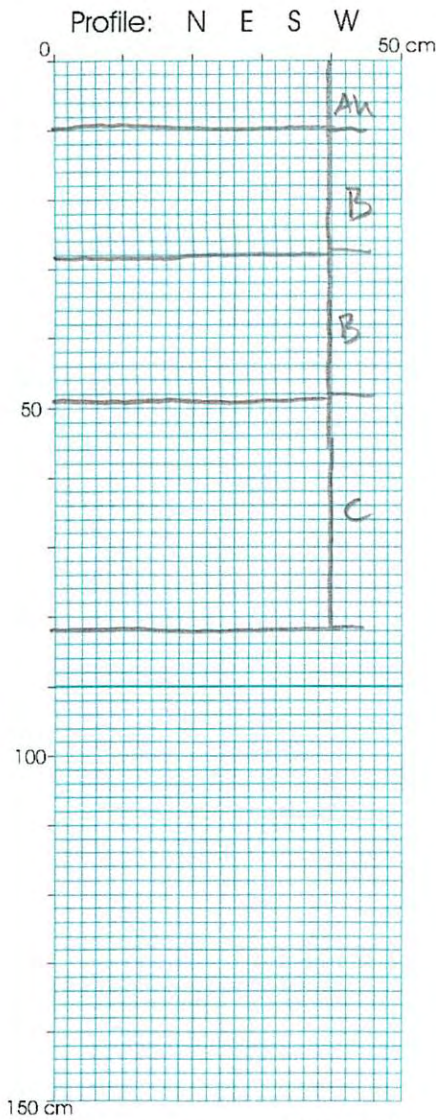
Soil Samples:  \_\_\_\_\_

unit grid & dimensions



## Stratigraphic Descriptions

colour - matrix - texture - structure - inclusions



Ah - (0-10)

B - mottled medium brown/orange-brown/medium

grey, medium silty sand (10-28cm)

B - medium orange- brown, medium silty sand (28-49cm)

C - red-brown fine silty sand, compact @74 (49-82cm)

Fieldnotes: \_\_\_\_\_

Photographs:  Canon D10 \_\_\_\_\_

Photo ID #: 2711-2712

continued on reverse



STP0, 15

Permit #: A2011NS33

# Shovel Test Record

reviewed	<input type="checkbox"/>
correlated	<input type="checkbox"/>
entered	<input type="checkbox"/>

Site: Alton Gas

Date: May 2, 2011

Excavator[s]: MM & LN

Unit Ref: 0+20

Base Excv. (DBS): 92cm

Surface Elev (m ASL): \_\_\_\_\_

GPS ref:  \_\_\_\_\_

**Presence/Absence**  or **N** & depth (DBS) \_\_\_\_\_

poorly sorted sand:  \_\_\_\_\_

till:  \_\_\_\_\_

Artifacts:  \_\_\_\_\_

laminated sand:  \_\_\_\_\_

regolith:  \_\_\_\_\_

<sup>14</sup>C samples:  \_\_\_\_\_

paleosol:  \_\_\_\_\_

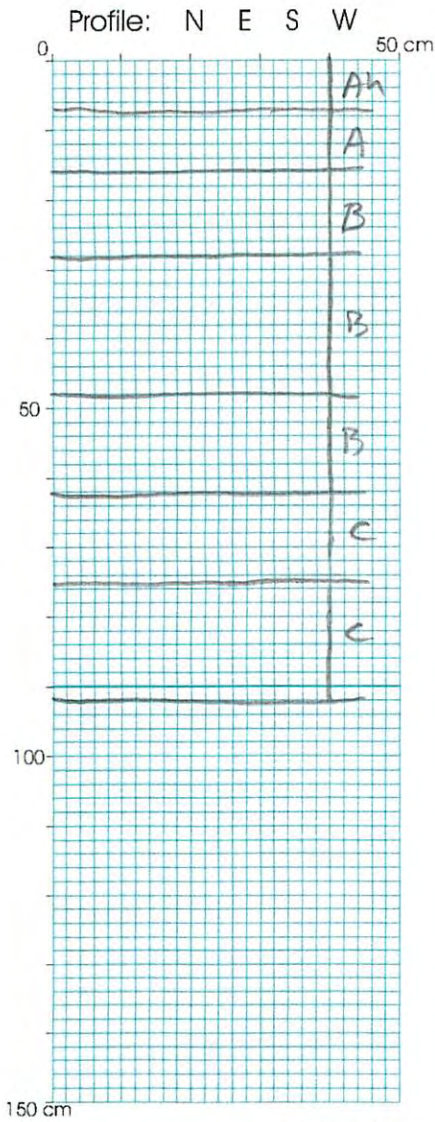
other:  \_\_\_\_\_

Soil Samples:  \_\_\_\_\_

unit grid & dimensions



**Stratigraphic Descriptions**  
colour - matrix - texture - structure - inclusions



Ah - (0-7cm)

A - dark grey-brown, medium, sandy silt (7-16)

B - light orange-grey, fine sand (16-28)

B - orange-brown, fine sand with minor silt (28-48)

B - light orange-grey, fine sand (48-62)

C - orange-brown, fine sand with minor silt (62-75)

C - pale red-brown, medium, silty sand (75-92)

- compacted at 92cm

Fieldnotes: \_\_\_\_\_

Photographs:  Canon D10 \_\_\_\_\_

Photo ID #: 2713-2714

continued on reverse  \_\_\_\_\_



**APPENDIX F**  
**Disposition Table of Regulator Comments and Proponent Responses**  
**Regarding Draft EA**



**Regulator Comments and Proponent Responses Regarding Alton Natural Gas Pipeline Project Draft EA Registration**

Comment No	Originator	Date Received	Regulator Questions/ Comments	Proponent Response	
<b>Provincial</b>					
1	NSA-01	L. Crozier	April 2, 2012	<p>There is no agricultural activity within or adjacent to the proposed pipeline corridor. We agree with the assessment of potential impacts on agriculture as found on page 123 and 188 of the assessment document. The Department of Agriculture therefore has no concerns or objections to this proposal, from an agricultural perspective.</p>	Comment noted.
2	NSE-01 (Climate Change Directorate)	M. Miller	April 2, 2012	<p>Draft EA text states (pg 2.11): "During operation, no provision will be made in the pipeline design to vent or flare gas except at the separate facilities at each end of the pipeline (i.e., at the cavern site or as operated by M&amp;NE at the Halifax Lateral tie-in". Confirm whether any potential venting and flaring activities that may occur at these facilities are included within the boundaries of this project.</p>	<p>Following the construction of the pipeline and the required testing as set out by CAN/CSA Z662, Alton will purge the air and test water from the pipeline by filling the pipeline with natural gas from the MN&amp;E Halifax Lateral. This purging process results in small quantities of natural gas being released at the Alton Storage site from a blowdown vent. Venting will cease when pure natural gas is present at the blowdown purging.</p> <p>There is also potential for venting from the M&amp;NE Halifax Lateral while they are doing their hot tap, tie in, and meter station purging.</p> <p>Other venting or flaring will only occur in the case of an upset condition where the gas in the pipeline must be quickly evacuated. Any such venting or flaring would only occur outside the boundaries of this Project and assessment (i.e., at the previously assessed underground storage project and separately assessed custody transfer facility project).</p>
3	NSE-02 (Climate Change Directorate)	M. Miller	April 2, 2012	<p>In Section 2.7.1: Estimate the total net greenhouse (GHG) emissions associated with the construction, operations, and decommissioning phases of the project. If applicable, sources of emissions are to include, but not necessarily limited to combustion, venting and fugitive.</p>	<p>GHG emissions during Project construction will result from combustion emissions from construction equipment and will be similar in scale to other typical medium-sized construction projects in the province and do not normally require quantification.</p> <p>As per Section 2.7.1 (Air Emissions) of the revised EA Registration, "routine maintenance may very infrequently require natural gas (methane) emissions and routine inspection will rarely, if ever, result in natural gas emissions."</p> <p>No further GHG emissions are anticipated during Project operations, as no venting or purging will occur during normal pipeline operating conditions. Refer to Section 2.8 (Environmental and Safety Protection Systems) for information about measures that will be taken to prevent a pipeline rupture or leak, thereby also reducing the potential for accidental GHG emissions, as well as the development of emergency response and contingency procedures to be implemented in the event of a serious accidental gas release.</p> <p>As noted in Section 2.7.1 (Air Emissions), potential air emissions during decommissioning and abandonment will be similar to emissions associated with construction if the pipeline is removed</p>

