

6.0 RESIDUAL EFFECTS ASSESSMENT SUMMARY

Residual impacts refer to those environmental effects predicted to remain after the application of mitigation outlined in this EA. The predicted residual effects are considered for each Project phase (Construction, Operation, Decommissioning/post-decommissioning, and Unplanned Events). As per the criteria established in Section 2.5, the Significance has been determined for each residual adverse effect (no significance rating was established for positive effects). For ease of reference, these criteria are repeated here:

Significant

- **Major:** Potential impact could jeopardize the long term sustainability of the resource. Criteria used to evaluate the long term sustainability of the resource include consideration of the following: magnitude, geographic extent, duration/frequency, reversibility, and ecological and socio/cultural context. Professional judgement and expertise is used to determine significance as a function of these criteria. Section 2.5 gives further detail on how each of the criteria is evaluated. Additional research, monitoring, and/or recovery initiatives should be considered.

Not Significant

- **Medium:** Potential impact could result in a decline of a resource in terms of quality/quantity, such that the impact is considered moderate in its combination of magnitude, aerial extent, duration, and frequency, but does not affect the long term sustainability (that is, it is considered reversible). Additional research, monitoring, and/or recovery initiatives may be considered.
- **Minor:** Potential impact may result in a localized or short-term decline in a resource during the life of the Project. Typically, no additional research, monitoring, and/or recovery initiatives are considered.
- **Minimal:** Potential impact may result in a small, localized decline in a resource during the construction phase of the Project, and should be negligible to the overall baseline status of the resource.

Only effects considered significant underwent an additional consideration of the likelihood of their occurrence and the level of confidence underlying the effects prediction.

The results of the assessment have been developed and presented in Sections 6.1 through 6.3. The tables describe the predicted effect on several indicator criteria representing each VEC and the identified avoidance or mitigation measures which could eliminate or reduce the predicted effect. It is of note that, for the purposes of this CSR, a FHCP is considered to be a mitigation measure. The same is assumed with respect to Wetland Compensation Plans and the Terms and Conditions specified by the NSEL Environmental Assessment Approval. The Project phase or phases to which the identified effect applies have been listed, followed by the type of impact (adverse or positive) and the significance of residual effects.

Accidental events can occur, potentially causing damage to the biophysical environment, as well as to effects on human health and safety. The severity of effects from accidental events is dependent upon the magnitude of the event, location of the event, and the time of year. For the prediction of residual adverse environmental effects, it is acknowledged that, while the likelihood

is low, the result can be significant. Unplanned events are, by their nature difficult to predict, the approach has been to apply environmental management practice to prevention and preparedness training so as to reduce the likelihood of such events, but to be well prepared to implement an effective emergency response should an event occur. Emergency Preparedness Planning will include the development and maintenance of a high degree of readiness through equipment purchase and maintenance, training exercises, and simulations. As has been previously noted, Emergency Preparedness Planning has been integrated into all phases of Project design, planning, and execution. The objective is to perform well above the industry average, and to improve on the record continuously. Accidental events are by their nature unpredictable and are not described further in this section. However, a detailed assessment of potential effects and mitigation for accidental events is provided in Section 10.0.

Through careful design and planning, combined with prudent application of proven mitigation measures, Keltic has identified and addressed all potential adverse environmental effects, and reduced the predicted adverse impacts to a low level of significance. The Project will also have important economic benefits both locally and regionally.

For several VECs no adverse environmental effects were identified that could result from normal/routine works and activities during any of the Project phases. Therefore, residual effects tables have not been included for these VECs in this section. A summary of these VECs is provided below by component. It is of note, that potential adverse effects resulting from malfunctions and accidents may involve these VECs. This is discussed in the Section 10.0.

Marginal Wharf

- Hydrology; and
- Groundwater Quality/Quantity.

Shipping within 25 km of Country Island

- Hydrology;
- Freshwater Quality/Quantity;
- Groundwater Quality/Quantity;
- Wildlife and Wildlife Habitat;
- Wetlands;
- Physical and Cultural Heritage;
- Structures/Sites of Archaeological, Paleontological or Architectural Significance;
- Human Health & Safety; and
- Tourism.

6.1 LNG TERMINAL, MARINE TRANSFER PIPELINES, LNG STORAGE TANKS AND THE REGASIFICATION FACILITIES

6.1.1 Hydrology

TABLE 6.1-1 Residual Environmental Effects Summary for Hydrology

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence **	Level of Confidence **
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R = Reversible NR = Not reversible)	Social-cultural and Economic Context		
Construction									
High runoff flows to watercourses	A	<ul style="list-style-type: none"> Site-specific SWMP. The storm-water ponds will be sized to accommodate flows from the exposed areas upstream of the ponds during the construction phase. Peak flows discharged will not exceed existing peak flows. Implementation of an ESC Plan. 	Low	Betty's Cove Brook and unnamed tributary to Dung Cove	Intermittent and short term over 2.5 years	R	Betty's Cove Brook used for recreational fishing	Minor (Not significant)	
Operation and Maintenance									
High runoff flows to watercourses	A	<ul style="list-style-type: none"> Implementation of Storm Water Management Plan with: <ul style="list-style-type: none"> Hydrologic modelling to design peak flows attenuation and groundwater recharge. Maintaining/ creating pervious surfaces for recharge where possible. Use of retention ponds/fire ponds to collect and control runoff from paved areas. 	Low	Betty's Cove Brook drainage below Crane Lake	Intermittent and short term over 20+ year lifetime	R	Betty's Cove Brook used for recreational fishing	Minor (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence **	Level of Confidence **
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= Not reversible)	Ecological/Social-cultural and Economic Context		
Reduced base flow to watercourses	A	<ul style="list-style-type: none"> Implementation of an ESC Plan. Implementation of SWMP to direct appropriate flow to Betty's Cove Brook. Controlled discharges to the environment. Discharge of collected storm-water within respective watershed. 	Low	Betty's Cove Brook drainage below Crane Lake	Intermittent and short term over 20+ year lifetime	R	Betty's Cove Brook used for recreational fishing	Minor (Not significant)	
Modifications and Decommissioning									
High runoff flows to watercourses	A	Same as construction	Low	Same as construction	Intermittent and short term over weeks or months	R	Betty's Cove Brook used for recreational fishing	Minor (Not significant)	

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.2 Freshwater Quality/Quantity

TABLE 6.1-2 Residual Environmental Effects Summary for Freshwater Quality/Quantity

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence **	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Effects on watercourses (erosion, sediment loading, storm-water discharges, spills) watercourses	A	<ul style="list-style-type: none"> Erosion and sediment control plan. Sediment ponds sized to accommodate flows; flocculent, if required. Buffer zone. Sanitary wastewater will be stored and hauled off site during early construction and treated using approved sanitary wastewater methods on site for remainder of construction. SWMP. Spill prevention and response plan. Designated fuelling and material storage site. Sulphide monitoring program and management plan for exposed acid generating material and drainage. 	Low	Betty's Cove Brook and Unnamed tributary to Dung Cove	Intermittent and short term over 2.5 years	R	Betty's Cove Brook used for recreational fishing	Minimal (Not significant)	
Disturbance of tailings during construction	A	<ul style="list-style-type: none"> Once final site layout is determined, if tailings disturbance is required, a tailings management strategy, likely including encapsulation, will be developed in concert with regulatory authorities. Mitigation plan for contaminated tailings and/or soils and sediments. 	Low	Betty's Cove Brook and Unnamed tributary to Dung Cove	Intermittent and short term over 2.5 years	R	Soil/sediment quality locally affected by historic mining activities	Minor (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence **	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Effect of flows to watercourses	A	<ul style="list-style-type: none"> Data collection and assimilative capacity assessment for all relevant chemical parameters expected to enter the environment or be remobilized due to construction activities. Implementation of Storm Water Management Plan. Hydrologic modelling to design peak flows attenuation and groundwater recharge. Flow measurement analysis. 	Low	Betty's Cove Brook drainage below Crane Lake	Intermittent and short term over 20+ year lifetime	R	Betty's Cove Brook used for recreational fishing	Minor (Not significant)		
Operation & Maintenance										
Effects on surface water quality as a result of discharges of: Storm-water, Process water, and Sanitary waste water	A	<ul style="list-style-type: none"> Implementation of SWMP. Use of a CPI Separator and an IAFU for removal of oils. First flush approach directs initial 25 mm rain to storm-water ponds. On-site waste water treatment plant to collect and treat all waste water streams. Controlled discharge point(s). Monitoring of discharge quality. Mitigation plan for contaminated tailings and/or soils and sediments. Qualitative and quantitative sampling of the benthic-invertebrate community. Sulphide monitoring program and management plan for exposed acid generating material and drainage. 	Low	Betty's Cove Brook and Unnamed tributary to Dung Cove	Intermittent and short term over 20+ year lifetime	R	Betty's Cove Brook used for recreational fishing	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence *	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/ Social-cultural and Economic Context	Significance		
Effects of flows to watercourses	A	<ul style="list-style-type: none"> Implementation of Storm Water Management Plan with: Hydrologic modelling to design peak flows attenuation and groundwater recharge. Peak flows will be attenuated where possible. Flow measurement analysis. 	Low	Betty's Cove Brook drainage below Crane Lake	Intermittent and short term over 20+ year lifetime	R	Betty's Cove Brook used for recreational fishing	Minor (Not significant)		
Modifications And Decommissioning										
Same as construction	A	See construction.	Low	See above	Intermittent and short term over weeks or months	R	See above	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.3 Groundwater Quality/Quantity

TABLE 6.1-3 Residual Environmental Effects Summary for Groundwater

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Level of Confidence**	
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		Significance
Construction									
Sitation of dug and drilled wells and possible permanent decrease in well yield of drilled wells from blasting and vibrations and heavy equipment use	A	<ul style="list-style-type: none"> Avoid blasting to the extent possible within 800 m of residential wells. Pre-blast well survey. Remedial action as necessary to restore damaged wells and/or provide temporary potable water as needed. 	Low	40 wells within 1 km of site	Temporary (dug and drilled wells) possibly permanent (drilled)	R/NR	Vacant Project Site; sparsely populated area	Minimal (Not significant)	
Water level reductions in dug wells as a result of trenching, site drainage, and large cuts or changes in surface topography.	A	<ul style="list-style-type: none"> Monitoring and remedial action as necessary to restore damaged wells and/or provide temporary potable water as needed. Arbitration and resolution documents will be prepared for owners of water supply wells. 	Low	40 wells within 1 km of site	Permanent	NR	Vacant Project Site; sparsely populated area	Minimal (Not significant)	
Water quality degradation from uncontrolled site and road runoff	A	<ul style="list-style-type: none"> Proper fuel management. Application of EPP. Monitoring and local remedial action as necessary. ESC Plan. 	Low	Two On-site water courses	Intermittent and short term over 2.5 years	R	Betty's Cove Brook used for recreational fishing	Minimal (Not significant)	
Contamination of wells and/or onsite streams from acidic	A	<ul style="list-style-type: none"> Test bedrock in high potential areas where grading is required and areas of borrow 	Nil	40 wells within 1 km of site; three	Intermittent and short term over 2.5 years	R	Betty's Cove Brook used for recreational	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence*	
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		Likelihood of Occurrence**
drainage in areas of known sulphide mineralization on site		<ul style="list-style-type: none"> sources; implement acid rock management program, if necessary. Sulphide monitoring program and management plan for exposed acid generating material and drainage. Arbitration and resolution documents will be prepared for owners of water supply wells. 		on-site water course			fishing; sparsely populated area			
Degradation of groundwater quality due to accidental release of fuel chemicals and hazardous materials	A	<ul style="list-style-type: none"> Proper fuel management. Application of EPP. Monitoring and local remedial action as necessary. 	Low	Two on-site water courses; 40 wells within 1 km of site;	Intermittent and short term over 2.5+ years	R	Watercourses with no importance for local fisheries and water supply; Project Area sparsely populated	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence*	
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		Likelihood of Occurrence**
Operation and Maintenance										
Degradation of surface and groundwater and well water quality due uncontrolled site and road runoff	A	<ul style="list-style-type: none"> • Incorporation of design features such as: <ul style="list-style-type: none"> ○ Application of EMP. ○ Monitoring and local remedial action as necessary. ○ Sulphide monitoring program and management plan for exposed acid generating material and drainage. ○ Arbitration and resolution documents will be prepared for owners of water supply wells. ○ ESC Plan. ○ Sulphide monitoring program and management plan for exposed acid generating material and drainage. 	Low	Two on-site water courses; 40 wells within 1 km of site;	Intermittent and short term over 20+ year lifetime	R	Watercourses with no importance for local fisheries and water supply; Project Area sparsely populated	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Degradation of groundwater quality due to accidental and chronic spills and release of chemical and hazardous materials	A	<ul style="list-style-type: none"> • EMP. • Monitoring and local remedial action as necessary. • Secondary containment; leak detection; monitoring. • Proper management of fuel, product and material storage, and handling. 	Low	Two on-site water courses; 40 wells within 1 km of site;	Intermittent and short term over 20+ year lifetime	R	Watercourses with no importance for local fisheries and water supply; Project Area sparsely populated	Minimal (Not significant)		
Modifications And Decommissioning										
Siltation of dug and drilled wells and possible permanent decrease in well yield of drilled wells from blasting and vibrations and heavy equipment use	A	<ul style="list-style-type: none"> • Avoid blasting to the extent possible within 500 m of residential wells. • Pre-blast well survey. • Remedial action as necessary to restore damaged wells and/or provide temporary potable water as needed. 	Low	40 wells within 1 km of site	Temporary (dug and drilled wells) possibly permanent (drilled)	R/NR	Vacant Project Site; sparsely populated area	Minimal (Not significant)		
Contamination of wells and/or onsite streams from acidic drainage in areas of known sulphide mineralization on site	A	<ul style="list-style-type: none"> • Test bedrock in high potential areas where grading is required and areas of borrow sources; implement acid rock management program, if necessary. 	Nil	40 wells within 1 km of site; three on-site water course	Intermittent and short term over weeks or months	R	Betty's Cove Brook used for recreational fishing; sparsely populated area	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.1.4 Marine Water Quality

