

ANNEX 1: Advice to the Agency

Table 1: Please use the table below to provide advice for the Agency's consideration in its recommendation to the Minister of Environment and Climate Change and preparation of draft conditions

Questions	Responses/Comments
Has the proponent described all project components and activities in sufficient detail to understand all relevant project-environment interactions? If not, identify what additional information is needed.	ECCC has suggested additional information and detail to help understand potential interactions.
- Were the study areas sufficient to predict potential effects from all relevant project-environment interactions, and to consider the effects within a local and regional context? - Is the baseline information sufficient to characterize the existing environment, predict potential effects and obtain monitoring objectives? If not, identify what additional information is needed.	Yes, the local and regional assessment areas are sufficient.
Alternatives Assessment	
- Has the proponent adequately described the criteria it used to determine the technically and economically feasible alternative means? - Has the proponent listed the potential effects to valued components (VCs) within your mandate that could be affected by the technically and economically feasible alternative means? - Has the proponent adequately described why it chose each preferred alternative means? - Are there other alternative means that could have been presented? If so, please describe.	The results of the External Review will help to address this.
Environmental Effects Assessment	
- Has the proponent clearly described all relevant pathways of effects to be taken into account under section 5 of CEAA 2012? - Has the proponent identified all potential effects to VCs, including species at risk, within your mandate? - Were all potential receptors considered?	Yes.
Were the methodologies used by the proponent appropriate to collect baseline data and predict effects, why or why not?	ECCC has suggested some additional analysis to reduce uncertainty in some of the IRs below.

Questions	Responses/Comments
Has the proponent explicitly addressed the degree of scientific uncertainty related to the data and methods used within the assessment? If there are unaccounted for scientific uncertainties, describe them and indicate the options for increasing certainty in the predictions?	
Are the predicted effects described in objective and reasonable terms (e.g. beneficial or adverse, temporary or permanent, reversible or irreversible)?	Yes.
Has the proponent adequately assessed the potential cumulative environmental effects, including using appropriate temporal and spatial boundaries , examining physical activities that have been and will be carried out, and proposing mitigation and follow-up program requirements? Provide rationale.	Yes
Has the proponent adequately described the potential for environmental effects caused by accidents and malfunctions, including the types of accidents and malfunctions, their likelihood and severity and the associated potential environmental effects? If not, identify what additional information is needed.	Yes
- Are you satisfied with the proponent's assessment of effects of the environment on the Project? - Has the proponent characterized the likelihood and severity appropriately? Provide rationale.	Yes.
- Has the proponent sufficiently described and characterized the project activities and components as they relate to federal decisions within your mandate? If not, identify what additional information is needed. - Are changes to the environment, as they relate to federal decisions within your mandate, sufficiently described? If not, identify what additional information is needed.	Yes.
Mitigation	
- Has the degree of uncertainty regarding the effectiveness of the proposed mitigation measures been described? If not, identify what information is needed. - Is it clear how each proposed mitigation measure links to each potential pathway of effect?	Yes
Would you propose different or additional mitigation measures? If so, provide a description of the mitigation measure(s), with rationale.	Potential mitigation measures identified below.

Questions	Responses/Comments
Which of the proposed mitigation measures and/or project design elements do you consider to be necessary to reduce the likelihood of significant adverse environmental effects? Provide rationale.	NA
Residual Adverse Environmental Effects	
Are the identification and documentation of residual environmental effects described by the proponent adequate? If not, what are the aspects for which there is uncertainty and, where possible, indicate how these residual effects can be best described. If there is uncertainty, what are the options for increasing certainty?	ECCC has suggested further analysis in the IRs, which can reduce the uncertainty.
Did the proponent provide a sufficiently precise, ideally quantitative, description of the residual environmental effects related to your mandate? Identify any areas that are insufficient.	Yes, with the exception of the suggested analysis, which can reduce uncertainty.
Determination of Significance	
- Are the conclusions on significance in the EIS supported by the analysis that is provided? - Are the proponent's proposed criteria for assessing significance appropriate? This includes how the criteria were characterized, ranked, and weighted. Provide rationale. Where the proponent has not used one of the Agency's recommended key criteria (magnitude, geographic extent, duration, frequency, reversibility, and social/ecological context), has a rationale been provided?	Yes
Were appropriate methodologies used in developing the conclusions on significance?	Yes
Do you agree with the proponent's analysis and conclusions on significance? Provide rationale.	
Monitoring and Follow-up	
Does the proposed monitoring and follow-up program verify the predictions of the environmental assessment as they relate to section 5? Please explain additional monitoring or follow-up needed to address uncertainty in the effects assessment.	ECCC has provided recommendations where further monitoring and follow-up may be warranted

Questions	Responses/Comments
Does the proposed monitoring and follow-up program verify the effectiveness of proposed mitigations as they relate to section 5? Please explain additional monitoring or follow-up needed to address uncertainty in the proposed mitigation.	Yes
- Is the objective of the follow-up program clear and measurable? - Does the follow-up program include sufficient detail, and technical merit, for the Agency to achieve the stated objective through a condition (e.g. sufficient baseline dataset, monitoring plans, acceptable thresholds of change, contingency procedures)?	Yes
Are you aware of any federal or provincial authorizations or regulations that will achieve the same follow-up program objective(s)? If so, how do these achieve the objective(s)?	No
Additional comments, views, advice	
Provide any other comments.	