Comment No		Originator	Date Received	Regulator Questions/ Comments	Proponent Response
4	NSE-03 (Climate Change Directorate)	M. Miller	April 2, 2012	In conducting the analysis, the proponent should also look to the following sources: <ul style="list-style-type: none"> <li>• <i>Guide to Considering Climate Change in Environmental Assessments in Nova Scotia</i>. Available at: <a href="http://climatechange.gov.ns.ca/files/02/65/EA_CC_Guide1.pdf">http://climatechange.gov.ns.ca/files/02/65/EA_CC_Guide1.pdf</a></li> <li>• <i>Guide to Considering Climate Change in Project Development in Nova Scotia</i>. Available at: <a href="http://climatechange.gov.ns.ca/files/02/66/Development_CC_Guide1.pdf">http://climatechange.gov.ns.ca/files/02/66/Development_CC_Guide1.pdf</a></li> </ul>	Comment noted.
5	NSTIR-01	A. Swaine	April 2, 2012	As per TIR Policy PO 1000 "Construction of Gas/Oil Pipelines Within or Adjacent to Highway Right-of-Way", a gas/oil pipeline shall not be placed within one hundred (100) metres of the centre line of the traveled portion of a provincial highway without the written consent of the Nova Scotia Department of Transportation and Infrastructure Renewal. The proposed gas line routing crosses or is in close proximity roads owned by TIR and the proponent needs to be aware of TIR's policy with regard to construction of gas/oil pipelines and permits required. This is not addressed in the Registration document.	Comment noted. The Proponent will comply with all applicable NSTIR policies and obtain any required permits from NSTIR prior to construction.
6	NSTIR-02	A. Swaine	April 2, 2012	A "Work within Highway Right-of-Way" permit will be required for any construction within or near TIR's right-of-way" including gas line construction, waterline construction, and any accesses to the provincial highway system. Very little detail is provided in the Registration documented regarding the transportation component of the project. The local TIR Area Manager may require a "Traffic Impact Study" as part of the permitting process.	As per response to Comment No. 5 (NSTIR-01) above, the Proponent will comply with all applicable NSTIR policies and obtain any required permits from NSTIR prior to construction.  The Proponent is of the opinion that a Traffic Impact Study is unlikely to be necessary given the remote location of the proposed pipeline and the low levels of existing traffic; however, if such a study is required, it will be carried out as part of the permitting process.
7	NSTIR-03	A. Swaine	April 2, 2012	The proposed waterline crosses Highway 102. The Department has specific requirements for waterline crossings of 100 series highways to ensure minimal disruption to traffic and safety for motorists and construction workers. These requirements specify construction methodologies and materials. The proponent should contact the local Area Manager early during the project planning process to determine exact requirements for this crossing.	Comment noted.  Alton received EA Approval from the Nova Scotia Minister of Environment in December 2007 for the Alton Natural Gas Storage Project, which will include development of underground natural gas storage caverns, water pipelines to the Shubenacadie River, and other associated facilities. The water pipeline is therefore outside the scope of the current EA for the Alton Natural Gas Pipeline Project. Nonetheless, the Proponent will contact the local NSTIR Area Manager early during the Project planning process to determine exact requirements for the Highway 102 waterline crossing associated with the previously approved underground storage project.
8	NSTIR-04	A. Swaine	April 2, 2012	A "Special Move Permit" and any associated approvals will have to be obtained through the Nova Scotia Department of Transportation and Infrastructure Renewal for any oversized or overweight load transport.	As per response to Comment No. 5 (NSTIR-01) above, the Proponent will comply with all applicable NSTIR policies and obtain any required permits from NSTIR prior to construction.
9	NSTIR-05	A. Swaine	April 2, 2012	Spring weight restrictions may apply to some roads along routings to the project site. This restriction could potentially impact the delivery of equipment and materials and thus needs to be considered in the construction scheduling.	Comment noted. Potential spring weight restrictions will be considered when scheduling construction activities.
10	NSE-04 (Water & Wastewater)	D. Taylor	April 3, 2012	I've briefly reviewed the above-mentioned draft report as requested and it seems quite complete.  However, an assessment of whether any surface water related drinking water	Potential Project interactions with groundwater resources are assessed in Section 6.1 (Groundwater Resources) of the EA Registration, which notes that no major municipal or industrial water supply wells are known to be



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	Branch)			supplies will be potentially affected doesn't seem to be included. It would be beneficial for all water uses to be assessed as part of this project EA - including drinking water supplies, particularly public and municipal water supplies.	<p>present within 5 km down-gradient of the Study Corridor and/or Proposed RoW.</p> <p>As per Table 4.1 (Selection of Valued Environmental Components), potential effects on the quality of surface water resources are assessed in the context of the Fish and Fish Habitat VEC due to the inherent connection between these resources and habitat quality for aquatic species.</p> <p>Further consideration of surface water resources has been added to Section 5.7.7 (Water Supplies) and of the revised document.</p>
11	NSE-05 (Water & Wastewater Branch)	D. Taylor	April 3, 2012	A number of stream crossings are mentioned, including one on a tributary of the St Andrews River. This indicated crossing may have potential to impact a municipal water supply, since I believe the Town of Stewiacke uses the St Andrews River as its source waters. I also believe it is a protected water area.	<p>As illustrated on Figure 5.5, the Proposed RoW crosses a designated Protected Water Area (PWA) – the Stewiacke Watershed PWA. Consideration of this area has been added to Section 5.7.7 (Water Supplies) of the revised EA Registration. As stated in that section, construction/development activities are not prohibited or regulated within the Stewiacke Watershed PWA.</p> <p>The following is a relevant excerpt from Section 6.2.5 of the EA Registration:</p> <p>“While most excavations required for stream crossings will be temporary and localized, some potential exists for adverse effects on surface water resources downstream of the activity. The corridor crosses only one known watershed that is protected under provincial legislation as a designated water supply watershed: the headwaters of the St. Andrews River supplying the Town of Stewiacke. The water supply intake is located 1.5 km south of Stewiacke and 7 km downstream of the two stream crossings in this watershed (GL-14 and GL-15). Adherence to water quality impact abatement measures should be followed here, as in all sections of the RoW. Potential effects on surface water intakes along the Stewiacke River are expected to be minimal due to limited work within the riparian zone and the distance between construction activities and the intakes, which promotes attenuation by dilution and dispersion. Additional mitigative strategies will be provided in the EMP.”</p>
12	NSE-06 (Protected Areas & Wetlands Branch)	P. Labor	April 5, 2012	<p>In summary it is recommended that the proponent:</p> <ul style="list-style-type: none"> <li>• Outline the selection criteria for the proposed ROW and discuss alternative ROWs that were considered and their viability in relation to economic and environmental factors, including avoidance of the 12% lands and VECs;</li> <li>• Include the 12% VECs and process in the scope of the EA;</li> <li>• Discuss potential compensation options for adverse impacts to 12% lands and related VECs; and</li> <li>• Provide GPS boundary coordinates of all wetlands they delineate for the project (preferably in a GIS ready shape file).</li> </ul>	Refer to responses to Comment Nos. 13 to 16 (NSE-07 to NSE-10) below.