TABLE 6.1-4 Residual Environmental Effects Summary for Marine Water Quality

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects				Duration/Frequency	Reversibility (R=Reversible, NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance*	Likelihood of Occurrence***	Level of Confidence***
			Magnitude*	Geographic Extent	Geographic Extent	Geographic Extent						
Construction Effects on marine water, (sediment loading, storm-water discharges, spills)	A	<ul style="list-style-type: none"> Erosion and sediment control plan. SWMP. Spill prevention and response plan. Designated fuelling and material storage site. Visual monitoring for turbidity. Use of clean and non-toxic materials. Environment Management Plan for disposal, containment, and protection procedures. Mitigation plans for environmental impacts from contaminated sediments. 	Low	LNG Terminal area in Stormont Bay	Intermittent and short term over 2.5 years	R	Potential fish habitat	Minimal (Not significant)				
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. Mitigation plans for environmental impacts from contaminated sediments. 	Low	LNG Terminal area in Stormont Bay	Temporary / Average one ship per day	R	See above	Minimal (Not significant)				

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Significance**	Likelihood of Occurrence***	Level of Confidence***
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context				
Operation											
Effects on marine water quality as a result of discharges of: Storm-water, Process water, and Sanitary waste water	A	<ul style="list-style-type: none"> Implementation of SWMP. On-site waste water treatment plant to collect and treat all waste water streams. Thermal pollution modelling. Controlled discharge point(s). Monitoring of discharge quality. 	Low	Stormont Bay	Intermittent and short term over 20+ year lifetime	R	See above	Minor (Not significant)			
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. Mitigation plans for environmental impacts from contaminated sediments. 	Low	LNG Terminal area in Stormont Bay	Permanent / Average one ship per day	R	See above	Minimal (Not significant)			
Modifications And Decommissioning											
Same as construction	A	See construction.	Low	See above	Intermittent and short term over weeks or months	R	See above	Minimal (Not significant)			

6.1.5 Soil/Sediment Quality (terrestrial & marine)

TABLE 6.1-5 Residual Environmental Effects Summary for Soil/Sediment Quality (terrestrial & marine)

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence*	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social and Economic Context	Significance		
Construction Disturbance of mine tailings could remobilization arsenic- and mercury-bearing sediment	A	<ul style="list-style-type: none"> • Test overburden where grading is required and areas of borrow sources. • Implementation of EPP policies. • Tailings areas will be fenced and avoided where feasible, otherwise tailings will be encapsulated. • Mitigation plan for contaminated tailings and/or soils and sediments. • Monitoring plan for all relevant chemical parameters expected to enter the environment or be remobilized. • Baseline data collection and assimilative capacity assessment for all relevant chemical parameters expected to enter the environment or be remobilized due to construction activities. 	Low	Project Site and vicinity	Intermittent and short term over 2.5 years	NR	Known historic mining activities and tailings	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social and Economic Context	Significance		
Old mine sites could pose a health and safety concern during construction	A	<ul style="list-style-type: none"> Additional surveys of the Project Site to identify former mine sites in areas of concern. Additional surface mapping with GPS. Shallow mine workings will be pumped out for further analysis. 	Low	Project Site	Intermittent and short term over 2.5 years	R	Known historic mining activities and tailings	Minor (Not significant)		
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. 	Low	LNG Terminal area in Stormont Bay	Temporary / Average one ship per day	R	See above	Minimal (Not significant)		
Potential for acid drainage	A	<ul style="list-style-type: none"> Detailed analysis to define sites. Testing of bedrock in potential acid drainage areas. Where acid drainage potential is confirmed, grading design will be changed. Mitigation plan for contaminated tailings and/or soils and sediments. Monitoring program for sulphide bearing material. Management Plan for exposed acid generating material and associated drainage. 	Nil	Project Site	Intermittent and short term over 2.5 years	R	Known historic mining activities and tailings	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social and Economic Context	Significance		
Operation & Maintenance										
Accidental spills flowing through old mine workings into wells and oceans	A	<ul style="list-style-type: none"> Mitigation plan for contaminated tailings and/or soils and sediments. Store materials that may cause potential spills away from old mine workings (See Section 2.0). Fill or avoid all old mine working that may pose a risk. 	Low	Project and vicinity	Intermittent and short term over 20+ years	R	Known historic mining activities and tailings	Minor (Not significant)		
Disturbance of mine tailings could remobilization arsenic- and mercury-bearing sediment	A	<ul style="list-style-type: none"> Implementation of EPP policies. Tailings areas will be fenced and avoided where feasible, otherwise tailings will be encapsulated. Mitigation plan for contaminated tailings and/or soils and sediments. Monitoring plan for all relevant chemical parameters expected to enter the environment or be remobilized. 	Low	Project Site and vicinity	Intermittent and short term over 2.5 years	NR	Known historic mining activities and tailings	Minor (Not significant)		
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. 	Low	LNG Terminal area in Stormont Bay	Permanent / Average one ship per day	R	See above	Minimal (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=Not reversible NR=Not reversible)	Ecological/Social and Economic Context	Significance		
Potential for acid drainage	A	<ul style="list-style-type: none"> Mitigation plan for contaminated tailings and/or soils and sediments. Monitoring program for sulphide bearing material. Management Plan for exposed acid generating material and associated drainage. 	Nil	Project Site	Intermittent and short term over 2.5 years	R	Known historic mining activities and tailings	Minor (Not significant)		
Modifications and Decommissioning										
Disturbance of mine tailings could remobilization arsenic- and mercury-bearing sediment	A	<ul style="list-style-type: none"> Test overburden where grading is required and areas of borrow sources. Implementation of EPP policies. Tailings areas will be fenced and avoided where feasible, otherwise tailings will be encapsulated. 	Low	Project Site and vicinity	Intermittent and short term over weeks or months	NR	Known historic mining activities and tailings	Minor (Not significant)		
Old mine sites could pose a health and safety concern during construction	A	<ul style="list-style-type: none"> Additional surveys of the Project Site to identify former mine sites in areas of concern. Additional surface mapping with GPS. Shallow mine workings will be pumped out for further analysis. 	Low	Project Site	Intermittent and short term over 2.5 years	R	Known historic mining activities and tailings	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social and Economic Context	Significance		
Potential for acid drainage	A	<ul style="list-style-type: none"> Detailed analysis to define sites. Testing of bedrock in potential acid drainage areas. Where acid drainage potential is confirmed, grading design will be changed. Mitigation plan for contaminated tailings and/or soils and sediments. Monitoring program for sulphide bearing material. Management Plan for exposed acid generating material and associated drainage. 	Nil	Project Site	Intermittent and short term over 2.5 years	R	Known historic mining activities and tailings	Minor (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.6 Air Quality

TABLE 6.1-6 Residual Environmental Effects Summary for Air Quality*

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence***	Level of Confidence****
			Magnitude**	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social and Economic Context		
Construction									
Emissions of gaseous pollutants from diesel powered construction equipment and marine vessels delivering equipment as well as from private vehicles of workers	A	<ul style="list-style-type: none"> Maintaining vehicles and equipment in good working condition. Minimizing distance between transfer points. Promote car pooling. Maintaining speed restrictions on roads. Baseline data collection for relevant parameters expected to enter the environment and modelling to predict assimilative capacity. 	Low	Construction envelope plus adjacent lands and transport routes	Intermittent and short term over 2.5 years	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site	Minimal (Not significant)	
Fugitive dust emissions from excavating and moving earth, construction equipment, and the concrete batch plant	A	<ul style="list-style-type: none"> Cleaning the area around stored materials. Covering stored materials, if necessary. Vacuum sweeping or flushing roads. Applying dust suppressant. Reducing the working faces of material piles. Cover materials hauled from the site by truck. Routine washing of trucks. 	Low	Construction envelope plus adjacent lands	Intermittent and short term over 2.5 years	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence***	Level of Confidence***
			Magnitude**	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-Cultural and Economic Context	Significance		
		<ul style="list-style-type: none"> Use of enclosures, hoods, shrouds, and sprays for possible concrete batch plant. Monitor PM₁₀ if concerns occur. Employment of high-volume samplers if concerns occur regarding dust. Baseline data collection for relevant parameters expected to enter the environment and modelling to predict assimilative capacity. 								
Operation & Maintenance										
Emissions from LNG tankers, gas vent stacks, submerged combustion vapourizers, and LNG extraction plant	A	<ul style="list-style-type: none"> Monitoring and maintenance of emission control system. Monitoring of VOCs prior to and during operation. Maximize efficiency of operations. Use of ultra low NO_x burners. Air Monitoring Program. Air Emissions Management Plan. 	Low (levels all within applicable regulatory standards)	> 3.5km ²	Construction phase	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site	Minor (Not significant)		
Project contribution to GHG emissions (CO ₂)	A	<ul style="list-style-type: none"> Reduce emissions by implementing measures to improve efficiency and through selection of latest emissions control technologies. 	Low (in context of provincial emissions)	Global	Constant over 20+ year lifetime	NR	GHGs already represent a significant impact due to large contributions by industrialized	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Significance	Likelihood of Occurrence**	Level of Confidence***
			Magnitude**	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context				
		<ul style="list-style-type: none"> Greenhouse Emissions Management Plan. 						countries, and particularly the United States			
Modifications and Decommissioning											
See Construction above											

* Air quality was originally conducted for the purpose of the provincial environmental report (AMEC, 2006) and included all Project components as well as the petrochemical and co-generation facilities. Therefore the case presented above is for the worst case scenario as additional facilities outside of the scope of this document are included in the modeled numbers.

** For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

*** Only addressed for significant effects

6.1.7 Vegetation

TABLE 6.1-7 Residual Environmental Effects Summary for Vegetation

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Reduction in local forest area could limit local forestry activities	A	None	Low	Project Site (149 ha)	Intermittent and short term over 2.5 years	R	Forest on site mostly without merchantable timber	Minimal (Not significant)	
Introduction of invasive plants resulting from imported soil on construction equipment and land clearance	A	<ul style="list-style-type: none"> Ensure that construction equipment is thoroughly cleaned prior to transport to the Keltic Project Area. Quickly stabilize exposed soil. Store and return topsoil to sites to be landscaped and revegetate using native species. If required, use short lived successional pioneer species for ground cover and erosion control. Vegetation Monitoring Plan. 	Low	Project Site (149 ha)	Intermittent and short term over 2.5 years	R	Rural setting previously disturbed from forestry and gold mining activities	Minor (Not significant)	
Dust impacts on vegetation	A	See mitigation for Air Quality.	Low	Project Site (149 ha) and adjacent lands	Intermittent and short term over 2.5 years	R	Rural setting previously disturbed from forestry and gold mining activities	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Habitat Removal	A	<ul style="list-style-type: none"> Rehabilitate all temporarily used sites. 	Medium	Project Site (149 ha)	Permanent	R	No designated / protected lands involved	Medium (Not significant)		
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. 	Low	LNG Terminal area in Stormont Bay	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		
Operation & Maintenance										
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified. 	Low	LNG Terminal area in Stormont Bay	Permanent / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		
Modifications and Decommissioning										
See Construction above										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.8 Species at Risk

TABLE 6.1-8 Residual Environmental Effects Summary for Species at Risk

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-Cultural and Economic Context		
Construction									
Disturbance of Roseate tern nesting habitat on Country Island from ship deliveries	A	<ul style="list-style-type: none"> No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). 	Low	200 m radius from Country Island	Temporary / Construction Phase	R	Species protected under SARA Schedule 1	Minimal (Not significant)	
Potential effects of foraging of roseate tern	A	<ul style="list-style-type: none"> Keltic personnel will be trained in identifying the roseate tern and will report any occurrences of the species in the Project Area during construction to the CWS. Information on the bird's activities such as flying, diving, swimming, etc will be documented and provided. As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	25 km radius from Country Island	Temporary / Construction Phase	R	Species protected under SARA Schedule 1	Low to Medium (Not significant)	
Potential effects of ship lights on roseate terns	A	<ul style="list-style-type: none"> No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). 	Low	200 m radius from Country Island	Temporary / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)	
Potential for disturbance or destruction of a rare	A	<ul style="list-style-type: none"> A buffer zone will be flagged around these plant location(s) 	Medium	Near the junction of	Intermittent and short	R	A large population of	Medium (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Socio-cultural and Economic Context	Significance		
plant species found on site: horsetail (<i>Equisetum variegatum</i>)		to keep construction activities away; otherwise plants will be transplanted to a site with similar conditions. The buffer zone size will be developed in consultation with NSDNR.		Sable road and Highway 316	term over 2.5 years		this species is at Gold Brook Lake, and it probably is in other neighbouring places as well	significant		
Disturbance/displacement of the Boreal felt lichen (<i>Eriodermea pedicellatum</i>)	A	<ul style="list-style-type: none"> Conduct a field survey for the boreal lichen during the proper season prior to clearing/construction and develop site specific mitigation in consultation with regulators. 	Low	Project Site (149 ha)	Intermittent and short term over 2.5 years	R	The site is in the historical range of this species. Species is listed as endangered by COSEWIC.	Minor (Not significant)		
Disturbance to potential Greater Yellowlegs habitat	A	<ul style="list-style-type: none"> Conduct pipeline construction outside of the sensitive nesting season (i.e., June to August). 	Low	Barrier beach adjacent to Dung Cove Pond	Intermittent and short term over 2.5 years	R	Greater yellowlegs is a species at risk that is sensitive to human disturbance while nesting	Minor (Not significant)		
Operation & Maintenance										
Disturbance to potential sensitive greater yellowlegs habitat	A	<ul style="list-style-type: none"> Conduct pipeline maintenance outside of the sensitive nesting season (i.e., June to August). 	Low	Barrier beach adjacent to Dung Cove Pond	Intermittent and short term over days or weeks	R	see above	Minor (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Socio-cultural and Economic Context	Significance		
Disturbance of Roseate tern nesting habitat on Country Island from ship deliveries	A	<ul style="list-style-type: none"> Establishment of approved shipping lanes at least 200 m from Country Island. 	Low	200 m radius from Country Island	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)		
Potential effects of foraging of roseate tern	A	<ul style="list-style-type: none"> No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	200 m radius from Country Island	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)		
Potential effects of ship lights on roseate terns	A	<ul style="list-style-type: none"> No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). 	Low	200 m radius from Country Island	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)		
Modifications and Decommissioning										
Same as Construction above										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.9 Fish and Fish Habitat (freshwater and marine)