ANNEX 2: Information requirements directed to the proponent

Table 2: Please use the table below to provide your department's comments and suggestions for information that should be required from the proponent to ensure the information in the EIS is scientifically and technically accurate and is sufficient to make a determination of significance on environmental effects.

ID	Project Effects Link to CEAA 2012	Reference to EIS guidelines	Reference to EIS	Context and Rationale	Specific Question/ Request for Information
ECCC-01	5(1)(b) Federal Lands /Transboundary	Part 3 Project Description	Section 3 Project Description	Figure 3.1-3 is a cross sectional drawing of the proposed containment cell, representing the final dimensions of the cell.	Confirm that the digital rendition of the final containment cell (Fig 3.1-4)

	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes			Figure 3.1-4 is a digital representation of the same cell, to depict how it will likely appear when the project is complete. ECCC recognizes that the horizontal scale of the cross section diagram is compressed. However, the resulting digital rendering may be misleading in terms of the final height and design, based on the point of view presented in Fig 3.1-4.	accurately reflects the predicted shape and appearance of the final cell. Provide supplemental digital renderings of the final cell from various ground level perspectives, close to the cell and from within the community.
ECCC-02	5(1)(a)(i) Fish and Fish Habitat 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 7 Effects Assessment Section 7.1.5 Groundwater and Surface Water	Reference 18 HELP Model	ECCC understands that the Hydrologic Evaluation of Landfill Performance (HELP) is a model developed by the Environmental Protection Agency (EPA), and is widely used for water balance analysis of landfills (e.g. inflows/outflows of cover and bottom liner systems) and as such seems an appropriate model to apply as part of the evaluation.	Provide further detail on the various assumptions that were used in the model. For example, use and placement of geotubes in the cell, changes in movement of the water as geotubes compress.

				ECCC notes that HELP does not include a component for water quality and is simply used for calculating infiltration into and leachate (i.e. water quantity) from the SDC. According to the HELP manual (Section 5) (EPA, 2020), there are some limitations in the application of the model and these are linked to modeling procedures being based on many simplifying assumptions. These include: • estimation of snow portion of precipitation and snowmelt processes (e.g. melt factor; • prediction of frozen soil conditions, runoff computation (e.g. assuming that areas adjacent to the landfill	
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				do not drain into the landfill); • calculation of evapotranspiration; • vegetative growth (i.e. crop growth model) assumptions; • vertical flow through layers (i.e. layers are assumed to be homogeneous); • lack of preferential flow (through cracks, fractures, holes, etc.); • estimating conditions for unsaturated flow; • conditions for percolation through the soil liners; • leakage through the geomembrane(s); • conditions triggering subsurface inflow. Modeling in general provides a valuable tool as part of the design process and evaluation but it is only one element of the overall project. Monitoring	
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				actual performance of the disposal requires additional measures, such as an appropriate leak detection system and groundwater-monitoring plan. Consequently, the model and monitoring elements of the projects should be considered in concert (e.g. uncertainty in modeling may be addressed in the monitoring design).	
ECCC-03	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 3 Project Description Section 3.1 Project Components	Section 3.1.1 Waste Management: Page 3-5, Paragraph 2. Text reads: “When comparing the forecasted leachate quality to groundwater criteria, lead and zinc are the only parameters to exceed the criteria,	Page 3-41 <i>Leachate Management</i> states: “<i>The existing leachate contains elevated concentration as compared to criteria for chloride, ammonia, nitrite and nitrate, as well as select metals including aluminum, arsenic, cadmium, chromium, copper, iron, lead, mercury, silver and zinc, based on the containment cell – BHETF – 2018 Monitoring Report. (Dillon, 2019)</i>” and,	Provide a reference (and location) to where the “forecasted leachate quality” is provided. Also, provide a reference (and location) to where the comparison of forecasted lead and zinc values are compared against the criteria, which results in them