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13	NSE-07 (Protected Areas & Wetlands Branch)	P. Labor	April 5, 2012	<p><b>Location of Proposed Right-of-Way (ROW)</b></p> <ul style="list-style-type: none"> <li>When the proponent identified its preferred ROW in 2007, it ran through land owned by Neenah Paper. Early in 2010, following purchase of these lands by Northern Pulp, the Province purchased 55,000 acres of Northern Pulp land in Cumberland, Colchester, Pictou, Halifax, Hants and Guysborough counties, the majority of which was identified for protection. Part of that 2010 purchase was 11,600 acres of high-value conservation land in the Stewiacke River-St. Andrews River area, which includes the land the proponent identified in 2007 for its natural gas pipeline ROW. When the <u>land</u> was conveyed to the Crown there was no legal ROW agreement in place encumbering the purchase.</li> <li>For planning purposes the 12% process recognized two distinct patches on the former Northern Pulp lands, identified as: Stewiacke River (Patch no. 397) and St Andrews River (Patch no. 389). The proposed Alton pipeline ROW runs through the middle and parallel to the long axis of the Stewiacke River patch.</li> <li>The Draft EA proposes only one route for the ROW, which offers little to no room to reach a compromised solution for conflicting land use interests. Pipeline projects typically select routes that avoid environmentally sensitive areas whenever possible. As <u>the</u> proponent's draft EA states, the only proposed ROW route runs through land which has been identified in the 12% process for high-value conservation values. If protected, the Province intends to preserve and restore these lands for their high conservation values, which will contribute to the province's 12% goal.</li> <li><b>RECOMMENDATION:</b> Include in the EA registration document a comprehensive analysis and discussion of alternate ROWs. This should include routing criteria and factors considered in the development and evaluation of route alternatives, as well as reasons why alternate routes were rejected in favour of the one proposed.</li> </ul>	Section 2.1 (Project Location and Route Selection) of the revised EA Registration has been amended to include additional information regarding pipeline corridor routing criteria and factors considered in the development and evaluation of route alternatives, as well as reasons why alternate pipeline corridors were rejected in favour of the preferred corridor.
14	NSE-08 (Protected Areas & Wetlands Branch)	P. Labor	April 5, 2012	<p><b>EA Scope and 12% Process</b></p> <ul style="list-style-type: none"> <li>It is the responsibility of the proponent to accurately determine the scope of the environmental assessment to determine the environmental impact of the undertaking.</li> <li>Prior to submitting this EA draft, representatives from NSE's Protected Areas and Wetlands Branch met with the proponent to inform them of the 12% process and its implications on lands identified by the proponent for the pipeline ROW. The Draft EA acknowledges and refers to the 12% process in the Executive Summary and Section 5.7.5 - "Protected Areas". However, the draft EA does not consider the 12% lands and process in the EA scope and fails to analyze the adverse effects of the project on conservation protection plans and 12% related valued environmental components (VECs). The reason provided is the corridor study was completed before the 12% lands were identified; implying that the 12% VECs and land use interests are not relevant issues to the scope of the EA.</li> <li>Concerns relating to pipeline construction and operation in the 12% lands include: loss of habitat and increased habitat avoidance; fragmentation of habitat from roads and ROW; increased access via roads and corridors by off highway</li> </ul>	<p>The 12% process and related conservation protection goals are described in Section 5.7.5 of the EA Registration. The revised report contains a new Figure 2.2 (Section 2.0) that includes mapping of the candidate 12% provincial conservation areas.</p> <p>Section 6.6 (Land and Resource Use) of the revised report has been amended to clarify that potential environmental interactions that may be associated with pipeline construction and operation in the candidate 12% provincial conservation areas are considered throughout the report in the context of the environmental and socio-economic effects assessments conducted for various applicable VECs.</p> <p>Refer also to relevant text added to Section 6.6.7 (Summary of Residual Environmental Effects Assessment).</p>

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			<p>vehicles; increased noise and general disturbance; increased disturbance footprint affecting function of habitat; increased occurrences of pioneer and early succession species; suppressed natural vegetation growth within the ROW corridor.</p> <ul style="list-style-type: none"> <li>▪ <b>RECOMMENDATION:</b> The 12% conservation protection interests in the land clearly pre-exist the undertaking and should be given full consideration in the EA review. We recommend the proponent include the 12% process and related conservation protection goals within the scope of the EA and account for the valued ecological components (VECs) of the 12% patches (including mapping) within the relevant sections of the EA report.</li> </ul>	
15	NSE-09 (Protected Areas & Wetlands Branch)	P. Labor	<p><b>Approaches to Compensation</b></p> <ul style="list-style-type: none"> <li>▪ A ROW running through the center of the Stewiacke River 12% patch would transform the area, preclude conservation protection plans, and impede the recovery of previous disturbances to habitat. The study does not provide any reference to compensation options for precluded land protection, or specific damage to property and natural values caused by activity related to construction, operation and maintenance of the pipeline corridor.</li> <li>▪ <b>RECOMMENDATION:</b> Notwithstanding earlier comments on alternate ROWs, information should be provided on potential compensation approaches to address adverse impacts to 12% lands and related VECs.</li> </ul>	<p>The land being considered for conservation and protection under the provincial 12% process is currently disturbed and fragmented as a result of existing development in the area (e.g., construction and operation of existing roads and pipeline, construction and use of buildings, forestry activities, etc.). The Proposed RoW traverses the candidate lands in recently deforested regions and along existing roads/trails wherever possible to reduce disturbance.</p> <p>It is noted that the existing M&amp;NE Halifax Lateral pipeline currently runs through candidate 12% provincial conservation areas in the immediate vicinity of the Proposed RoW. It is therefore unclear why it should be assumed that the proposed Alton natural gas pipeline would preclude future conservation protection plans. On the contrary, the Proponent believes that the proposed pipeline can co-exist with the 12% lands if officially established in this area.</p> <p>The Proponent is not aware of any general, legislated compensation requirements applicable for Project construction and operation within candidate 12% conservation lands. Compensation proposed to be undertaken in support of the Project is limited to wetland compensation as necessary in accordance with provincial legislation and any Project-specific terms and conditions of the Wetland Alteration Approval.</p> <p>The Proponent intends to avoid any harmful alteration, destruction or disruption (HADD) of the productive capacity of fish habitat through careful design of water crossings, including the proposed horizontal directional drilling of the Stewiacke River.</p>
16	NSE-10 (Protected Areas & Wetlands Branch)	P. Labor	<p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>▪ The proponent has done an excellent comprehensive job with the draft EA as it relates to impacts on wetlands. While the pipeline ROW will go through numerous wetlands along the proposed route, permanent damage to these wetlands will be minimal assuming the construction proceeds with the sensitivity to restoring the sites as planned. The proponent seems to have considered all of the important aspects of avoiding wetlands for various reasons, minimizing damage to wetland</li> </ul>	<p>Comment noted. Text in Section 6.5.5 of the revised EA Registration has been amended to acknowledge that there is uncertainty regarding potential effects of backfilling on hydrology as well as to incorporate additional mitigation details with respect to keeping the top 30-50 cm of wetland intact and maintaining perpendicular flow to avoid creating a dam-effect and ponding.</p> <p>The Proponent will provide a GIS-ready shape file containing the GPS boundary coordinates of all wetlands delineated in support of the Project,</p>