TABLE 6.1-9 Residual Environmental Effects Summary for Fish and Fish Habitat

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence*	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social and Economic Context		
Construction									
Effects on fish and fish habitat due to watercourses (erosion, sediment loading, storm-water discharges)	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. Data collection and assimilative capacity assessment for all relevant chemical parameters expected to enter the environment or be remobilized due to construction activities. 	Low	Betty's Cove Brook and unnamed tributary to Dung Cove	Intermittent and short term over 2.5 years	R	Small, local drainage systems	Minimal (Not significant)	
Potential loss of habitat and disruption of marine fishery	A	<ul style="list-style-type: none"> Compensation (if required) will be offered for HADD of fish habitat for the construction. DFO will require replacement of the area lost with habitat of similar or higher type and quality. 	Low	Stormont Bay	Permanent	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)	
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified. Mitigation plans for environmental impacts from contaminated sediments. 	Low	LNG Terminal area in Stormont Bay	Temporary / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social and Economic Context	Significance		
Operation & Maintenance										
Effects on watercourses (erosion, sediment loading, storm-water discharges)	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. Modelling for potential changes in substrate. Mitigation plans for environmental impacts from contaminated sediments. 	Low	Betty's Cove Brook	Intermittent and short term over 20+ years	R	Small, local drainage systems	Minimal (Not significant)		
Potential loss of lobster habitat and disruption of marine fishery	A	<ul style="list-style-type: none"> Mitigation provided for the construction phase is sufficient for the operation and maintenance phases. 	Low	Stormont Bay	Permanent	R	See above	Minimal (Not significant)		
Modifications & Decommissioning										
Effects on watercourses (erosion, sediment loading, storm-water discharges)	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. 	Low	Betty's Cove Brook and unnamed tributary to Dung Cove	Intermittent and short term over weeks or months	R	Small, local drainage systems	Minimal (Not significant)		
Potential loss of lobster habitat and disruption of marine fishery	A	<ul style="list-style-type: none"> Mitigation presented for the construction phase will be sufficient for the decommissioning the LNG facility. 	Low	Stormont Bay	Permanent	R	See above	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.10 Marine Mammals

TABLE 6.1-10 Residual Environmental Effects Summary for Marine Mammals

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Potential hearing impairment toward marine mammals from noise related to driving piles	A	To minimize the effects of noise on marine mammals during construction of the jetty and the LNG Terminal, the following mitigation will be applied as required: <ul style="list-style-type: none"> o work at low tide; o the use of ramped warning signals; o the use of bubble curtains to mask the noise; and o the use of alternative techniques to pile driving such as vibratory pile driving. 	Low	Stormont Bay	Temporary-Infrequent during construction	R	Stormont Bay is not particularly important in relation to marine mammals as they appear to be transitory	Minimal (Not significant)	
Operation									
Potential noise masking from noise related to vessels	A	<ul style="list-style-type: none"> • None since there is a low level of marine mammal activity in the area. 	Low	Stormont Bay	Intermittent and short	R	Stormont Bay is not particularly important in relation to marine mammals as they appear to be transitory	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence*	
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		Likelihood of Occurrence**
Modification & Decommissioning										
Same as Construction above										

6.1.11 Wildlife and Wildlife Habitat

TABLE 6.1-11 Residual Environmental Effects Summary for Wildlife and Wildlife Habitat

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance	
Construction Habitat removal during the sensitive seasons could temporarily reduce local populations	A	<ul style="list-style-type: none"> Clear vegetation outside the April through July time frame of vertebrate animal reproduction. Minimize area cleared where possible. Avoid clearing in deer wintering areas when the snow conditions are such that deer would be utilizing the area. Progressive removal of habitat, as required, vs. clearing the entire area at once. Use proper maintenance procedures regarding building materials, slash, litter, etc. Try to preserve the most sensitive sites. Ensure that all equipment has appropriate noise-muffling equipment installed and in good working order. Conduct routine noise monitoring at the site boundaries as appropriate. 	Low	Project Site (149 ha)	Staged activities over 2.5 years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
		<ul style="list-style-type: none"> Clear vegetation outside of bird nesting season (May 1 through August 1). Monitoring program to assess wildlife populations. 								
Pipeline construction on beach near sensitive bird habitat	A	<ul style="list-style-type: none"> Conduct pipeline construction outside of the peak shorebird migration season. 	Low	Barrier beach adjacent to Dung Cove Pond	Intermittent and short term over 2.5 years	R	Important shorebird migratory habitat	Minor (Not significant)		
Noise effects on birds from construction equipment during breeding season	A	See above	Low	Project Site (149 ha)	Intermittent and short term over 2.5 years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)		
Operation & Maintenance										
Potential for increased human activity to attract pest mammal populations that remain after construction (Skunks, raccoons)	A	<ul style="list-style-type: none"> Follow proper maintenance procedures, including measures to eliminate and contain garbage, debris, etc. New buildings should be constructed without ledges to prevent rock dove nesting. 	Low	Project Site (149 ha)	Intermittent and short term over 20+ years	R	Rural setting; sparsely populated	Minimal		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Noise affects cause changes in wildlife behavior in nearby areas	A	See above	Low (noise levels within regulatory standards for human receptors)	Up to 300 m from LNG facility for intermittent sound, approximately 200 m for constant sound	Intermittent or Constant over 20+ years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)		
Modifications and Decommissioning										
Habitat removal during the vertebrate breeding season could temporarily reduce local populations	A	<ul style="list-style-type: none"> Clear vegetation outside the April through July time frame of vertebrate animal reproduction. Minimize area cleared where possible. Use proper maintenance procedures regarding building materials, slash, litter, etc. 	Low	Project Site (149 ha)	Staged activities over weeks or months	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.12 Migratory Birds and Migratory Birds Habitat

TABLE 6.1-12 Residual Environmental Effects Summary for Migratory Birds and Migratory Bird Habitat

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Level of Confidence**	
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-Economic Context		Significance
Construction									
Reduction in various habitat (mainly forest) may result in short term adverse effects on local populations of migratory birds	A	<ul style="list-style-type: none"> Clear vegetation outside the April through July time frame of vertebrate animal reproduction. Minimize area cleared where possible. Progressive removal of habitat, as required, vs. clearing the entire area at once. Use proper maintenance procedures regarding building materials, slash, litter, etc. Try to preserve the most sensitive sites. 	Low	Project Site (149 ha)	Staged clearing over 2.5 years plus 1 year for displaced birds to establish nesting in other local areas	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)	
Noise effects cause changes in migratory bird behavior in nearby areas	A	<ul style="list-style-type: none"> Clear vegetation outside of bird nesting season (May 1 through August 1). Ensure that all equipment has appropriate noise-muffling installed and in good working order. Conduct routine noise monitoring at the site 	Low	Project Site (149 ha)	Intermittent and short term over 2.5 years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context				
Operation & Maintenance											
Bird mortality or exhaustion from collisions or disorientation from high mast lighting	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting is to be angled directly at work areas and shielded where possible. Implementation of a Lighting Plan. 	Low	Up to 2 km from LNG facility	Constant over 20+ years	R	Rural setting; sparsely populated; Certain migratory species are attracted to light sources causing mortality	Minor (Not significant)			
Noise effects cause changes in bird behavior in nearby areas	A	<ul style="list-style-type: none"> Ensure that all equipment has appropriate noise-muffling installed and in good working order. Conduct routine noise monitoring at the site boundaries as appropriate. 	Low	Up to 300 m from LNG facility for intermittent sound Approximately 200 m for constant sound	Intermittent or Constant over 20+ years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)			
Modifications & Decommissioning											
Noise from decommissioning may affect migratory birds during breeding season	A	See construction	Low	Project Site (149 ha)	Intermittent and short term over weeks or months	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minimal (Not significant)			

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.13 Wetlands

TABLE 6.1-13 Residual Environmental Effects Summary for Wetlands

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence **	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
<p>Construction</p> <p>Erosion, sedimentation, and damage caused by heavy machinery</p>	A	<ul style="list-style-type: none"> Conduct a wetland functional analysis on wetlands prior to construction. Implementation of EMP with erosion and sediment control plan. 	Low	3 wetlands	Intermittent and short term over 2.5 years	R	Site designated for industrial use; numerous wetlands in site vicinity	Minor (Not significant)		
<p>Alteration/displacement of habitat (filling, excavation, and other disturbance) that may alter hydrological integrity of the site</p>	A	<ul style="list-style-type: none"> Wetland functional analysis conducted prior to construction. Documentation of habitat and functions lost. Submission of a detailed Impact Analysis. Application of a “no net loss” policy through the implementation of a wetland compensation plan. Methods and plans for avoidance/mitigation/compensation will be developed and implemented. Implementation of an EPP. 	Nil	3 wetlands	Permanent	NR	Site designated for industrial uses; numerous wetlands in site vicinity	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence **	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Reduction of wetland water quality due to suspended solids in runoff		<ul style="list-style-type: none"> Develop and implement EPP. Methods and plans for avoidance/mitigation/compensation will be developed and implemented. ESC Plan. 	Low	3 wetlands	Intermittent and short term over 2.5 years	R	Site designated for industrial use; numerous wetlands in site vicinity	Minor (Not significant)		
Spread of invasive species due to the use of equipment/machinery previously used in other areas that supported invasive species		<ul style="list-style-type: none"> Develop and implement EPP. Methods and plans for avoidance/mitigation/compensation will be developed and implemented. 	Low	3 wetlands	Intermittent and short term over 2.5 years	R	Site designated for industrial use; numerous wetlands in site vicinity	Minor (Not significant)		
Operation and Maintenance										
Reduction of wetland water quality resulting from discharges/runoff from Project	A	<ul style="list-style-type: none"> Implementation of on-site SWMP. Controlled discharges to the environment and effluent monitoring. Implementation of EMP with spill prevention and cleanup procedures. Methods and plans for avoidance/mitigation/compensation will be developed and implemented. ESC Plan. 	Low	3 wetlands	Intermittent and short term over 20+ years	R	Site designated for industrial uses; numerous wetlands in site vicinity	Minor (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence **	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Potential of recreational all terrain or off-highway vehicle users to access wetlands and cause environmental damage	A	<ul style="list-style-type: none"> Monitoring of illegal off-highway vehicle use. 	Low	2 wetlands	Intermittent and short term over 20+ years	R	Site designated for industrial uses; numerous wetlands in site vicinity	Minor (Not significant)		
Modifications and Decommissioning										
See construction										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.14 Lighting Conditions

TABLE 6.1-14 Residual Environmental Effects Summary for Lighting Conditions

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance	
Construction									
No effect predicted									
Operation & Maintenance									
Bird mortality or exhaustion from collisions or disorientation from high mast lighting	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting is to be angled directly at work areas and shielded where possible. Implementation of a Lighting Plan. 	Low	Up to 2 km from LNG facility	Constant over 20+ years	R	Rural setting; sparsely populated; Certain migratory species are attracted to light sources causing mortality	Minor (Not significant)	
Impacts of light on surrounding community due to unwanted light pollution and skyglow	A	<ul style="list-style-type: none"> Unnecessary lighting will not be used. Avoid use of light structures over 15 m in height and use of flashing strobe lights. Shield lighting where possible. Use of angled lighting or lighting directed close to work area. 	Low	Up to 2 km for LNG Facility	Constant over 20+ years	R	Rural setting; sparsely populated; Certain migratory species are attracted to light sources causing mortality	Minor (Not significant)	
Modifications and Decommissioning									
No effect predicted									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.15 Atmospheric and Underwater Acoustics

TABLE 6.1-15 Atmospheric and Underwater Acoustics

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Level of Confidence**	
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context		Significance
Construction Periodic sound levels related to blasting and construction equipment could exceed NSEL guidelines at nearest receptors	A	<ul style="list-style-type: none"> • Install standard noise-muffling on all equipment. • Conduct noise monitoring at nearby residences as per Health Canada's Draft Guidance on Noise Assessment for CEAA Projects. • Based on the results of noise monitoring, make necessary modifications to mitigation plans and/or operations. • Restrict hours of intensive construction activities. • Provide contact numbers for reporting noise issues to Keltic and government agencies. • Give adequate prior notice of any blasting activities. • Maintain forested noise buffers between construction and residents. • Consult with local commercial fishermen. 	Low	Up to 500 m from site boundaries	Intermittent and short term over 2.5 years	R	Rural setting; sparsely populated	Minor (Not significant)	

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		
Minimize the effects of noise on marine mammals during construction of the Jetty and the LNG Terminal	A	<ul style="list-style-type: none"> • Work at low tide. • Use ramped warning signs. • Use bubble curtains to mask the noise. • Use alternative techniques to pile driving such as vibratory pile driving. 	Low	Stormont Bay	Temporary/ Infrequent during construction	R	Stormont Bay is not particularly important in relation to marine mammals as they appear to be transitory	Minimal		
Operation & Maintenance										
Periodic sound levels related to LNG facilities operation (i.e., blowdown) could exceed Health Canada guidelines at nearest receptors	A	<ul style="list-style-type: none"> • Maintain a treed buffer between plant site and residences. • Use silencers and baffles on equipment. • Conduct routine noise monitoring to ensure noise levels at nearest occupied properties do not exceed Health Canada guidelines. • Based on the results of noise monitoring, make necessary modifications to mitigation plans and/or operations. • Supply public with contact numbers in case of noise issues. • Minimize evening and night-time operations. • Consult with local commercial fisheries. 	Low (Noise levels to remain within provincial standards)	Up to 500 m from facility	Intermittent and short term over 20+ years	R	Rural setting; sparsely populated	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence*	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		
Effect of underwater noise on marine mammal masking	A	<ul style="list-style-type: none"> None since there is a low level of marine mammal activity in the area. 	Low	Stormont Bay	Intermittent and short	R	Stormont Bay is not particularly important in relation to marine mammals as they appear to be transitory	Minimal (Not significant)		
Modifications and Decommissioning										
See Construction above										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.16 Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons

TABLE 6.1-16 Residual Environmental Effects Summary for Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence*	Level of Confidence*
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R = reversible NR = Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction Reduction in traditional Mi'kmaq hunting area and potential impacts on traditionally fished waterways and medicinal plant gathering sites	A	<ul style="list-style-type: none"> Conduct Project activities that affect waterways in an environmentally acceptable manner so that traditional fisheries are not compromised. Wetlands will be rehabilitated or compensated for "no net loss". Wetland plans for avoidance/mitigation/compensation will be implemented. Mi'kmaq Communication Plan. Further assessments of Mi'kmaq traditional use of lands. An archaeology and heritage resources monitoring and contingency plan will be developed and implemented. 	Low	149 ha (<2%) of one large traditional hunting area	At least 25 years (i.e., during the lifetime of the Project)	R	Affected hunting area represents one of approximately 10 large hunting areas in Guysborough County	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/ Social-cultural and Economic Context	Significance		
Operation & Maintenance										
Limit possibility of harvesting sea urchin	A	<ul style="list-style-type: none"> FHCP includes enhancement of benthic habitat within the same urchin licence area. This is predicted to offset any loss of sea urchin production and/or access once the species returns to commercial levels. An archaeology and heritage resources monitoring and contingency plan will be developed and implemented. 	Low	Marine Terminal	Constant 20+ years	NR	<ul style="list-style-type: none"> Sea urchin in area were largely decimated in the past and have not recovered 	Minimal (Not significant)		
Modifications & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.17 Physical and Cultural Heritage

TABLE 6.1-17 Residual Environmental Effects Summary for Physical and Cultural Heritage

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence*	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/ Social-cultural and Economic Context	Significance		
Construction										
Community concerns on cultural significance of Red Head Cemetery.	A	<ul style="list-style-type: none"> • Agreement for the establishment of a memorial at the Red Head Cemetery Site. • Cultural Heritage Plan. • Archaeology and heritage resources monitoring and contingency Plan. 	Low	Red Head Cemetery	Permanent	NR	Area of known historical burial site High public sensitivity	Minimal (Not significant)		
Operation & Maintenance										
Same as above										
Modifications & Decommissioning										
Same as above										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.18 Structures/Sites of Archaeological, Paleontological or Architectural Significance

TABLE 6.1-18 Residual Environmental Effects Summary for Structures/ Sites of Archaeological, Paleontological, or Architectural Significance

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude	Geographic Extent	Duration/Frequency	Reversibility (R = Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Heavy disturbance of land will occur near the former Red Head Cemetery by the marine facility	A	<ul style="list-style-type: none"> Cultural Heritage Plan. Complete archaeological assessment for entire Project. Conduct monitoring by a qualified archaeologist during ground disturbance and in the event that artefacts are encountered regulatory agencies will be notified and appropriate additional mitigation would be developed. 	Unknown	Unknown	Permanent	NR	Area close to known historical burial site High public sensitivity	Unknown but expected to be minor (not significant) following mitigation		
Operation										
Access to former Red Head Cemetery by public for cultural purposes could be interrupted by Project infrastructure	A	<ul style="list-style-type: none"> Escorted access to the former Red Head Cemetery site will be provided. Cultural Heritage Plan. Archaeology and heritage resources monitoring and contingency Plan. 	Low	Former Red Head Cemetery	Permanent	R	Area of known historical burial site High public sensitivity	Minor (Not significant)		
Modification & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.19 Navigation

TABLE 6.1-19 Residual Environmental Effects Summary for Navigation

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Increased risks from vessel traffic surrounding marine terminal	A	<ul style="list-style-type: none"> Navigation and other markings will follow the recommendations of TC. Low level of boat activity is not expected to result in any important navigation issues with respect to marine facilities. Fishermen will be notified in advance of ship arrivals and departures. 	Low	Stormont Bay	Permanent-Average one ship per day	R	Harbour currently has minimal commercial traffic	Minor (Not significant)	
Operation									
Same as above									
Modification & Decommissioning									
None									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.1.20 Marine Safety and Security

See Table 6.1-19
 Marine security issues will be addressed in the TERMPOL process and in the QRA.

6.1.21 Human Health and Safety

TABLE 6.1-21 Residual Environmental Effects Evaluation Assessment Matrix - Health and Safety

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Potential effects from dust generation (arsenic/mercury Mining residuals)	A	<ul style="list-style-type: none"> Dust Control Plan, Worker Health and Safety Plan, Erosion Control Plan, and Spill Prevention and Emergency Response Plan will be implemented during construction. 	Low	Entire Keltic Project Area (350 ha)	Intermittent and short term over 2.5 years	R	Pre-existing mine tailings cause localized dust problems	Minimal (Not significant)		
Safety concerns regarding former mine workings	A	<ul style="list-style-type: none"> Health and Safety controls should protect workers in tailings/mining areas. Potential airborne transport should be minimized. Further mapping will be done to delineate the extent and location of old mines. 	Low	LNG Site (149 ha)	Intermittent and short term over 2.5 years	R	Dung Harbour has been shown to have elevated concentrations of arsenic	Minimal (Not significant)		
Increased potential effects from air emissions; caused by construction equipment, increased	A	<ul style="list-style-type: none"> See above; also air emissions should be localized with limited transport, due to their sporadic nature and emissions close to ground surface. 	Low	Entire Keltic Project Area (350 ha)	Intermittent and short term over 2.5 years	R	Rural setting, sparsely populated	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Vehicular traffic and vessels transporting Construction materials and equipment		<ul style="list-style-type: none"> Maintaining vehicles and equipment in good working condition. Minimizing distance between transfer points. Promote car pooling. Maintaining speed restrictions on roads. 								
Potential effects of water and waste management and control	A	<ul style="list-style-type: none"> Spill Control Plan. Water effluent treatment. Emergency Response Plan. Prevent run-off and transport of mined soils. Control run-off and potential migration of impacted Soils. 	Low	Betty's Cove Brook and unnamed tributary to Dung Cove	Intermittent and short term over 2.5 years	R	Minor local fisheries in Isaac's Harbor and small tributaries.	Minimal (Not significant)		
Operation & Maintenance										
Increased potential effects from air emissions; caused by Project operations, vehicular traffic and vessels	A	<ul style="list-style-type: none"> See above 	Low	Keltic Project Area (350 ha)	Intermittent and short term over 30 years	R	Rural setting, sparsely populated	Minimal (Not significant)		
Potential effects of water and waste management and control	A	<ul style="list-style-type: none"> See above 	Low	Betty's Cove Brook and unnamed tributary to Dung Cove	Intermittent and short term over 30 years	R	Minor local fisheries in Isaac's Harbor and small tributaries.	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context				
Modifications & Decommissioning											
Potential effects from dust generation (arsenic/mercury Mining residuals)	A	<ul style="list-style-type: none"> Dust Control Plan, Worker Health and Safety Plan, Erosion Control Plan and Spill, Control Plan will be implemented during construction. 	Low	Keltic Project Area (350 ha)	Intermittent and short term over 12 months	R	Pre-existing mine tailings cause localized dust problems	Minimal (Not significant)			

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.22 Fisheries

TABLE 6.1-22 Residual Environmental Effects Evaluation Assessment Matrix - Fisheries

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		
Construction										
Potential disruption of fishing activities	A	<ul style="list-style-type: none"> Fishing Equipment Compensation Policy. Provide advance notice of ship arrivals. Potential Effects Analysis and consultation with marine fisheries authorities and local fishing community. 	Low	Marine Terminal	Permanent	NR	The area of the marine terminal is not a major fishing area	Minimal (Not significant)		
Water quality effects on fish habitat	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. Data collection and assimilative capacity assessment for all relevant chemical parameters expected to enter the environment or be remobilized due to Project activities. Sediment ponds sized to accommodate flows; flocculent, if required. Sanitary wastewater will be stored and hauled off site during early construction and treated using approved sanitary wastewater 	Low	Betty's Cove Brook and unnamed tributary to Dung Cove	Intermittent and short term over 2.5 years	R	Small, local drainage systems	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
		<p>methods on site for remainder of construction.</p> <ul style="list-style-type: none"> Sulphide monitoring program and management plan for exposed acid generating material and drainage. Visual monitoring for turbidity. Use of clean and non-toxic materials. Environment Management Plan for disposal, containment, and protection procedures. 								
Fish will be attracted to lighting from Construction Activities	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting will be angled directly at work areas and shielded where possible. Implementation of a Lighting Plan. 	Low	Marine Terminal	Short term over 2.5 years	R	The area of the marine terminal is not a major fishing area	Minimal (Not significant)		
Operation & Maintenance										
Potential disruption of fishing activities	A	<ul style="list-style-type: none"> Fishing Equipment Compensation Policy. Provide advance notice of ship arrivals. Notify local vessels of LNG tanker schedules, and duration of the exclusion zone. Potential Effects Analysis and consultation with marine fisheries authorities and local fishing 	Low	Stormont Bay	Intermittent and short term over 20+ year lifetime	R	The proposed shipping channel in Stormont Bay and approaches is not a major marine fishing area	Minimal (not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		
		<ul style="list-style-type: none"> community. Monitoring program for site runoff. 								
Fish will be attracted to lighting from LNG Terminal	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting will be angled directly at work areas and shielded where possible Implementation of a Lighting Plan 	Low	Marine Terminal	Short term over 2.5 years	R	The area of the marine terminal is not a major fishing area	Minimal (Not significant)		
Water quality effects on fish habitat	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. Sulphide monitoring program and management plan for exposed acid generating material and drainage. Visual monitoring for turbidity. Environment Management Plan for disposal, containment, and protection procedures. 	Low	Betty's Cove Brook	Intermittent and short term over 20+ years	R	Small, local drainage systems	Minimal (Not significant)	A	
Modifications & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.1.23 Aquaculture

TABLE 6.1-23 Residual Environmental Effects Summary for Aquaculture

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Release of sediments or contaminants into the water column from construction	A	<ul style="list-style-type: none"> Employ standard mitigation measures to control sediment and small spills. Implementation of an Aquaculture Compensation Plan. 	Low	LNG Terminal	Construction Phase	R	Aquaculture facilities are located in Country Harbour, not in the vicinity of the LNG Terminal location	Minimal (Not significant)		
Large spill or accident from construction vessels	A	<ul style="list-style-type: none"> Implementation of an Aquaculture Compensation Plan. 	Low	Country Harbour	Localized; short term	R	Country Harbour is not a major shipping destination/route	Minimal (Not significant)		
Operation										
Large spill or accident from Project vessels	A	<ul style="list-style-type: none"> Implementation of an Aquaculture Compensation Plan. 	Low	Country Harbour	Localized; short term	R	Country Harbour is not a major shipping destination/route	Minimal (Not significant)		
Modification & Decommissioning										
See construction										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.1.24 Tourism

TABLE 6.1-24 Residual Environmental Effects Summary for Tourism

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects				Ecological/Social-cultural and Economic Context	Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)				
Construction										
Effects on regional visual landscape character may affect outdoor oriented tourism	A	<ul style="list-style-type: none"> Implementation of Dust management plan. Regular road cleaning. Maintaining tree and shrub buffer along the site perimeter. Design of jogged road access. Implementation of ESC plan and Surface Water Monitoring Program. 	low	149 ha in area; locally visible	Constant over construction phase	NR	<ul style="list-style-type: none"> Eastern Shore tourism sector known for its natural beauty, coastal views, rural landscape. Little tourism infrastructure in area. Project Area is zoned for industrial use. 	Minimal (not significant)		
Operation & Maintenance										
Effects on regional visual landscape character	A	<ul style="list-style-type: none"> Implementation of Dust management plan. Colour schemes that support background blending to be used for stacks and higher buildings. Locate flare stack at the back of the site. Regular road cleaning. Maintaining tree and shrub buffer along the site perimeter. Design of jogged road access. 	low	149 ha in area; locally visible	Constant over operational phase	NR	<ul style="list-style-type: none"> Eastern Shore tourism sector known for its natural beauty, coastal views, rural landscape. Little tourism infrastructure in area. Project Area is zoned for industrial use. 	Minimal (not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance	
		<ul style="list-style-type: none"> Implementation of ESC plan and Surface Water Monitoring Program. 					industrial use.		
Modifications & Decommissioning									
None									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2 MARGINAL WHARF

6.2.1 Freshwater Quality/Quantity

TABLE 6.2-1 Residual Environmental Effects Summary for Freshwater Quality/Quantity

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context			
<p>Construction</p> <p>Potential for sedimentation through site development and grading in unnamed tributary to Dung Cove</p>	A	<ul style="list-style-type: none"> Erosion and sediment control plan. Maintain 15 m buffer zone. SWMP. Spill prevention and response plan. Designated fuelling and material storage site. Sediment ponds sized to accommodate flows; flocculent, if required. Sanitary wastewater will be stored and hauled off site during early construction and treated using approved sanitary wastewater methods on site for remainder of construction. Sulphide monitoring program and management plan for exposed acid generating material and drainage. 	Low	Small local water course adjacent to the Project Site.	Short term and mainly restricted to storm events.	R	Some sediment and water quality impacts from historic mining have occurred in local watercourses.	Minimal (not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Infilling two wetland ponds on the red head peninsula	A	<ul style="list-style-type: none"> Wetland functional analysis conducted prior to construction. Documentation of habitat and functions lost. Information used in a wetland compensation plan for habitat loss. Submission of a detailed Impact Analysis. Methods and plans for avoidance/mitigation/compensation will be developed and implemented. Implementation of an EPP. 	Medium	Red head peninsula	Permanently lost	NR	Site designated for industrial Uses; numerous wetlands in site vicinity.	Medium/Major (Not significant/significant)	High	High
Operation										
None										
Modification & Decommissioning										
Same as for construction above										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.2 Marine Water Quality