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			<p>that isn't altered directly by the project, and successfully restoring the site.</p> <ul style="list-style-type: none"> <li>▪ In terms of wetlands this project is very similar in nature to the Encana Pipeline project that took place near Antigonish a few years ago. The proponent had good success in restoring the wetlands along the pipeline ROW. Alton's wetland restoration biologists may wish to consult with those who worked on the Encana project to gather practical advice and maximize chances of successful restoration.</li> <li>▪ One unknown is how the backfilling of the pipeline trench will affect adjacent hydrology. Any substantial changes in hydrology due to increased flow parallel to or immediately alongside the pipeline could significantly alter local hydrology and possibly have a large and lasting impact on adjacent wetlands and watercourses. This is brought up as a caution because the proponent has discussed methods for backfilling the trench that will mitigate this effect. It is not certain whether there is adequate science to determine the best approach to backfilling from the perspective of maintaining wetland hydrology.</li> <li>▪ Setting aside the top layer of wetland vegetation and soils while pipeline construction is taking place should be done with great care. If the top 30-50 cm of wetland could be removed and placed aside intact and then carefully replaced after the remainder of the pipeline was backfilled, then it should provide the best chance for restoration success.</li> <li>▪ Where flow through the wetland is parallel to the pipeline, altered hydrology issues should be minimal. Where flow, even sheet flow, is more perpendicular to the pipeline, great care will be needed to maintain that flow through careful backfilling and avoid creating a dam-effect and ponding.</li> <li>▪ <b>RECOMMENDATION:</b> Given the large number of wetlands that have been surveyed, the proponent should be asked to provide GPS boundary coordinates of all wetlands they delineate for the project (preferably in a GIS ready shape file). These data will be incorporated into the provincial wetland inventory to improve inventory accuracy.</li> </ul>	<p>for incorporation into the provincial wetland inventory.</p>
17	NSDNR-01	H. Gillis	<p>April 5, 2012</p> <ul style="list-style-type: none"> <li>• The field inventories for wild species and ecosystems applied are suitable for an environmental impact assessment for a linear industrial development of this type.</li> <li>• Although there will be direct and indirect impacts incurred through this project, including habitat loss and fragmentation, rare species population reduction and exclusion, and ecosystem degradation, there aren't specific biodiversity maintenance targets that are being exceeded.</li> <li>• Wetland mitigation and monitoring programs are in place. Most species and habitats of conservation concern are being avoided</li> <li>• We request that forested communities (including treed wetlands) found in the project footprint should be described and named using the NSDNR Forest Ecosystem Classification guide (See: <a href="http://gov.ns.ca/natr/forestry/veg-types/">http://gov.ns.ca/natr/forestry/veg-types/</a>).</li> </ul>	<p>Comments noted. Forested communities (including treed wetlands) within the Proposed RoW are described in Sections 5.1 (Overview of the Project Area); 5.5 (Wildlife and Wildlife Habitat); 5.6 (Wetlands); and 6.4 (Wildlife and Wildlife Habitat), including associated Figure 6.1 (Habitat Overview), of the EA Registration. Field surveys and habitat characterization conducted in support of this EA was carried out before the NSDNR Forest Ecosystem Land Classification Guide was available. The value of converting this existing information into stand-level forest ecosystems is unclear without further clarification from NSDNR regarding potential implications for environmental management.</p>
18	NSDNR-02	H. Gillis	<p>April 5, 2012</p> <p>We request geo-locations for all species of conservation concern and shapefiles for all field-identified wetlands found in the project footprint.</p>	<p>The Proponent will provide the requested geo-locations for all species of conservation concern and GIS-ready shape files fir all field-identified wetlands found in the Project footprint.</p>

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19	NSDNR- 03	H. Gillis	April 5, 2012	Page 5.64 indicates " <i>The provincial population of Bicknell's crane's-bill is ranked as "Secure" by the ACCDC and as "S3" by the ACCDC.</i> " This should read "secure" by NSDNR	Comment noted. Text in Section 5.4.2 (Species of Conservation Concern) of the revised EA Registration has been corrected.
20	NSOAA-01	B. Dera	April 18, 2012	S. 3.2 Proponent states that regular project updates were provide to the KMKNO but does not provide any more detail as to when and what information was shared. A list of meeting dates and their outcomes would be helpful, as well as appended copies of correspondence with the Mi'kmaq.	Breakfast meetings were held on an ongoing basis (every couple of months) with a KMKNO representative. These meetings were informal with the focus of providing real-time Project updates and status. In addition, representatives of the KMKNO were specifically invited to attend the Project Open House on November 30th, 2011.
21	NSOAA-02	B. Dera	April 18, 2012	S. 3.3 Proponent states that the Draft MEKS was completed in January 2012. The MEKS included in the draft EA document does not state whether it is a draft. Proponent should also indicate whether the MEKS was shared with the Mi'kmaq.	<p>The draft (January 2012) version of the Mi'kmaq Ecological Knowledge Study (MEKS) was appended to the draft EA Registration when it was submitted to government reviewers. The MEKS was subsequently finalized in late March 2012, and this final version has been appended to the revised EA Registration document.</p> <p>The Proponent sent the final MEKS to Nova Scotia Environment (NSE) with the understanding that it would be shared with the Mi'kmaq. On April 26, 2012, NSE confirmed that it would circulate the final MEKS report to the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO or Mi'kmaq Rights Initiative) as well as the Chiefs and Councils for all 13 Mi'kmaq First Nations in Nova Scotia.</p>
22	NSOAA-03	B. Dera	April 18, 2012	S. 3.3 Proponent references a meeting that took place with economic development officers for Millbrook and Indian Brook First Nations. An indication of meeting dates, the information shared and the outcome of those meetings should be included in the EA. Proponent should also illustrate that Chiefs and Councils of Millbrook and Indian Brook First Nation bands were notified of this project.	The Proponent met with the economic development officers for Millbrook and Indian Brook First Nations on November 15, 2007 to discuss the entire Natural Gas Storage Project, including the natural gas pipeline. A site tour and Supplier Session was subsequently held in July 2009 specifically for Mi'kmaq-owned businesses (KMKNO assisted in organizing this event). At the request of KMKNO, the Proponent has been dealing directly with their office and not the Chiefs and Councils. KMKNO has stated that they will communicate with the Chiefs and Councils. Membertou Geomatics Solutions has also communicated with Millbrook and Indian Brook during their MEKS for this project.
<b>Federal</b>					
23	TC-01	N/A	March 28, 2012	Any 'works' constructed or placed in navigable waters below the original high water mark require the approval of the minister of transport, Infrastructure and Communities pursuant to the Navigable waters Protection Act. This will ensure that the works do not interfere with the public right of navigation. As we do not have record of approval for this project the onus is on you as the owner or person in possession to make application to this Department with a view to seeking approval prior to commencement.	<p>The only navigable waterway to be crossed by the pipeline, the Stewiacke River, will be horizontally directionally drilled (HDD) and no infrastructure will be placed in the waterway. Other streams crossed by the pipeline are quite small and the disruption to them will be localized and temporary (i.e., a few days) with no obstructions remaining in the watercourse.</p> <p>Section 5.3.3 (Habitat Assessment Results) of the EA Registration describes the characteristics of each of the watercourses within the Proposed RoW, including biophysical and dimensional information supported by photographs.</p> <p>Although it is expected that the Project will cause no interference with any navigable waterways, the Proponent will submit an application for approval under the <i>Navigable Waters Protection Act</i> (NWPA) when watercourse crossing design details (as required for the NWPA application) become</p>