TABLE 6.2-2 Residual Environmental Effects Summary for Marine Water Quality

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence*	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible, NR=Not reversible)	Ecological/Social-Economic Context	Significance		
Construction										
Possible re-suspension of sediment during construction of the marginal wharf	A	<ul style="list-style-type: none"> Concrete caissons or sheet piling will be put in place and filled with aggregate to provide a structure capable of holding heavy large storage silos. Use of silt curtains and booms. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Temporary / Construction of the marginal wharf	R	Affected habitat type widely represented within Stormont Bay.	Minimal (Not significant)		
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. Mitigation plans for environmental impacts from contaminated sediments. 	Low	Wharf/terminal: 0.203 km ²	Temporary / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay.	Minimal (Not significant)		
Billge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>. Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. 	Low	Stormont Bay	Temporary / Construction Phase	R	Marine water quality.	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Operation										
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. Mitigation plans for environmental impacts from contaminated sediments. 	Low	Wharf/terminal: 0.203 km ²	Permanent / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay.	Minimal (Not significant)		
Bilge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Marine water quality.	Minimal (Not significant)		
Modification & Decommissioning										
Same as construction										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.3 Soil/Sediment Quality (terrestrial and marine)

TABLE 6.2-3 Residual Environmental Effects Summary for Soil/Sediment Quality (terrestrial and marine)

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Possible re-suspension of sediment during construction of the marginal wharf	A	<ul style="list-style-type: none"> Concrete caissons or sheet piling will be put in place and filled with aggregate to provide a structure capable of holding heavy large storage silos. Use of silt curtains and booms. Baseline data collection and assimilative capacity assessment for all relevant chemical parameters expected to enter the environment or be remobilized due to construction activities. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Temporary / Construction of the marginal wharf	R	Affected habitat type widely represented within Stormont Bay.	Minimal (Not significant)		
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay.	Minimal (Not significant)		
Billge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>. Oil Pollution Prevention regulations. 	Low	Stormont Bay	Temporary / Construction Phase	R	Marine water quality	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
		<ul style="list-style-type: none"> Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities. 								
Operation										
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Permanent / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		
Bilge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>. Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Marine water quality	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Modification & Decommissioning										
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		
Bioge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>. Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities. 	Low	Stormont Bay	Temporary / Construction Phase	R	Marine water quality	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.4 Air Quality

TABLE 6.2-4 Residual Environmental Effects Summary for Air Quality

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context			
Construction										
Emissions of gaseous pollutants from diesel powered construction equipment and marine vessels delivering equipment as well as from private vehicles of workers	A	<ul style="list-style-type: none"> Maintaining vehicles and equipment in good working condition. Minimizing distance between transfer points Promote car pooling. Maintaining speed restrictions on roads. 	Low	Construction envelope plus adjacent land and transport routes	Temporary / Construction Phase	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site.	Minimal (Not significant)		
Fugitive dust emissions from, construction equipment	A	<ul style="list-style-type: none"> Cleaning the area around stored materials. Covering stored materials, if necessary. Applying dust suppressant. Reducing the working faces of material piles. Cover materials hauled from the site by truck. Routine washing of trucks. Use of enclosures, hoods, shrouds, and sprays for possible concrete batch plant. Monitor PM₁₀ if concerns occur. Employment of high-volume samplers if concerns occur regarding dust. 	Low	Construction envelope plus adjacent land and transport routes	Temporary / Construction Phase	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site.	Minimal (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context				
		<ul style="list-style-type: none"> Baseline data collection for relevant parameters expected to enter the environment and modelling to predict assimilative capacity. 									
Operation											
Emissions from ship deliveries of equipment and supplies	A	<ul style="list-style-type: none"> Monitoring and maintenance of emission control system. Monitoring of VOCs prior to and during operation. Maximize efficiency of operations. Air dispersion modelling assessment for effects from vessels tied up at Marginal Wharf. Air Monitoring Program. 	Low	> 3.5 km ²	Intermittent / As needed	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site	Minor (Not significant)			
Modification & Decommissioning											
Same as construction											

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.5 Vegetation (terrestrial and marine)

TABLE 6.2-5 Residual Environmental Effects Summary for Vegetation (terrestrial and marine)

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Habitat Removal	A	<ul style="list-style-type: none"> Minimize construction envelope. Rehabilitate all temporarily used sites. 	Medium	Rock Mattress for wharf (0.210 km ²)	Permanent	NR	No designated / protected lands involved	Medium (Not significant)		
Dust impacts on vegetation	A	<ul style="list-style-type: none"> Vegetation Monitoring Plan. Cleaning the area around stored materials. Covering stored materials, if necessary. Vacuum sweeping or flushing roads. Applying dust suppressant. Reducing the working faces of material piles. Cover materials hauled from the site by truck. Routine washing of trucks. Use of enclosures, hoods, shrouds, and sprays for possible concrete batch plant. 	Low	Project Site and adjacent lands	Temporary / Construction phase	R	Vegetation affected without protective status	Minimal (Not significant)		
Potential infilling, excavating, and otherwise disturbing wetlands	A	<ul style="list-style-type: none"> Dredging will not be performed. Concrete caissons or sheet piling will minimize sedimentation. 	Low	> 3.5 km ²	Temporary / Construction phase	R	Vegetation affected without protective status	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		
Potential introduction of exotic invasive plant species	A	<ul style="list-style-type: none"> Ballast water exchange in compliance with guidelines and the Canadian Ballast Water Control and Management Regulations under the <i>Canada Shipping Act</i>. Vegetation Monitoring Plan. Ensure that construction equipment is thoroughly cleaned prior to transport to the Keltic Project Area. Quickly stabilize exposed soil. Store and return topsoil to sites to be landscaped and revegetate using native species. If required, use short lived successional pioneer species for ground cover and erosion control. 	Low	North Atlantic	Construction period	R	Displacement of native species	Minimal (Not significant)		
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. 	Low	Rock Mattress for Wharf: 0.210 km ²	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Operation										
Potential introduction of exotic vegetation from ballast water discharges	A	<ul style="list-style-type: none"> Ballast water exchange in compliance with guidelines and the Canadian Ballast Water Control and Management Regulations under the <i>Canada Shipping Act</i>. Vegetation Monitoring Plan. 	Low	North Atlantic	Permanent / Average one ship per day	R	Displacement of native species	Minimal (Not significant)		
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified. 	Low	Wharf/terminal: 0.135 km ²	Permanent / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		
Modification & Decommissioning										
Same as construction										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.6 Species at Risk

TABLE 6.2-6 Residual Environmental Effects Summary for Species at Risk

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Disturbance of Roseate tern nesting habitat on Country Island from ship deliveries	A	<ul style="list-style-type: none"> No ships will approach within 200 m of Country Island (as per the roseate tern recovery plan). 	Low	200 m radius from Country Island	Temporary / Construction Phase	R	Species protected under SARA Schedule 1	Minimal (Not significant)		
Potential effects of foraging of roseate tern	A	<ul style="list-style-type: none"> Keltic personnel will be trained in identifying the roseate tern and will report any occurrences of the species in the marginal wharf area during construction to the CWS. Information on the bird's activities such as flying, diving, swimming, etc will be documented and provided. As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	25 km radius from Country Island	Temporary / Construction Phase	R	Species protected under SARA Schedule 1	Low to medium (Not significant)		
Potential effects of ship lights on roseate terns	A	<ul style="list-style-type: none"> No ships will approach within 200 m of Country Island (as per the roseate tern recovery plan). 	Low	200 m radius from Country Island	Temporary / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)		

<p>BiIge water or accidental spill of fuel or other contaminants from vessels</p>	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>. Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. 	Low	Stormont Bay	Temporary / Construction Phase	R	Marine water quality	Minimal (Not significant)	
Operation									
<p>Disturbance of Roseate tern nesting habitat on Country Island from ship deliveries</p>	A	<ul style="list-style-type: none"> Establishment of approved shipping lanes at least 200 m from Country Island. 	Low	200 m radius from Country Island	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)	
<p>Potential effects of foraging of roseate tern</p>	A	<ul style="list-style-type: none"> No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	25 km radius from Country Island	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)	
<p>Potential effects of ship lights on roseate terns</p>	A	<ul style="list-style-type: none"> No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). 	Low	200 m radius from Country Island	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1	Minimal (Not significant)	
<p>BiIge water or accidental spill of fuel or other contaminants from vessels</p>	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>. Oil Pollution Prevention regulations. Ballast Water Control Regulations. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Marine water quality	Minimal (Not significant)	

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Goldboro, Nova Scotia
October 2007

Modification & Decommissioning																				
See construction																				
For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5																				
Only addressed for significant effects																				

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6.2.7 Fish and Fish Habitat (marine and freshwater)

TABLE 6.2-7 Residual Environmental Effects Summary for Fish and Fish Habitat (marine and freshwater)

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence*	Level of Confidence*
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-Economic Context		
Construction									
Loss of fish / lobster habitat	A	<ul style="list-style-type: none"> Implementation of habitat compensation in accordance with DFO requirements. Conduct in-water works during non-critical periods. Restore substrates. Use suitable backfill materials. Implement effective erosion control measures. Wetland functional analysis conducted prior to construction. Documentation of habitat and functions lost. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Construction Phase; effect will terminate with successful completion of compensation plan	R	The area of the wharf/marine terminal is not a substantial amount of habitat	Minimal (Not significant)	
Potential introduction of exotic vegetation from ballast water	A	<ul style="list-style-type: none"> LNG vessels will be brought in fully loaded and re-ballasted offshore. 	Low	North Atlantic	Temporary / Construction period	R	Displacement of native species	Minimal (Not significant)	
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified. Mitigation plans for environmental impacts from contaminated sediments. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Temporary / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance	
<p>Oil spill or accidental spill of fuel or other contaminants from vessels</p>	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>. Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. Booms and other spill prevention and clean up equipment will be maintained on site. 	Low	Stormont Bay	Temporary / Construction Phase	R	Marine water quality	Minimal (Not significant)	
<p>Effects on fish and fish habitat due to affected watercourses (erosion, sediment loading, storm-water discharges)</p>	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. Data collection and assimilative capacity assessment for all relevant chemical parameters expected to enter the environment or be remobilized due to construction activities. 	Low	Stormont Bay	Intermittent and short term over 2.5 years	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)	

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**	
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		Likelihood of Occurrence**
		<ul style="list-style-type: none"> Concrete caissons or sheet piling will be put in place and filled with aggregate to provide a structure capable of holding heavy large storage silos. Use of silt curtains and booms. Large vessels to be berthed with support of tugs. Mitigation plans for environmental impacts from contaminated sediments. 								
Operation										
Marine fish may be attracted by facility lights at night and may perceive noises at a distance from the operation	A	<ul style="list-style-type: none"> Monitoring programs to be followed. 	Low	Stormont Bay	Operation Phase	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)		
Effects on watercourses (erosion, sediment loading, storm-water discharges) watercourses	A	<ul style="list-style-type: none"> See construction above. 	Low	Stormont Bay	Intermittent and short term for 20+years	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context		
Modification & Decommissioning									
Turbidity Effects on watercourses (erosion, sediment loading, storm- water discharges) watercourses	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. 	Low	Stormont Bay	Intermittent and short term over weeks or months	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)	
Potential loss of fish habitat	A	<ul style="list-style-type: none"> Mitigation presented for the construction phase will be sufficient for the decommissioning the Marginal Wharf. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Permanent	R	See above	Minimal (Not significant)	

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.8 Marine Mammals

TABLE 6.2-8 Residual Environmental Effects Summary for Marine Mammals

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Potential hearing impairment toward marine mammals from noise related to driving piles	A	<ul style="list-style-type: none"> To minimize the effects of noise on marine mammals during construction of the jetty and the LNG Terminal, the following mitigation will be applied as required. <ul style="list-style-type: none"> Work at low tide. The use of ramped warning signals. The use of bubble curtains to mask the noise. The use of alternative techniques to pile driving such as vibratory pile driving. NA, Stormont Bay is not an important marine mammal location. 	Low	Stormont Bay	Temporary-Infrequent during construction	R	Stormont Bay is not particularly important in relation to marine mammals as they appear to be transitory	Minimal		
Disturbance of marine mammals from Project-related marine traffic	A	<ul style="list-style-type: none"> NA, Stormont Bay is not an important marine mammal location. 	Low	Stormont Bay	Construction Phase - Infrequent	R	Stormont Bay is not an important marine mammal location	Minimal		
Operation										
Disturbance of marine mammals through noise from Project-related marine traffic	A	<ul style="list-style-type: none"> NA (Stormont Bay is not an important marine mammal location). 	Low	Stormont Bay	Operation Phase	R	Stormont Bay is not an important marine mammal location	Minimal (Not significant)		
Modification & Decommissioning										
Same as construction above										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.9 Wildlife and Wildlife Habitat

TABLE 6.2-9 Residual Environmental Effects Summary for Wildlife and Wildlife Habitat

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction Loss of animal habitat as a result of disturbance and habitat alteration	A	<ul style="list-style-type: none"> Minimize disturbance to avoid the potential loss of furbearer habitat in Dung Cove Pond area and implement EPP. Minimize area cleared where possible. Use proper maintenance procedures regarding building materials, slash, litter, etc. Try to preserve the most sensitive sites. Avoid clearing in deer wintering areas when the snow conditions are such that deer would be utilizing the area. Clear vegetation outside the April through July time frame of vertebrate animal reproduction. Ensure that all equipment has appropriate noise-muffling equipment installed and in good working order. Conduct routine noise monitoring at the site boundaries as appropriate. Clear vegetation outside of bird nesting season (May 1 through August 1). 	High	Wharf size: 0.203 km ²	Permanent	NR	There are no rare or otherwise unique species expected in the area.	Medium (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
		<ul style="list-style-type: none"> Monitoring Program to assess wildlife populations. 								
Noise effects on waterfowls during blasting	A	<ul style="list-style-type: none"> Conduct blasting outside of bird nesting season (May 1 through August 1). 	Low	Wharf size: 0.203 km ²	Temporary / Construction phase	NR	Waterfowl will return when blasting is finished	Minimal (Not significant)		
Operation										
Increased risk of bird collisions with marginal wharf lighting	A	<ul style="list-style-type: none"> Use downward facing lights. Use strobes when possible. Do not use red lights. Do not light structures taller than 50 feet. 	Low	Wharf Size: 0.203 km ²	Temporary / Operation phase	NR	Sea birds known to forage in the local shoreline area	Minimal (Not significant)		
Noise affects cause changes in wildlife behavior in nearby areas	A	<ul style="list-style-type: none"> See above. 	Low (noise levels within regulatory standards for human receptors)	Up to 300 m from marginal wharf for intermittent sound, approximately 200 m for constant sound	Intermittent or Constant over 20+ years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)		
Modification & Decommissioning										
Same as construction										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.10 Migratory Birds and Migratory Birds Habitat

TABLE 6.2-10 Residual Environmental Effects Summary for Migratory Birds and Migratory Birds Habitat

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Reduction in various habitat (mainly forest) may result in short term adverse effects on local populations of migratory birds	A	<ul style="list-style-type: none"> Clear vegetation outside the April through July time frame of vertebrate animal reproduction. Minimize area cleared where possible. Progressive removal of habitat, as required, vs. clearing the entire area at once. Use proper maintenance procedures regarding building materials, slash, litter, etc. Try to preserve the most sensitive sites. 	Low	Project Site (149 ha)	Staged clearing over 2.5 years plus 1 year for displaced birds to establish nesting in other local areas	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)		
Noise effects cause changes in migratory bird behavior in nearby areas	A	<ul style="list-style-type: none"> Clear vegetation outside of bird nesting season (May 1 through August 1). Ensure that all equipment has appropriate noise-muffling installed and in good working order. Conduct routine noise monitoring at the site boundaries as appropriate. 	Low	Wharf Size: 0.203 km ²	Intermittent and short term over 2.5 years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Operation										
Bird mortality or exhaustion from collisions or disorientation from high mast lighting	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting is to be angled directly at work areas and shielded where possible. Implementation of a Lighting Plan. 	Low	Up to 2 km from Marginal Wharf	Constant over 20+ years	R	Rural setting; sparsely populated; Certain migratory species are attracted to light sources causing mortality	Minor (Not significant)		
Noise effects cause changes in bird behavior in nearby areas	A	<ul style="list-style-type: none"> Ensure that all equipment has appropriate noise-muffling installed and in good working order. Conduct routine noise monitoring at the site boundaries as appropriate. 	Low	Up to 300 m from Marginal Wharf for intermittent sound Approximately 200 m for constant sound	Intermittent or Constant over 20+ years	R	Rural setting, previously disturbed by gold mining activities and forestry.	Minor (Not significant)		
Modification & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.11 Wetlands

TABLE 6.2-11 Residual Environmental Effects Summary for Wetlands

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction Infilling two wetland ponds on the red head peninsula	A	<ul style="list-style-type: none"> Wetland functional analysis conducted prior to construction. Documentation of habitat and functions lost. Submission of a detailed Impact Analysis. Methods and plans for avoidance/mitigation/compensation will be developed and implemented. Implementation of an EPP. 	Medium	Red head peninsula	Permanently lost	NR	Site designated for industrial Uses; numerous wetlands in site vicinity	Medium/Major (Not significant/significant)	High	High
Operation										
None										
Modification & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.12 Lighting Conditions

TABLE 6.2-12 Residual Environmental Effects Summary for Lighting Conditions

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible, NR=Not reversible)	Ecological/Social-cultural and Economic Context			
Construction										
None										
Operation										
Bird mortality or exhaustion from collisions or disorientation from high mast lighting	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting is to be angled directly at work areas and shielded where possible. Implementation of a Lighting Plan. 	Low	Up to 2 km from LNG facility	Constant over 20+ years	R	Rural setting; sparsely populated; Certain migratory species are attracted to light sources causing mortality	Minor (Not significant)		
Impacts of light on surrounding community due to unwanted light pollution and skyglow	A	<ul style="list-style-type: none"> Unnecessary lighting will not be used. Avoid use of light structures over 15 m in height and use of flashing strobe lights. Shield lighting where possible. Use of angled lighting or lighting directed close to work area. 	Low	Up to 2 km for LNG Facility	Constant over 20+ years	R	Rural setting; sparsely populated; Certain migratory species are attracted to light sources causing mortality	Minor (Not significant)		
Modification & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.13 Atmospheric and Underwater Acoustic Environment

TABLE 6.2-13 Residual Environmental Effects Summary for Atmospheric and Underwater Acoustic Environment

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence*	Level of Confidence*
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=Not reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		
Construction										
Effects on cetacean and seal behavior from underwater noise generated by pile-driving	A	<ul style="list-style-type: none"> • Work at low tide. • Use ramped warning signs. • Use bubble curtains to mask the noise. • Use alternative techniques to pile driving such as vibratory pile driving. 	Medium	Isaac's Harbour, Stormont Bay	Temporary-Infrequent During Construction phase	R	Isaac's Harbour and Stormont Bay not know to be frequented by cetaceans Seals commonly use local shoreline area	Minor (Not significant)		
Disturbance to fisheries operations by underwater noise from pile driving	A	<ul style="list-style-type: none"> • Commercial fishery Reps will be consulted and will develop schedules to minimize disruption of fisheries. 	Medium	Isaac's Harbour, Stormont Bay	Temporary-Infrequent During Construction phase	R	Local fisheries are relatively small	Minimal (Not significant)		
Operation										
Effect of underwater noise on marine mammal masking	A	<ul style="list-style-type: none"> • None since there is a low level of marine mammal activity in the area. 	Low	Isaac's Harbour Stormont Bay	Intermittent and short	R	Stormont Bay/Isaac's Harbour is not particularly important in relation to marine mammals as they appear to be transitory	Minimal (Not significant)		
Modification & Decommissioning										
Same as Construction										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.14 Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons

TABLE 6.2-14 Residual Environmental Effects Summary for Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R = reversible NR = Not reversible)	Ecological/ Social-cultural and Economic Context		
Construction									
Minor reduction in traditional Mi'kmaq hunting area and potential impacts on traditionally fished waterways and medicinal plant gathering sites	A	<ul style="list-style-type: none"> Conduct Project activities that affect waterways in an environmentally acceptable manner so that traditional fisheries are not compromised. Wetlands will be rehabilitated or compensated for "no net loss". Wetland plans for avoidance/mitigation/compensation will be implemented. Mi'kmaq Communication Plan. Further assessments of Mi'kmaq traditional use of lands. An archaeology and heritage resources monitoring and contingency plan will be developed and implemented. 	Low	Wharf Size: 0.203 km ²	At least 25 years (i.e., during the lifetime of the Project)	R		Minor (Not significant)	
Operation									
Limit possibility of harvesting sea urchin	A	<ul style="list-style-type: none"> FHCP includes enhancement of benthic habitat within the same urchin licence area. This is predicted to offset any loss of sea urchin production and/or access once the species returns to commercial levels. 	Low	Wharf Size: 0.203 km ²	Constant 20+ years	NR	Sea urchin in area were largely decimated in the past and have not recovered	Minimal (Not significant)	

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects							Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R = reversible NR = Not reversible)	Ecological/Social- cultural and Economic Context	Significance	Likelihood of Occurrence**	
Modification & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.15 Physical and Cultural Heritage

TABLE 6.2-15 Residual Environmental Effects Summary for Physical and Cultural Heritage

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/ Social-cultural and Economic Context	Significance		
Construction										
Community concerns on cultural significance of Red Head Cemetery.	A	<ul style="list-style-type: none"> • Agreement for the establishment of a memorial at the Red Head Cemetery Site. • Archaeology and heritage resources monitoring and contingency Plan. 	Low	Red Head Cemetery	Permanent	NR	Area of known historical burial site High public sensitivity	Minimal (Not significant)		
Operation & Maintenance										
Same as above										
Modifications & Decommissioning										
Same as above										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.16 Structures/Sites of Archaeological, Paleontological or Architectural Significance

TABLE 6.2-16 Residual Environmental Effects Summary for Structures/ Sites of Archaeological, Paleontological, or Architectural Significance

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence*	Level of Confidence*
			Magnitude	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/ Social-cultural and Economic Context		
Construction									
Heavy disturbance of land will occur at the former Red Head Cemetery by marginal wharf and marine facility	A	<ul style="list-style-type: none"> Public consultation with Lincolnville Black community. Conduct monitoring by a qualified archaeologist during ground disturbance and in the event that artifacts are encountered regulatory agencies will be notified and appropriate additional mitigation would be developed. Cultural Heritage Plan. Complete archaeological assessment for entire Project. 	Unknown	Unknown	Permanent	NR	Area close to known historical burial site High public sensitivity	Unknown but expected to be minor (not significant) following mitigation	
Direct physical disturbance of McMillan Mine site by construction	A	<ul style="list-style-type: none"> Monitoring during ground disturbance and in the event that artifacts are encountered regulatory agencies will be notified and appropriate additional mitigation would be developed. Complete archaeological assessment for the entire Project. Archaeology and Heritage Resources Monitoring and Contingency Plan. 	Unknown	Unknown	Permanent	NR	Low value resource due to recent age but may overlie more important earlier artifacts	Unknown but expected to be minor (not significant) following mitigation	
Operation									

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude	Geographic Extent	Duration/Frequency	Reversibility (R= reversible NR = Not reversible)	Ecological/ Social-cultural and Economic Context	Significance		
Access to former Red Head Cemetery by public for cultural purposes could be interrupted by Project infrastructure	A	<ul style="list-style-type: none"> Design Project infrastructure so that public access to the former Red Head cemetery is not interrupted. Archaeology and Heritage Resources Monitoring and Contingency Plan. 	Low	Former Red Head Cemetery	Permanent	R	Area of known historical burial site. High public sensitivity	Minor (Not significant)		
Erosion may be caused at Sculpin Cove (1-5) and Hurricane Island sites by shipping wakes (possibly in combination with rising sea levels).	A	<ul style="list-style-type: none"> Monitor for potential effects of Project related vessel wakes causing erosion at these sites. If Project effects become evident then implement archaeological assessment in consultation with regulatory agencies. Complete archaeological assessment for the entire Project. 	Unknown	Shoreline	Unknown	NR	Areas of known historical resources	Unknown but expected to be minor (not significant) following mitigation		
Modification & Decommissioning										
Same as construction phase										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.17 Navigation

TABLE 6.2-17 Residual Environmental Effects Summary for Navigation

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence*	Level of Confidence*
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Increased risks from vessel traffic surrounding marginal wharf	A	<ul style="list-style-type: none"> Navigation and other markings will follow the recommendations of TC. Low level of boat activity is not expected to result in any important navigation issues with respect to marine facilities. Fishermen will be notified in advance on the arrival and departure of vessels. 	Low	Stormont Bay	Temporary / Construction Phase	R	Harbour currently has minimal commercial traffic	Minor (Not significant)		
Operation										
Potential effects could arise from vessels entering and departing Stormont Bay	A	<ul style="list-style-type: none"> Implementation of navigation aid equipment, (lights and fog horns) will be positioned on wharf. Fishermen will be notified in advance on the arrival and departure of vessels. 	Low	Stormont Bay, Isaac's Harbour, Marginal wharf vicinity	Permanent-Infrequent during Operational phase	R	Harbour currently has minimal commercial traffic	Minor (Not significant)		
Increased risks from marine traffic surrounding marginal wharf	A	<ul style="list-style-type: none"> Establishment of proper lighting/markers will be positioned on wharf. Low level of boat activity is not expected to result in any important navigation issues with respect to marine facilities. Fishermen will be notified in advance on the arrival and departure of vessels. 	Low	Stormont Bay	Permanent-Infrequent; Average one ship per day	R	Harbour currently has minimal commercial traffic	Minor (Not significant)		

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects							Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance			
Modification & Decommissioning											
Same as Operation											

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.18 Marine Safety and Security

Environmental effects on marine safety include mainly navigational issues. Please see Table 6.2-17.
Marine security issues are addressed in the TERMPOL process.