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					available. Until that time, the Proponent believes that the conceptual information contained in the EA Registration is sufficient to allow the province to make a determination with respect to environmental effects.
24	EC-01	S. Zwicker	April 3, 2012	<p><b>Wildlife and Wildlife Habitat</b></p> <p><b><u>Migratory Birds</u></b></p> <ul style="list-style-type: none"> <li>• While it appears that clearing activities are proposed for the fall/winter period, the proposed project schedule for other project-related activities is not clear. Further details should be provided in particular for activities in the vicinity of species at risk and species of conservation concern. It should be noted that during the breeding season, the Canadian Wildlife Service (CWS) of EC generally recommends a 300 m high disturbance setback distance from nests of species at risk such as Canada Warbler, Common Nighthawk, and Olive-sided Flycatcher.</li> <li>• On page 6.35, it is stated that "Clearing of the RoW outside the breeding season for most birds is expected to protect nesting Nighthawks in most cases." On page 37, it appears that a similar statement is being proposed for Killdeer, although the Nighthawks are mentioned rather than Killdeer. Common Nighthawk and Killdeer are ground-nesting species who may actually be attracted to those areas cleared in fall or winter. Should project-related activities be proposed for previously cleared sections of the RoW during the breeding season of ground nesters such as Common Nighthawk and Killdeer, the proponent should describe measures that would be taken to determine whether these species are nesting or raising chicks in previously cleared areas, as well as measures to avoid adverse effects and ensure compliance with the MBCA if ground nesters are encountered</li> </ul>	<p>Construction scheduling has not yet been refined to be able to determine the proximity of specific construction activities to areas adjacent to the pipeline RoW where species at risk have been observed. The Project EMP will incorporate environmentally sensitive areas such as these and mitigation such as suggested setbacks and other BMPs where applicable. The EMP will be used to guide detailed Project planning and implementation.</p> <p>See response to Comment No. 27 (EC-04) below. The Proponent will undertake reasonable measures to comply with provisions of the MBCA which will primarily include scheduling of clearing outside of the breeding period for most migratory species. Additional measures may be undertaken such as walk over surveys of cut areas in advance of trenching to detect the presence and avoidance of any active nests.</p>
25	EC-02	S. Zwicker	April 3, 2012	<ul style="list-style-type: none"> <li>• On page E.1, it is stated that in the future, the 20 m RoW may need to be expanded to 30 m if pipeline looping is required. What is pipeline looping?</li> <li>• The proponent should provide a description of temporary work areas, including marshaling yards, access roads and storage areas, that will be required for the project (e.g. approximate number, general locations, total area), and confirmation of whether temporary work areas will be rehabilitated.</li> <li>• Would there be trenches still open at the end of the day? If so, what measures would be taken by project staff or contractors if wildlife (e.g. flightless bird) got trapped in a trench?</li> <li>• We do not agree that species listed as Special Concern on Schedule 1 of the <i>Species at Risk Act</i> (SARA) should be considered Species of Conservation Concern. As Section 79 of SARA applies to these species, they should be considered as Species at Risk in environmental assessment.</li> <li>• Section 4.3 appears to not consider species given at risk designation by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) but not yet listed on SARA schedules.</li> <li>• Page 5.48: Which wetland is "wetland MC7"?</li> <li>• The 1st bullet on page 6.29, and the bullet for Secure Species, would also be applicable to Species at Risk. Furthermore, the bullet for Secure Species would</li> </ul>	<p>Pipeline looping refers to laying a parallel pipeline along another, or along just a section of it, to increase capacity.</p> <p>The number and location of temporary work areas, including marshaling yards, access roads and storage areas, that will be required for the Project will be identified during detailed RoW design and are not yet known. The Project area has many existing roads, including woods roads which will be used to access the RoW, thereby minimizing the need for new access. These areas will be sited in consideration of the same environmental constraints as the pipeline RoW, including avoidance of wetlands and watercourses and incorporation of standard mitigation and BMPs such as erosion and sediment controls. Temporary work areas will be rehabilitated by revegetation after use.</p> <p>Although all reasonable efforts will be made to backfill trenches in a timely manner as construction progresses along the RoW, trenches may nonetheless remain open at the end of the day and perhaps for a few days at a time. As noted in Section 6.4.5 of the EA Registration, trench inspections for trapped fauna will be conducted at the beginning of each working day. If an animal is trapped in the trench, NSDNR will be contacted.</p>

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			<p>also be applicable for Species of Conservation Concern.</p> <ul style="list-style-type: none"> <li>• Figure 6.1, mentioned on page 6.32, was not included in the draft EIA document.</li> <li>• On page 7.8, it is stated that "Further information on spill prevention and response is found in Section 2.8.5." However, section 2.8.5 deals only with forest fires.</li> <li>• Unauthorized ATV access to the RoW has the potential to result in deleterious effects to VECs avoided by the proponent during construction activities (i.e. streams, wetlands) and to adversely affect wildlife. It is proposed in the draft EIA (page 6.47) that locked gates be placed along the RoW in areas where forestry roads intersect the RoW, in accordance to the wishes of landowners. However, no details are provided on whether the effectiveness of this measure would be monitored.</li> <li>• Certain species of migratory birds (e.g. Bank Swallows) may choose to nest in piles of overburden. Should the project be approved and this occurs, it should be ensured that nests are not hydroseeded, that alternate measures are taken to reduce potential for erosion, and that nests are protected until chicks have fledged and left the area. For a species such as Bank Swallows, the period when the nests would be considered active would include not only the time when birds are incubating eggs or taking care of flightless chicks, but also a period of time after chicks have learned to fly since swallows return to their colony to roost.</li> <li>• We recommend that a variety of species of plants native to the general project area be used in revegetation efforts. Should seed mixes for herbaceous native species for the area not be available, it should be ensured that plants used in revegetation efforts are not known to be invasive.</li> <li>• EC also recommends that measures to diminish the risk of introducing invasive species be developed and implemented. These measures could include: <ul style="list-style-type: none"> <li>○ cleaning and inspecting construction equipment prior to transport from elsewhere (not limited to out of province equipment) to ensure that no plant matter is attached to the machinery (e.g. use of pressure water hose to clean vehicles prior to transport); and</li> <li>○ regularly inspecting equipment prior to, during and immediately following construction in wetland areas and in areas found to support Purple Loosestrife to ensure that plant matter is not transported from one construction area to another.</li> </ul> </li> </ul>	<p>The Proponent acknowledges Environment Canada's comments regarding nomenclature of Species at Risk and Species of Conservation Concern. All species protected under SARA have been identified as such.</p> <p>Text in Section 4.3 (Species at Risk Definitions) has been amended in the revised EA Registration.</p> <p>Text in Section 5.5.1 (Birds) the revised EA Registration has been corrected to say "Wetland 17" instead of "wetland MC7".</p> <p>The Residual Environmental Effects Evaluation Criteria in Section 6.4.3 of the report have been revised as requested.</p> <p>Figure 6.1 has been added to Section 6.4.5 of the report.</p> <p>The EA has been amended to state that further information on spill prevention and response is provided in Section 2.8 and Section 7.0.</p> <p>The pipeline RoW will be routinely inspected by maintenance staff to ensure the integrity of the infrastructure. Any obvious signs of unauthorized access resulting in land and vegetation damage will be recorded.</p> <p>It is unlikely that piles of overburden generated by pipeline trenching activities will be high enough or in place long enough to generate a risk of attraction for nesting birds</p> <p>Measures recommended by EC to reduce the potential for introduction of invasive plant species are included in Section 6.3.5 of the EA and will also be added to the Project EMP</p>
26	EC-03	S. Zwicker	<p>April 3, 2012</p> <p><b><u>Applicable Legislation and Policy</u></b></p> <p><b><i>Migratory Birds Convention Act (MBCA)</i></b></p> <p>The conservation of migratory birds is the joint responsibility of the countries these birds visit during the breeding, migration, and non-breeding seasons. Environment Canada is responsible for fulfilling Canada's obligations for the conservation of migratory birds through administration of the MBCA. Migratory birds protected by the Act generally include all seabirds except cormorants and pelicans, all waterfowl,</p>	<p>Comment noted.</p>

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			<p>all shorebirds, and most landbirds (birds with principally terrestrial life cycles). Most of these birds are specifically named in the Environment Canada publication, <i>Birds Protected in Canada under the Migratory Birds Convention Act</i>, Canadian Wildlife Service Occasional Paper No. 1 (available online at <a href="http://www.ec.gc.ca/Publications/default.asp?lang=En&amp;xml=97AC4B68-69E6-4E12-A85D-509F5B571564">http://www.ec.gc.ca/Publications/default.asp?lang=En&amp;xml=97AC4B68-69E6-4E12-A85D-509F5B571564</a> ).</p> <p>Under Section 6 of the <i>Migratory Birds Regulations</i> (MBR), it is forbidden to disturb, destroy or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the current MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities. Furthermore, Section 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:</p> <ul style="list-style-type: none"> <li>• “5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.</li> <li>• (2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds.”</li> </ul>	
27	EC-04	S. Zwicker	<p>April 3, 2012</p> <p>It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and regulations.</p> <p>In fulfilling its responsibility for MBCA compliance, the proponent should take the following points into consideration:</p> <ul style="list-style-type: none"> <li>• The breeding season for most birds within the Project area occurs between May 1<sup>st</sup> and August 31<sup>st</sup>; however some species protected under the MBCA nest outside this timeframe.</li> <li>• While most bird species construct nests in trees and shrubs, a number of species of birds nest at ground level (e.g. Common Nighthawk, Killdeer), and some species may nest in burrows in stockpiles of soil or the banks of pits (e.g. Bank Swallows).</li> </ul> <p>One method frequently used to minimize the risk of destroying bird nests consists of avoiding certain activities, such as clearing, during the nesting period for migratory birds in the region. Risk of impacting active nests or birds caring for pre-fledged chicks, discovered during project activities outside the May 1<sup>st</sup> to August 31<sup>st</sup> window, can be minimized by measures such as the establishment of vegetated buffer zones around nests, and minimization of activities in the immediate area until nesting is complete and chicks have naturally migrated from the area. It is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA.</p>	<p>As noted in Section 2.5 (Project Schedule) and 6.4 (Wildlife and Wildlife Habitat), clearing of vegetation and RoW vegetation management activities will be conducted outside the breeding season for most bird species (April 15 to August 31).</p> <p>Section 6.4.5 includes the following paragraph: “Alton plans to conduct clearing during the fall/winter where feasible to avoid potential direct adverse environmental effects on most nesting birds. It is important to note that some species of bird such as White-winged Crossbills, Pine Siskins and Common Ravens nest outside of this period and could be affected by clearing. Other species such as Killdeer nest on bare ground and Dark-eyed Juncos and White-throated Sparrows nest in recent clear-cuts. These species could occupy sites that have been cleared and/or grubbed during the winter months.”</p> <p>In addition, breeding bird surveys were conducted in support of the EA and rerouting of the pipeline was proposed to avoid known nesting areas for certain species of conservation concern (refer to Section 6.4.5).</p> <p>The Proponent understands its obligations under the MBCA and will take all practical measures to achieve compliance. However, due to the nature of pipeline construction activities and timelines, it may not be practical to impose constraints with respect to nest avoidance other than the seasonal considerations noted above.</p>



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28	EC-05	S. Zwicker	April 3, 2012	<p><b>Species at Risk Act (SARA)</b></p> <p>The proponent must ensure its activities are managed so as to comply with the <i>Species at Risk Act</i> (SARA). SARA is one of three elements of Canada's Strategy for the Protection of Species at Risk. The other two are the federal-provincial/territorial <i>Accord for the Protection of Species at Risk</i> and the Habitat Stewardship Program for Species at Risk.</p> <p>The 1996 <i>Accord for the Protection of Species at Risk</i> commits the federal government, provinces and territories to establish complementary legislation and programs to protect Canada's species at risk. The Act complements the work being done by provincial and territorial governments while ensuring federal responsibilities and standards are met.</p> <p>The goal of SARA is to prevent endangered or threatened wildlife from becoming extinct or lost from the wild, and to provide for the recovery of these species. The Act is also intended to manage species of special concern and to prevent them from becoming endangered or threatened. The Act recognizes that the protection of wildlife species is a joint responsibility and that all Canadians have a role to play in the protection of wildlife.</p> <p>The Minister of Environment's responsibilities under the Act include the protection and recovery of migratory birds and species at risk on federal lands, other than those under the responsibility of the Minister of Fisheries and Oceans or those individuals under the responsibility of the Parks Canada Agency. The Minister of Fisheries and Oceans is responsible for aquatic species at risk.</p> <p>Under the <i>Accord for the Protection of Species at Risk</i>, it is understood that the provinces and territories will undertake actions and enforce prohibitions for the conservation of species at risk that come under their management authority. SARA allows the federal government to enact protective prohibitions in cases where a province or territory fails to provide effective protection for a species or its critical habitat.</p> <p>SARA amends the definition of "environmental effect" in CEAA to include "any change [a project] may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the <i>Species at Risk Act</i>". In addition, Section 79 of SARA confers specific duties to persons required by an Act of Parliament to ensure that an environmental assessment (EA) is conducted. "Persons" are defined to include Responsible Authorities of projects undergoing a federal EA. Responsible Authorities must identify adverse effects of a project on listed species and their critical habitat or residences. If the project is ultimately carried out, Responsible Authorities must ensure that measures are taken to avoid or lessen adverse effects and that effects are monitored. It should also be noted that while SARA prohibitions do not apply to species listed as Special Concern, section 79 of SARA does apply to these species.</p> <p>In addition to SARA requirements, application of the precautionary principle and the consideration of potential impacts on all rare or imperiled species in Canada (e.g., species of conservation concern) are considered by Environment Canada to be a</p>	Comment noted.

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			<p>best practice approach to fulfilling EA responsibilities.</p> <p><b><i>The Federal Policy on Wetland Conservation (FPWC)</i></b></p> <p>The <i>Federal Policy on Wetland Conservation (FPWC)</i> was introduced “to promote the conservation of Canada’s wetlands to sustain their ecological and socio-economic functions, now and in the future”. The policy recognizes the importance of wetlands to the environment, the economy and human health, and promotes a goal of no-net-loss of wetland functions. In support of this goal, the FPWC and related implementation guidance identify the importance of planning, siting and designing a project in a manner that accommodates a consideration of mitigation options in a hierarchical sequence - avoidance, minimization, and as a last resort, compensation. If no federal decisions (e.g. funding, permit) or lands are related to this project, then Environment Canada advocates application of the FPWC to the Project as a best practice.</p> <p>For those wetlands where avoidance is not possible, a detailed description of the reasons why avoidance and minimization of impacts were determined to not be possible should be provided. This information should be provided during the EIA project review process. The mitigation measures and monitoring plan, as well as a proposed compensation plan, should be consistent with those proposed for other projects in Atlantic Canada.</p>	
29	EC-06	S. Zwicker	<p><b>Water Quality</b></p> <p><b><u>Regulatory Requirements</u></b></p> <p>Pollution prevention and control provisions of the <i>Fisheries Act</i> are administered and enforced by Environment Canada. Subsection 36(3) of the <i>Fisheries Act</i> prohibits “anyone from depositing or permitting the deposit of a deleterious substance of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter such water”. Environment Canada also administers the <i>Migratory Birds Convention Act</i> wherein Subsection 5.1(1) similarly prohibits persons from depositing harmful substances in waters or areas frequented by migratory birds.</p> <p>It is the responsibility of the proponent to ensure that activities are managed so as to prevent the release of substances deleterious to fish or harmful to migratory birds. In general, compliance is determined at the last point of control of the substance before it enters waters frequented by fish or migratory birds, or, in any place under any conditions where a substance may enter such waters.</p>	Comment noted.
30	EC-07	S. Zwicker	<p><b><u>Erosion and Sedimentation – On-land Activities</u></b></p> <p>The following measures should be implemented as applicable to minimize and control erosion and sedimentation on-land:</p> <ul style="list-style-type: none"> <li>• coordinate construction activities with seasonal constraints (e.g. time clearing, grubbing, and excavation activities to avoid heavy precipitation; avoid sensitive periods for fish and wildlife; shut down and stabilize the work site in accordance with pre-established criteria in advance of the winter season) {before</li> </ul>	Some of these recommended measures, as applicable, have been added to Section 2.7.4 (Surface Run-off and Sedimentation) of the revised EA Registration. As noted in that section, a Project-specific EMP, including plans for erosion and sediment control measures will be developed prior to commencement of construction activities and implemented to minimize impacts to water quality from construction activities.