6.2.19 Human Health and Safety

TABLE 6.2-19 Residual Environmental Effects Summary for Human Health and Safety

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social and Economic Context		
Construction									
Increased risk of dust generation (arsenic and mercury residuals from mining operations)	A	<ul style="list-style-type: none"> Dust Control Plan, Worker health and safety plan, erosion control plan and spill control plan. 	Medium-to High	Dung Harbour area	Permanent-Infrequent to windy conditions	R	Health and safety of Keltic employees and surrounding communities	Medium (Not significant)	
Increased risk of air emissions from construction equipment and vessels transporting construction materials and equipment and vehicular traffic	A	<ul style="list-style-type: none"> See above; also air emissions should be localized with limited transport, due to their sporadic nature and emissions close to ground surface. Maintaining vehicles and equipment in good working condition. Minimizing distance between transfer points. Promote car pooling. Maintaining speed restrictions on roads. 	Low	Regional	Permanent-Construction and Operational phase	R	Health and safety of Keltic employees and surrounding communities	Medium (Not significant)	
Safety concerns regarding former mine workings	A	<ul style="list-style-type: none"> Health and Safety controls should protect workers in tailings/mining areas. 	Low	Marginal Wharf	Intermittent and short term over 2.5 years	R	Former mine sites are present in the area of the KDP	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social and Economic Context	Significance		
Increased risk of water and waste management and control		<ul style="list-style-type: none"> Potential airborne transport should be minimized. Further mapping will be done to delineate the extent and location of old mines. Spill Control Plan. Water effluent treatment. Emergency Response Plan. Prevent run-off and transport of mined soils. Control run-off and potential migration of impacted Soils. 	Low	Short term	Unknown	R		Minor (Not significant)		
Operation										
Increased risk from air emissions; caused by Project operations, vehicular traffic and vessels	A	See above.	Low	Marginal Wharf	Intermittent and short term over 30 years	R	Rural setting, sparsely populated	Minimal (Not significant)		
Potential effects of water and waste management and control	A	See above.	Low	Stormont Bay	Intermittent and short term over 30 years	R	Minor local fisheries in Isaac's Harbor and small tributaries.	Minimal (Not significant)		
Modification and Decommissioning										
Potential effects from dust generation (arsenic/mercury Mining residuals)	A	Dust Control Plan, Worker Health and Safety Plan, Erosion Control Plan and Spill, Control Plan will be implemented during construction.	Low	Marginal Wharf area	Intermittent and short term over 12 months	R	Pre-existing mine tailings cause localized dust problems	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.20 Fisheries

TABLE 6.2-20 Residual Environmental Effects Summary for Fisheries

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence*
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Disruption of marine fishing activities from equipment transported to site and actual construction of wharf	A	<ul style="list-style-type: none"> Fishing Equipment Compensation Policy. Provide advance notice of ship arrivals. Potential Effects Analysis and consultation with marine fisheries authorities and local fishing community. FHCP. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Permanent	NR	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)		
Decrease in marine fishery-related earnings as a result of loss of fish habitat with construction of wharf and terminal	A	<ul style="list-style-type: none"> Implementation of habitat compensation in accordance with DFO requirements. 	Low	Size of Rock Mattress for Wharf: 0.210 km ²	Construction Phase; effect will terminate with successful completion of compensation plan	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)		
Fish will be attracted to Lighting from construction activities	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting will be angled directly at work areas and shielded where possible. Implementation of a Lighting Plan. 	Low	Wharf size: 0.203 km ²	Short term over 2.5 years	R	The area of the marginal wharf is not a major fishing area	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Water quality effects on fish habitat	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. Sulphide monitoring program and management plan for exposed acid generating material and drainage. Visual monitoring for turbidity. Use of clean and non-toxic materials EMP for disposal, containment, and protection procedures. Data collection and assimilative capacity assessment for all relevant chemical parameters expected to enter the environment or be remobilized due to Project activities. 	Low	Stormont Bay	Intermittent and short term for 2.5 years	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Operation									
Disruption of marine fishing activities from vessels in the bay.	A	<ul style="list-style-type: none"> Fishing Equipment Compensation Policy. Provide advance notice of ship arrivals. Potential Effects Analysis and consultation with marine fisheries authorities and local fishing community. FHCP. 	Low	Stormont Bay	Average 1 vessel per day over 20+ years	R	The proposed shipping channel in Stormont Bay and approaches is not a major marine fishing area	Minor (Not significant)	
Impacts on navigation from the narrower entrance to Isaac's harbour created by the marginal wharf	A	<ul style="list-style-type: none"> NA (The harbour narrows to a similar width 500 m further into the harbour). 	Low	Entrance to Isaac's Harbour	Permanent	R	Isaac's harbour is not a major shipping destination/route	Minimal (Not significant)	
Marine fish may be attracted by facility lights at night and may perceive noises at a distance from the operation	A	<ul style="list-style-type: none"> No unnecessary lighting will be used, especially on structures taller than 15 m, and use fast-blinking strobes if possible. Area lighting will be angled directly at work areas and shielded where possible. Implementation of a Lighting Plan. 	Low	Isaac's Harbour	Operation Phase	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Water quality effects on fish habitat	A	<ul style="list-style-type: none"> Erosion/sediment control plan. Buffer zone. SWMP. Designated fuelling and material storage site. Sulphide monitoring program and management plan for exposed acid generating material and drainage. Visual monitoring for turbidity. EMP for disposal, containment, and protection procedures. 	Low	Stormont Bay	Intermittent and short term for 20+years	R	The area of the wharf/marine terminal is not a major fishing area	Minimal (Not significant)		
Modification & Decommissioning										
None										

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.2.21 Aquaculture

TABLE 6.2-21 Residual Environmental Effects Summary for Aquaculture

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence*
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance	
Construction									
Release of sediments or contaminants into the water column from construction	A	<ul style="list-style-type: none"> Employ standard mitigation measures to control sediment and small spills. Implementation of an Aquaculture Compensation Plan. 	Low	Wharf size: 0.203 km ²	Construction Phase	R	Aquaculture facilities are located in Country Harbour, not in the vicinity of the marginal wharf location	Minimal (Not significant)	
Large spill or accident from construction vessels	A	<ul style="list-style-type: none"> Implementation of an Aquaculture Compensation Plan. 	Low	Country Harbour	Localized; short term	R	Country Harbour is not a major shipping destination/route	Minimal (Not significant)	
Operation									
Large spill or accident from Project vessels	A	<ul style="list-style-type: none"> Implementation of an Aquaculture Compensation Plan. 	Low	Country Harbour	Localized; short term	R	Country Harbour is not a major shipping destination/route	Minimal (Not significant)	
Modification & Decommissioning									
See construction									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.2.22 Tourism

TABLE 6.2-22 Residual Environmental Effects Summary for Tourism

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Effects on regional visual landscape character	A	<ul style="list-style-type: none"> Implementation of Dust management plan. Regular road cleaning. Maintaining tree and shrub buffer along the site perimeter. Design of jogged road access. Implementation of ESC plan and Surface Water Monitoring Program. 	Low	At end of construction phase approx 3 to 5 km	Construction Phase	IR	<ul style="list-style-type: none"> Eastern Shore tourism sector known for its natural beauty, coastal views, rural landscape. Little tourism infrastructure in area. 	Minimal (Not Significant)	
Operation									
Effects on regional visual landscape character	A	<ul style="list-style-type: none"> Implementation of Dust management plan. Regular road cleaning. Maintaining tree and shrub buffer along the site perimeter. Design of jogged road access. Implementation of ESC plan and Surface Water Monitoring Program. 	Low	Marginal Wharf area	Constant over operational phase	IR	<ul style="list-style-type: none"> Eastern Shore tourism sector known for its natural beauty, coastal views, rural landscape Little tourism infrastructure in area. Project Area is zoned for industrial use 	Minimal (Not significant)	
Modification & Decommissioning									
None									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.3 PROJECT RELATED SHIPPING WITHIN 25 KM OF COUNTRY ISLAND

6.3.1 Marine Water Quality

TABLE 6.3-1 Residual Environmental Effects Summary for Marine Water Quality

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects				Level of Confidence**		
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)		Ecological/Social-cultural and Economic Context	Significance
Construction									
Shipping within 25 km of Country Island									
Bilge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. Large vessels to be berthed with support of tugs. 	Low	Stormont Bay	Temporary / Construction Phase	R	Large wide open bay; Country Island has Roseate tern nesting colony (SARA Schedule 1 species)	Minimal (Not significant)	
Re-suspension of contaminated sediments from propeller wash	A		Low	Stormont Bay	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Operation										
Shipping within 25 km of Country Island										
Bilge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. 	Low	Stormont Bay	Permanent / Average one ship per day	R	see above	Minimal (Not significant)		
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.2 Soil/Sediment Quality (terrestrial and marine)

TABLE 6.3-2 Residual Environmental Effects Summary for Soil/Sediment Quality (terrestrial and marine)

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Shipping within 25 km of Country Island									
Bilge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. 	Low	Stormont Bay	Temporary / Construction Phase	R	Marine water quality	Minimal (Not significant)	
Re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified Mitigation plan for contaminated tailings and/or soils and sediments. 	Low	Stormont Bay	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)	
Operation									
Shipping within 25 km of Country Island									
Bilge water or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Marine water quality	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects							Level of Confidence*
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance	Likelihood of Occurrence**	
		<ul style="list-style-type: none"> ○ Ballast Water Control Regulations. ○ Response Organizations and Oil Handling Facilities Regulations. ● TP 12402 Oil Handling Facilities Standards. 								

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.3.3 Air Quality

TABLE 6.3-3 Residual Environmental Effects Summary for Air Quality

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Shipping within 25 km Country Island									
Emissions of gaseous pollutants from marine vessels delivering equipment	A	<ul style="list-style-type: none"> Project shipping will be in good working order and will take every reasonable measure to reduce unnecessary fuel consumption. According to <i>Canada Shipping Act</i> – no soot will be blown within 1000 yards of land. 	Low	Construction envelope plus adjacent transport routes	Temporary / Construction Phase	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site	Minimal (Not significant)	
Operation									
Shipping within 25 km of Country Island									
Emissions from LNG tankers and other marine vessels	A	<ul style="list-style-type: none"> According to <i>Canada Shipping Act</i> – no soot will be blown within 1000 yards of land. 	Low	Adjacent transport routes	Permanent / Average one ship per day	R	Rural setting; sparsely populated; nearest residential receptors 300 to 500 m off site	Minimal (Not significant)	

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.4 Vegetation

TABLE 6.3-4 Residual Environmental Effects Summary for Vegetation (terrestrial and marine)

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects			Ecological/Social-cultural and Economic Context	Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency				
Construction									
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. 	Low	Stormont Bay	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)	
Operation									
Potential disturbance to kelp, eel grass, etc as a result of propeller wash from tankers and delivery ships	A	<ul style="list-style-type: none"> Large vessels to be berthed with support of tugs. No sediment contamination identified. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)	
Modification & Decommissioning									
Same as construction									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.3.5 Species at Risk

TABLE 6.3-5 Residual Environmental Effects Summary for Species at Risk

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects				Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)			
Construction									
Shipping within 25 km of Country Island									
Disturbance of seabird (Roseate tern) nesting habitat on Country Island from vessel movement	A	<ul style="list-style-type: none"> No ships will approach within 200 m of the island (as per the roseate tern recovery plan). The final location of the shipping lanes will be determined through the TERMPOL process and TP 1802 Routing Standards. As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. Canada Shipping Act and regulations 	Low	200 m radius exclusion zone; Stormont Bay	Temporary / Construction Phase	R	Species protected under SARA Schedule 1; nesting habitat on Country Island	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance		
Potential effects of ship lights on roseate terns	A	<ul style="list-style-type: none"> Establishment and adherence to 200 m exclusion zone. No ships will approach within 200m of the island (as per the roseate tern recovery plan). As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	Stormont Bay	Temporary / Construction Phase	R	Species protected under SARA Schedule 1; nesting habitat on Country Island	Minimal (Not significant)		
Disturbance of seabird (Roseate tern) foraging / feeding activities	A	<ul style="list-style-type: none"> Establishment and adherence to 200 m exclusion zone. No ships will approach within 200m of the island (as per the roseate tern recovery plan). Potential contribution to monitoring programs to identify roseate tern foraging areas. As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	Stormont Bay	Temporary / Construction Phase	R	Species protected under SARA Schedule 1; nesting habitat on Country Island	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context			
Operation										
Shipping within 25 km of Country Island										
Disturbance of seabird (Roseate tern) nesting habitat on Country Island from vessel movement	A	<ul style="list-style-type: none"> Establishment and adherence to 200 m exclusion zone. No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	200 m radius exclusion zone; Stormont Bay	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1; nesting habitat on Country Island	Minimal		
Potential effects of ship lights on roseate terns	A	<ul style="list-style-type: none"> Establishment and adherence to 200 m exclusion zone. No ships will approach within 200m of Country Island (as per the roseate tern recovery plan). As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1; nesting habitat on Country Island	Minimal (Not significant)		
Disturbance of seabird (Roseate tern) foraging / feeding activities	A	<ul style="list-style-type: none"> Establishment and adherence to 200 m exclusion zone. No ships will approach within 200m of the island (as per the roseate tern recovery plan). 	Low	Stormont Bay	Permanent / Average one ship per day	R	Species protected under SARA Schedule 1; nesting habitat on Country Island	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context				
		<ul style="list-style-type: none"> As a component of NSEL Condition 2.7, the Proponent is committed to prepare an Adaptive Management Plan (AMP) acceptable to EC and NSDNR. 									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.6 Fish and Fish Habitat (marine and freshwater)

TABLE 6.3-6 Residual Environmental Effects Summary for Fish and Fish Habitat (marine and freshwater)

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Shipping within 25 km of Country Island									
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. Applicable provincial Acts and Regulations. 	Low	Stormont Bay	Temporary / Average one ship per day	R	Marine water quality	Minimal (Not significant)	
Operation									
Shipping within 25 km of Country Island									
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Marine water quality	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**	
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		Likelihood of Occurrence**
		<ul style="list-style-type: none"> o Ballast Water Control Regulations. o Response Organizations and Oil Handling Facilities Regulations. • TP 12402 Oil Handling Facilities Standards. • Applicable provincial acts and Regulations. 								