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			<p>revegetation is no longer possible and before freeze-up);</p> <ul style="list-style-type: none"> <li>• implement measures in advance of grubbing and excavation activities, that will allow surface drainage to be diverted around the work area;</li> <li>• install all perimeter control structures (e.g. silt fencing, sediment traps, settling ponds) prior to any land disturbance;</li> <li>• maintain vegetated buffer zones as appropriate to protect environmental values;</li> <li>• minimize the exposed soil area (by limiting the area that is exposed at any one time and by limiting the amount of time that any area is exposed);</li> <li>• stabilize exposed soil as soon as possible (e.g. stabilize interim exposed soil with mulch, erosion control blankets or final exposed soil with fast-growing, non-invasive, native vegetation);</li> <li>• maintain sediment control structures (by inspecting and repairing structural problems during and after storm events, removing accumulated sediment at regular intervals or at designated capacities, and by disposing of it at an approved site, given its unsuitability as structural fill material);</li> <li>• monitor any nearby receiving waters for total suspended solids or contaminants of concern to ensure maintenance of the Canadian Council of Ministers of the Environment (CCME) Environmental Quality Guidelines for the Protection of Aquatic Life (<a href="http://www.ccme.ca/publications/cegg_rcqe.html">http://www.ccme.ca/publications/cegg_rcqe.html</a>) when considered in conjunction with existing ambient water quality and site-specific factors;</li> <li>• take further mitigative actions as necessary based on monitoring results.</li> </ul>	
31	EC-08	S. Zwicker	<p>April 3, 2012</p> <p><b><u>Sedimentation – In-water Activities</u></b></p> <p>To minimize and control the release or resuspension of sediments or contaminants resulting from in-water activities, the following measures should be implemented as applicable:</p> <ul style="list-style-type: none"> <li>• Install siltation control structures (e.g. silt curtains) prior to beginning any in-water work. Siltation control structures should be designed and installed to enclose an area from the water surface to the bottom;</li> <li>• Schedule work so as to avoid heavy precipitation;</li> <li>• Immediately stabilize any disturbed areas along the shoreline to prevent erosion;</li> <li>• Check the integrity and effectiveness of the siltation control structures daily for the duration of the project and ensure they remain in place following completion of the work until suspended solids levels return to ambient levels;</li> <li>• Monitor water quality to ensure total suspended solid levels and contaminant concentrations in the water column are within limits prescribed by the CCME Environmental Quality Guidelines for the protection of aquatic life (<a href="http://www.ccme.ca/publications/cegg_rcqe.html">http://www.ccme.ca/publications/cegg_rcqe.html</a>) when considered in conjunction with existing ambient water quality and site-specific factors;</li> <li>• Take further mitigative actions as necessary based on monitoring results.</li> </ul>	<p>Some of these recommended measures, as applicable, have been added to Section 2.7.4 (Surface Run-off and Sedimentation) of the revised EA Registration. As noted in that section, a Project-specific EMP, including plans for erosion and sediment control measures will be developed prior to commencement of construction activities and implemented to minimize impacts to water quality from construction activities.</p>

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32	EC-09	S. Zwicker	April 3, 2012	<p><b><u>Acid Rock Drainage</u></b></p> <p>Acid rock drainage (ARD) is water that is acidic as a result of contact with naturally oxidizing sulphide minerals contained in recently fractured rock which is exposed to air and water. These sulphide minerals undergo chemical and biological reactions producing low pH water capable of leaching heavy metals and other soluble constituents contained in the 'acid rock'. Disturbance during construction/mining is a major cause of exposure of these sulphide bearing materials to air and water.</p> <p>Once acid generation begins, it often continues for decades if not longer, and is very costly to mitigate compared to the cost of avoidance strategies. The level of acid generation activity is affected by concentration of sulphides, interim pH, exposure period, surface area of exposed material, temperature, competency of the host rock, and the presence/absence of oxygen, water, carbon dioxide, nutrients and acid-neutralizing materials. It is the responsibility of the proponent to ensure that activities are managed so as to prevent the release of substances deleterious to fish or harmful to migratory birds.</p> <p>For projects proposed in areas where ARD may be a concern, proponents are encouraged to gather and consider the following information in an effort to minimize the risk of ARD generation and adverse effects on water quality:</p> <ul style="list-style-type: none"> <li>• A geological map of the area to determine potential for acid producing type materials;</li> <li>• General site map and information including rock type, topography, hydrology, and hydrogeology, soil depths, etc.;</li> <li>• Determination of general project footprints that may initiate acid generation;</li> <li>• Criteria and rationale for determining potential of host rock to generate acid, sampling/analysis protocol; sampling design, and analytical results for the area to be disturbed;</li> <li>• Project relocation or design alternatives for avoiding potentially acid-producing rock;</li> <li>• Locations, and quantities of excavated/disturbed material;</li> <li>• Procedures to minimize blasting, or modify blasting to reduce overbreakage, and maximize size of material excavated;</li> <li>• Overall timing / scheduling of construction work;</li> <li>• Plans for management of in-situ and excavated material for both temporary and permanent situations;</li> <li>• ARD management options including measures to reduce leachate volume and concentrations; leachate treatment methods; and contingency planning during construction, operation and decommissioning phases.</li> </ul>	<p>As noted in the EA Registration, the pipeline route does not cross any areas underlain by Halifax Formation slates and acid rock drainage is therefore not considered to be a risk for this pipeline route.</p> <p>The following text has been added to Section 2.7.5 (Solid and Hazardous Waste) of the revised EA Registration:</p> <p>"No pyritic slates are known to occur in the Proposed RoW. The Sulphide Bearing Material Disposal Regulations under the <i>Environment Act</i> will be adhered to as necessary in the unlikely event that acid generating bedrock is encountered during the course of Project activities."</p>
33	EC-10	S. Zwicker	April 3, 2012	<p><b><u>Dust Suppression</u></b></p> <p>Water, calcium chloride, magnesium chloride and lignin-based dust suppressants are often selected as dust suppressants for application throughout a project lifecycle. Excessive use or poor application of chemical dust suppressants can have adverse</p>	Comment noted.

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			<p>environmental effects. Proponents should consider the following factors in selecting suppressants and in determining when, where and how suppressants are to be applied:</p> <ul style="list-style-type: none"> <li>• From an environmental quality perspective, the application of water is the preferred method of dust suppression.</li> <li>• Aquatic toxicities of lignin-based lignosulfonates are considered low, but the potential offsite movement of lignosulfonates into watercourses is of ecological concern as they may reduce dissolved oxygen and increase colour and suspended solids in water. Prior to application, it should be determined if any significant migration via water drainage might occur into local streams, rivers, ponds, or lakes and thereby affect the oxygen needs of aquatic communities.</li> <li>• If either calcium chloride or magnesium chloride is considered for use as a dust suppressant, it should only be used in accordance with guidance offered in the Environment Canada report entitled, <i>Best Practices for the use and Storage of Chloride-Based Dust Suppressants</i>:  <a href="http://www.ec.gc.ca/nopp/roadsalt/reports/chlorideBP/en/toc.cfm">www.ec.gc.ca/nopp/roadsalt/reports/chlorideBP/en/toc.cfm</a>.</li> </ul>	
34	EC-11	S. Zwicker	<p><b>Horizontal Directional Drilling (HDD)</b></p> <p>HDD is increasingly being recognized as a means of minimizing the impacts of pipeline crossings in ecologically sensitive areas. However, HDD does not guarantee that all adverse environmental effects will be prevented. HDD activities should be carefully monitored to avoid any inadvertent releases of drilling fluids to the environment. In the event of an unplanned release of drilling fluid, if loss circulation material (LCM) products will be used to help resume fluid circulation, the proponent is encouraged to select LCM products with the least potential for environmental impact.</p> <p>The proponent should consider developing a contingency plan for frac-out or drilling fluid spill incidents. In terms of reporting requirements, if frac-out material enters or has the potential to enter a watercourse, then there may be a risk of violating Subsection 36(3) of the <i>Fisheries Act</i>, which prohibits the deposit of deleterious substances into waters frequented by fish. The proponent is encouraged to report any spills or frac-outs that could affect fish or fish habitat to the 24-hour emergency reporting system (1-800-565-1633).</p>	<p>Comment noted. As per Section 7.2.3 of the EA Registration, frac-out procedures will be detailed and documented in a Spill Management Plan and Emergency Response and Contingency Plan. Spill reporting procedures will also be specified in those plans.</p>
35	EC-12	S. Zwicker	<p><b>Hydrostatic Testing</b></p> <p>Activities involved with the hydrostatic testing of pipeline should be considered as part of the environmental assessment. In planning hydrostatic testing operations, the following best practices are recommended:</p> <p><i>Fluid Selection</i></p> <ul style="list-style-type: none"> <li>• Consider the use of alternate test fluids such as air or gas, or alternative integrity verification strategies.</li> <li>• Schedule hydrostatic testing seasonally such that antifreeze mixtures or other chemicals are not required.</li> <li>• Investigate alternative environmentally friendly fluid additive options (e.g. heated water instead antifreeze).</li> </ul>	<p>Comment noted. Alton will consider practice guidance from government and industry and implement it as appropriate during fluid selection, testing operations, and disposal of waste fluid. Text to this effect has been added to Section 2.2.3 (Cleaning and Testing) of the revised EA Registration.</p>