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.7 Marine Mammals

TABLE 6.3-7 Residual Environmental Effects Summary for Marine Mammals

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects				Significance	Likelihood of Occurrence**	Level of Confidence**	
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)				Ecological/Social-cultural and Economic Context
Construction										
Shipping within 25 km of Country Island										
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. 	Low	Stormont Bay	Temporary / Construction Phase	R	Stormont Bay is not an important marine mammal location	Minimal (Not significant)		
Disturbance of marine mammals from Project-related marine traffic	A	<ul style="list-style-type: none"> The International Convention MARPOL will be followed by all Project shipping and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. 	Low	Stormont Bay	Temporary / Construction Phase	R	Stormont Bay is not an important marine mammal location	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance	
Marine habitat impairment as a result of re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> Standard Vessel Operating Procedures. Review of current versions of the Canadian Annual Notice to Mariners for marine mammal guidelines. Reducing vessel speed in areas of whale sightings. Posting a look-out in areas frequented by whales. Travel parallel to marine mammals and avoiding sudden changes when manoeuvring around whales. If it is not possible to manoeuvre around marine mammals, reduce speed and wait until marine mammals are more than 400 m away. Large vessels to be berthed with support of tugs. No sediment contamination identified. Mitigation plan for contaminated tailings and/or soils and sediments. 	Nil	Size of Rock Mattress for Wharf: 0.210 km ²	Temporary / Construction Phase	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)	

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Significance	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context			
Operation										
Shipping within 25 km of Country Island										
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL shipping and <i>Canada Shipping Act</i>: <ul style="list-style-type: none"> Oil Pollution Prevention Regulations. Ballast Water Control Regulations. Response Organizations and Oil Handling Facilities Regulations. TP 12402 Oil Handling Facilities Standards. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Stormont Bay is not an important marine mammal location	Minimal (Not significant)		
Disturbance of marine mammals from Project-related marine traffic	A	<ul style="list-style-type: none"> See Construction Mitigation above. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Stormont Bay is not an important marine mammal location	Minimal (Not significant)		
Marine habitat impairment as a result of re-suspension of contaminated sediments from propeller wash	A	<ul style="list-style-type: none"> See Construction Mitigation above. 	Nil	Size of Rock Wharf: 0.210 km ²	Permanent / Average one ship per day	R	Affected habitat type widely represented within Stormont Bay	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.3.8 Migratory Birds and Migratory Birds Habitat

TABLE 6.3-8 Residual Environmental Effects Summary for Migratory Birds and Migratory Birds Habitat

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Level of Confidence**	
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		Significance
Construction									
Shipping within 25 km of Country Island									
Seabirds that nest on Country island could be attracted to ship lights	A	<ul style="list-style-type: none"> Alerting vessels to risks with the use of ice-lights and deck lighting. Use black-out blinds on all portholes. Keep deck lights to a minimum. Maintain records of birds found on deck. 	Low	200 m radius exclusion zone	Temporary / Construction Phase	R	No protective status under SARA Schedule 1	Minimal (Not significant)	
Operation									
Shipping within 25 km of Country Island									
Seabirds that nest on Country island could be attracted to ship lights	A	<ul style="list-style-type: none"> Use black-out blinds on all portholes. Keep deck lights to a minimum. Do not use ice lights during periods of low visibility. 	Low	200 m radius exclusion zone	Permanent / Average one ship per day	R	No protective status under SARA Schedule 1	Minimal (Not significant)	

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.3.9 Lighting Conditions

TABLE 6.3-9 Residual Environmental Effects Summary for Lighting Conditions

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context			
Construction										
Shipping within 25 km of Country Island										
Seabirds (petrels) that nest on Country island could be attracted to ship lights	A	<ul style="list-style-type: none"> Use black-out blinds on all portholes. Keep deck lights to a minimum. Do not use ice lights during periods of low visibility. Adherence to Roseate Tern Recovery Plan. 	Low	200 m radius exclusion zone	Temporary / Construction Phase	R	No protective status under SARA Schedule 1	Minimal (Not significant)		
Operation										
Shipping within 25 km of Country Island										
Seabirds (petrels) that nest on Country island could be attracted to ship lights	A	<ul style="list-style-type: none"> Use black-out blinds on all portholes. Keep deck lights to a minimum. Do not use ice lights during periods of low visibility. Adherence to Roseate Tern Recovery Plan. 	Low	200 m radius exclusion zone	Permanent / Average one ship per day	R	No protective status under SARA Schedule 1	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.10 Atmospheric and Underwater Acoustic Environment

TABLE 6.3-10 Residual Environmental Effects Summary for Atmospheric and Underwater Acoustic Environment

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Shipping within 25 km of Country Island										
Disturbance of marine mammals from underwater noise due to Project-related marine traffic	A	<ul style="list-style-type: none"> The International Convention MARPOL will be followed by all Project shipping. Standard Vessel Operating Procedures - Review of current versions of the Canadian Annual Notice to Mariners for marine mammal guidelines. Reducing vessel speed in areas of whale sightings. Posting a look-out in areas frequented by whales. Travel parallel to marine mammals and avoiding sudden changes when manoeuvring around whales. If it is not possible to manoeuvre around marine mammals, reduce speed and wait until marine mammals are more than 400 m away. 	Low	Stormont Bay	Temporary / Construction Phase	R	Stormont Bay is not an important marine mammal location	Minimal (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context				
Operation											
Shipping within 25 km of Country Island											
Disturbance of marine mammals from underwater noise due to Project-related marine traffic	A	<ul style="list-style-type: none"> The International Convention MARPOL will be followed by all Project shipping Standard Vessel Operating Procedures – Review of current versions of the Canadian Annual Notice to Mariners for marine mammal guidelines. Reducing vessel speed in areas of whale sightings. Posting a look-out in areas frequented by whales. Travel parallel to marine mammals and avoiding sudden changes when manoeuvring around whales. If it is not possible to manoeuvre around marine mammals, reduce speed and wait until marine mammals are more than 400 m away. 	Low	Stormont Bay	Permanent / Average one ship per day	R	Stormont Bay is not an important marine mammal location	Minimal (Not significant)			

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.11 Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons

TABLE 6.3-11 Residual Environmental Effects Summary for Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R= Not reversible)	Ecological/Social-cultural and Economic Context	Significance	
Construction									
Reduced opportunity of harvesting sea urchin	A	<ul style="list-style-type: none"> FHCP includes enhancement of benthic habitat within the same urchin licence area. This is predicted to offset any loss of sea urchin production and/or access once the species returns to commercial levels. 	Low	Stormont Bay	At least 25 years (i.e., during the lifetime of the Project)	R	<ul style="list-style-type: none"> Sea urchin in area were largely decimated in the past and have not recovered 	Minor (Not significant)	
Operation & Maintenance									
Reduced opportunity of harvesting sea urchin	A	<ul style="list-style-type: none"> FHCP includes enhancement of benthic habitat within the same urchin licence area. This is predicted to offset any loss of sea urchin production and/or access once the species returns to commercial levels. 	Low	Stormont Bay	Constant 20+ years	R	<ul style="list-style-type: none"> Sea urchin in area were largely decimated in the past and have not recovered 	Minimal (Not significant)	
Modifications & Decommissioning									
None									

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.12 Navigation

TABLE 6.3-12 Residual Environmental Effects Summary for Navigation

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Shipping within 25 km of Country Island									
Increase in collision rates due to construction-related marine traffic	A	<ul style="list-style-type: none"> Shipping lane to be established following recommendations of TC. Modern navigation aids. Pilotage. Appropriate communication systems. Adherence to <i>Canada Shipping Act</i>-Oil pollution prevention regulations, Garbage pollution Prevention regulations, Response Organizations and oil handling facilities and oil handling facilities regulations, TP 12402 Oil Handling Facilities Standards, and applicable provincial Acts and Regulations. 	Medium	Stormont Bay	Temporary / Construction Phase	R	Shipping lanes in Stormont Bay	Medium (Not significant)	
Operation									
Shipping within 25 km of Country Island									
Increase in collision rates due to Project-related marine traffic	A	<ul style="list-style-type: none"> Shipping lane to be established following recommendations of TC. Modern navigation aids. Pilotage. 	Medium	Stormont Bay	Permanent / Average one ship per day	R	Shipping lanes in Stormont Bay	Medium (Not significant)	

Project- Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects							Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=reversible NR=Not reversible)	Ecological/Social- cultural and Economic Context	Significance	Likelihood of Occurrence**	
		<ul style="list-style-type: none"> • Appropriate communication systems. • Adherence to <i>Canada Shipping Act</i>-Oil pollution prevention regulations, Garbage pollution Prevention regulations, Response Organizations and oil handling facilities regulations, TP 12402 Oil Handling Facilities Standards, and applicable provincial Acts and Regulations. 								

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.13 Marine Safety and Security

TABLE 6.3-13 Residual Environmental Effects Summary for Marine Safety and Security

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects					Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context		
Construction									
Shipping within 25 km of Country Island									
Increase in collision rates due to construction-related marine traffic	A	<ul style="list-style-type: none"> Adherence to the TERMPOL process. Shipping lane to be established following recommendations of TC. Modern navigation aids. Pilotage. Appropriate communication systems. 	Medium	Stormont Bay	Temporary / Construction Phase	R	Shipping lanes in Stormont Bay	Medium (Not significant)	
Operation									
Shipping within 25 km of Country Island									
Increase in collision rates due to Project-related marine traffic	A	<ul style="list-style-type: none"> Adherence to the TERMPOL process. Shipping lane to be established following recommendations of TC. Modern navigation aids. Pilotage. Appropriate communication systems. 	Medium	Stormont Bay	Permanent / Average one ship per day	R	Shipping lanes in Stormont Bay	Medium (Not significant)	

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.3.14 Fisheries

TABLE 6.3-14 Residual Environmental Effects Summary for Fisheries

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=Reversible NR=Not reversible)	Ecological/Social-cultural and Economic Context	Significance		
Construction										
Shipping within 25 km of Country Island										
Disruption of marine fishing activities from construction-related vessels in the bay.	A	<ul style="list-style-type: none"> Fishing Equipment Compensation Policy. Provide advance notice of ship arrivals. Potential Effects Analysis and consultation with marine fisheries authorities and local fishing community. Local vessel operators will be notified in advance of LNG tanker schedules and duration of the exclusion. 	Low	Stormont Bay	Temporary / Construction Phase	R	The proposed shipping channel in Stormont Bay and approaches is not a major marine fishing area	Minor (Not significant)		
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL. 	Low	Stormont Bay	Temporary / Construction Phase	R	The proposed shipping channel in Stormont Bay and approaches is not a major marine fishing area	Minimal (Not significant)		
Operation										
Shipping within 25 km of Country Island										
Disruption of marine fishing activities from LNG and cargo vessels in the bay.	A	<ul style="list-style-type: none"> Fishing Equipment Compensation Policy. Provide advance notice of ship arrivals. Notify local vessels of LNG tanker schedules, and duration of the exclusion zone. 	Low	Stormont Bay	permanent / average one ship per day	R	The proposed shipping channel in Stormont Bay and approaches is not a major marine fishing area	Minor (Not significant)		

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects						Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/Frequency	Reversibility (R=reversible NR=Nor reversible)	Ecological/Social-cultural and Economic Context	Significance		
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Potential Effects Analysis and consultation with marine fisheries authorities and local fishing community. Establishment and adherence to MARPOL. 	Low	Stormont Bay	Permanent / Average one ship per day	R	The proposed shipping channel in Stormont Bay and approaches is not a major marine fishing area	Minimal (Not significant)		

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5

** Only addressed for significant effects

6.3.15 Aquaculture

TABLE 6.3-15 Residual Environmental Effects Summary for Aquaculture

Project-Environment Interaction	Potential Positive (P) or Adverse (A) Effect	Mitigation and Monitoring	Significance Criteria for Environmental Effects				Significance	Likelihood of Occurrence**	Level of Confidence**
			Magnitude*	Geographic Extent	Duration/ Frequency	Reversibility (R=Reversible NR=Not reversible)			
Construction									
Shipping within 25 km of Country Island									
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL. Implementation of aquaculture compensation plan. 	Low	Stormont Bay	Temporary / Construction Phase	R	Aquaculture facilities are located in Country Harbour, not in the vicinity of shipping channel, wharf or LNG Terminal	Minimal (Not significant)	
Operation									
Shipping within 25 km Country Island									
Potential releases such as oil, chemicals, sewage and garbage or accidental spill of fuel or other contaminants from vessels	A	<ul style="list-style-type: none"> Establishment and adherence to MARPOL. Implementation of aquaculture compensation plan. 	Low	Stormont Bay	Permanent / Average one ship per day	R	see above	Minimal (Not significant)	

* For definition of levels of magnitude (high, medium, low, nil, unknown) refer to Section 2.5
 ** Only addressed for significant effects

6.4 EFFECTS OF THE PROJECT ON RENEWABLE RESOURCES

It is a requirement of CEAA to consider the capacity of renewable resources to meet present and future needs. This section presents the results of the assessment of the Project's effects on the capacity of renewable resources.

In the first step, it was determined if any of the VECs representing the renewable resources of the Project Area are significantly affected by the Project. If a potential for significant adverse effects was identified, the second step was to investigate whether the resource would be affected to the point that it would no longer be sustainable, i.e., if the effects would extend beyond the capacity of the resource. For this purpose, "capacity" was interpreted as a resource's sustainability. The principle of sustainability considered is consistent with the United Nations' definition of sustainable development, i.e., "economic development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Several of the VECs identified, may be considered to be renewable resources (i.e., resource will return to a natural state over time) as follows:

- Freshwater Quality/Quantity;
- Groundwater Quality/Quantity;
- Vegetation;
- Wildlife and Wildlife Habitat;
- Wetlands;
- Fish; and
- Atmospheric and Underwater Conditions

Presently, all of the VECs identified above are managed by the Provincial and Federal agencies, which allow sustainable harvesting/usage of VECs such as hunting, fishing, and forestry. Based on the assessment of Project and cumulative effects (Sections 5.0, 8.0, and 10.0), no significant adverse residual effects are likely to occur on any of the VECs, with application of the identified mitigation. Within the local and regional context, a significant effect was considered to diminish the quality of the renewable resource, critically reduce the availability of the renewable resource, or compromise the ability of other species or future generations to meet their needs. Since no significant adverse effects are anticipated, the capacity of the renewable resources identified above to meet present and future needs is considered to be unaffected by the Project. Therefore, no additional mitigation is necessary to protect renewable resources.