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				<ul style="list-style-type: none"> <li>Minimize additive concentrations and use quality hydrostatic test water to minimize the need for additives.</li> <li>Keep residence times low to avoid the need for chemicals to be added to the test fluid.</li> </ul> <p><i>Testing Operations</i></p> <ul style="list-style-type: none"> <li>Filter water used for testing to reduce the risk of corrosion in the pipeline and minimize sediment in the water.</li> <li>Reduce the release of hazardous constituents to the environment by filtering and treatment.</li> <li>Reduce pipeline test segment lengths to minimize the amount of test water required.</li> <li>Use a slug of treated water to run down the line during dewatering instead of using chemicals in test water.</li> <li>Limit the residual contamination picked up by a test fluid by ensuring a good pipeline cleaning program.</li> <li>Create spill management and spill response plans as contingency measures.</li> </ul> <p><i>Disposal of Waste Fluid</i></p> <ul style="list-style-type: none"> <li>Consider incorporating waste fluid into the project's processing stream or transporting offsite for treatment.</li> <li>Discharge water back to its original watershed if alternative means of treatment/disposal are not being used.</li> <li>Design dewatering structures to minimize erosion of waterways and surficial soils.</li> <li>Investigate locations with high dispersion potential and low potential environmental impact for fluid disposal.</li> <li>Sample discharge waters to ensure that the discharged test fluid meets environmental requirements.</li> <li>Prevent adverse environmental effects of discharges or leaks into sensitive areas (including permafrost).</li> </ul>	
36	DFO-01	L. Paon	April 12, 2012	For watercourses to be crossed using a dry crossing technique there is no mention of restoration of the watercourse channel and banks to their original state after installation of the pipe. These measures should be included in plans for the dry crossings.	A Proponent commitment to restore watercourse channels and banks to their original state following dry crossings has been added to Section 6.2.5 of the revised EA Registration.
37	DFO-02	L. Paon	April 12, 2012	A map clearly labeling the watercourse crossing should be added to the document	All field-identified watercourses and watercourse crossings are shown and labeled on Figures 5.3A and 5.3B. The field-identified watercourse labels on the map (GL-1, GL-2, GL-3, etc.) correspond with the descriptions and photographs of each watercourse that are provided in Section 5.3.3 (Habitat Assessment Results).

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38	TC-02	S. Bunting	April 13, 2012	<p>As per the attached Record of Determination, Transport Canada is likely to require an environmental assessment of this project.</p> <p>Transport Canada Environmental Affairs will be providing necessary information that may be required to complete the EA for this project. As a co-RA, we would also like an opportunity to review any drafts of the environmental assessment for the proposed project listed above. In addition, Transport Canada will be required to sign off on this environmental assessment when completed. As such, please ensure that the signature blocks on the signature page allow for signatory approval by Transport Canada personnel.</p> <p>The proponent is required to submit an application for authorizations to the Navigable Waters Protection Program (NWPP) of Transport Canada for the watercourses involved in this project. Any prescribed requirements pursuant to the <i>Navigable Waters Protection Act</i> as determined by the NWPP Transport Canada, must be strictly adhered to.</p> <p>Contact:</p> <p>Navigable Waters Protection Program, Marine Safety, Transport Canada Queens Square Building 1, 11th Floor Box 1013 45 Alderney Drive Dartmouth, Nova Scotia B2Y 4K2 (902) 426-2726 (902) 426-7585 email: <a href="mailto:nwpdar@tc.gc.ca">nwpdar@tc.gc.ca</a> website: <a href="http://www.tc.gc.ca/eng/marinesafety/oep-nwpp-menu-1978.htm">http://www.tc.gc.ca/eng/marinesafety/oep-nwpp-menu-1978.htm</a></p> <p>Please notify the proponent that a <i>NWPA</i> application should be made as soon as possible to enable NWPP to confirm whether or not a <i>NWPA</i> permit will be required and so as to prevent undue delays to their project.</p>	<p>It is the Proponent's understanding that Transport Canada would only require an environmental assessment of the Project if approval is required under Section 5(2) of <i>NWPA</i>, which would be a <i>CEAA</i> Law List trigger.</p> <p>As noted in the Proponent's response to Comment No. 23 (TC-01) above, the Project is not anticipated to interfere with navigation. However, an application for approval under <i>NWPA</i> will be submitted when watercourse crossing design details are available.</p>
39	TC-03	S. Bunting	April 13, 2012	<p>The proponent should submit an application(s) for a potential approval(s) under the <i>Navigable Waters Protection Act</i> for any works in, on, over, under, or through a navigable waterway. Such an application will continue to assist Transport Canada's environmental assessment role for the project. The proponent should contact Navigable Waters Protection Program of Transport Canada at (902) 426-2726 on how to apply for such works in relation to the project.</p>	<p>Refer to responses to Comments Nos. 23 and 28 (TC-01 and TC-02) above.</p>
40	TC-04	S. Bunting	April 13, 2012	<p>The proponent should also consult the Transport Canada's - Navigable Waters Protection Program website at the following address to learn how to apply for such works in relation to the project: <a href="http://www.tc.gc.ca/eng/marinesafety/oep-nwpp-menu-1978.htm">http://www.tc.gc.ca/eng/marinesafety/oep-nwpp-menu-1978.htm</a></p>	<p>Comment noted.</p>
41	TC-05	S. Bunting	April 13, 2012	<p>In regards to navigable waters, we request the following component to be incorporated into the final Environmental Assessment Report for this project:</p> <ul style="list-style-type: none"> <li>• Approvals under <i>Navigable Waters Protections Act</i> (<i>NWPA</i>) Subsection 5.(2), 5(3), 6.(4), 16 and 20 trigger the need for an EA under <i>CEAA</i>. However,</li> </ul>	<p>Comment noted. Information relevant to <i>NWPA</i> will be included in the <i>NWPA</i> application. Refer also to response to Comment No. 23 (TC-01) above.</p>

Comment No		Originator	Date Received	Regulator Questions/ Comments	Proponent Response
				<p>environmental effects of the project on navigation are taken into consideration as part of the environmental assessment only when the effects are indirect, i.e., resulting from a change in the environment affecting navigation. Direct effects on navigation are not considered in the environmental assessment, but any measures necessary to mitigate direct effects will be included as conditions of the <i>Navigable Waters Protection Act</i> approval.</p> <ul style="list-style-type: none"> <li>• Only direct effects were identified; therefore the effects of the project on navigation are not addressed in this environmental assessment.</li> </ul>	
42	TC-06	S. Bunting	April 13, 2012	<p>In order to efficiently streamline the EA process and reduce unnecessary duplication, Transport Canada requests approval for future use of the proposed project's finalized Environmental Assessment Report at a later date. With that, Transport Canada would like the continued opportunity to comment on, and review, any drafts of the environmental assessment for the project. Additionally, Transport Canada requests the opportunity to sign off on the completed environmental assessment with a letter of endorsement.</p>	<p>Comment noted. Given that the Project is currently only subject to environmental assessment under provincial legislation, circulation of to the relevant government agencies will be facilitated by the NSE EA Branch. This request should be directed to the NSE EA Branch.</p>

**Sources of Comments:**

**NSA** = Nova Scotia Agriculture

**NSE** = Nova Scotia Environment

**NSTIR** = Nova Scotia Transportation and Infrastructure Renewal

**NSDNR** = Nova Scotia Department of Natural Resources

**NSOAA** = Nova Scotia Office of Aboriginal Affairs

**TC** = Transport Canada

**EC** = Environment Canada

**DFO** = Fisheries and Oceans Canada