			<i>and therefore are carried forward as contaminants of concern with regards to the service life."</i>	<i>"The contaminants of concern in the effluent based on pilot and bench scale testing include PHCs, dioxins and furans, cyanide, and metals (i.e., cadmium, chromium, copper, lead, mercury, and zinc.), and finally in the last paragraph states: "Contaminants of concern would include those listed above for both existing leachate and dewatering effluent."</i>	being the only parameters carried forward as contaminants of concern. Please reconcile this with statements made on page 3-41.
ECCC-04	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 3 Project Description Section 3.1 Project Components	Section 3.1.1 Page 3-6. Last Paragraph Section 3.1.6 Page 3-11 discusses sludge and root mass contaminants.	Paragraph reads, <i>"Cattails and other organic material where deemed necessary will be removed from the wetlands through clearing and grubbing activities. The material will be mechanically processed through chipping and grinding and stockpiled for future use as mulch/soil amendment. This material may also be removed as part of the dredging</i>	Provide information on the characterization or plans for the characterization of organic material to support final use or disposal.

				<i>operation and disposed of within the containment cell.”</i> Characterization of the organic material is required to understand potential effects of the contaminants with the material.	
ECCC-05	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 3 Project Description Section 3.1 Project Components	Leachate Management Page 3-15 states, <i>“Treated effluent from the TLTF that meets the appropriate discharge criteria would be conveyed to the discharge point of the BHSL to the estuary.”</i> Permanent and Temporary Linear Infrastructure, Page 3-30 states: <i>“A floating pipeline would also be used for conveyance of</i>	It is not clear in the EIS if effluent from the TLTF will be discharged and mixed with “bulk water” or transferred to the discharge of BH independently. Overall wastewater flows and management is required to understand the full potential effects of the project.	Clarify the point of discharge of effluent from the TLTF.

			<i>treated interim leachate treatment system effluent to the approved discharge point,...”</i>		
ECCC-06	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 7 Effects Assessment Section 7.1.6 Marine Environment Section 7.1.7 Fish an Fish Habitat	Table 7.3-198 Direct and Indirect Impacts of the Dam on the Marine Environment: During the Decommissioning and Abandonment phase of the project, the Impact Type: Temporary alteration of water quality is noted as “Suspended sediments <u>may</u> enter the Northumberland Strait”. Although (Page 9 of) Coastal	The inclusion of predictions contained in the Coastal Hydraulic Modeling report are valuable toward understanding the potential impacts of the project on the marine environment. The findings in this report would enhance the discussion on potential temporal, spatial, and significance of effects as well as potential indirect effects. This report however, does not appear to be referenced anywhere in the EIS.	Describe how predictions contained in the Coastal Hydraulic Modeling Report have been used in identifying and understanding potential changes in the marine environment.

			Hydraulic Modeling (WSP 2020) Report, Appendix Z states, <i>“The objectives of this study are limited to:</i> <i>— Assessing the time required for salinity to reach equilibrium in Boat Harbour, its wetland network and entrance channel, estimating a representative equilibrium salinity value.</i> <i>— Assessing the magnitude of sediment resuspension following removal of the BHETF dam and the time required for suspended</i>		
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			<i>sediment levels to drop to an equilibrium condition.</i> <i>— Assess the magnitude and duration of morphological change induced in the Boat Harbour entrance channel following removal of the BHETF dam.” the modelling results show TSS changes in the Northumberland Strait.</i> Neither Table 7.3-216 nor text in Section 7.3.12 appear to discuss the post remediation indirect effect that removal of the dam will have, as		
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			identified indirectly in the Coastal Hydraulic Modeling report.		
ECCC-07	5(1)(a)(i) Fish and Fish Habitat 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 7 Effects Assessment Section 7.1.5 Groundwater and Surface Water	7.1.4	Some aspects of the current groundwater (and surface water) conditions have not been sufficiently assessed to detect future change that potentially arises from leakage from the disposal cell. If statistical power is an objective of a future monitoring plan then there are insufficient upstream (i.e. proximate/local) monitoring wells for monitoring the disposal cell.	ECCC requests that additional baseline water quality monitoring be implemented in order to provide more statistical power and robustness in characterizing the groundwater and surface water. This should be addressed in the long-term monitoring plan.
ECCC-08	5(1)(a)(i) Fish and Fish Habitat 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 7 Effects Assessment Section 7.1.5 Groundwater and Surface Water	Appendix Z (p. 243-245/834) EIS Vol IV of V p. 91/808	The current network of monitoring wells is not appropriately configured to either establish local background or detect general leaks from the cell with sufficient statistical	A more comprehensive groundwater monitoring network needs to be developed for the monitoring program

	5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes			power for documenting change in groundwater. There are insufficient upstream wells to serve as an upstream control and the placement of downstream wells does not appear optimized to detect leakage (e.g. few downstream and sentinel wells; most very close to cell base) downstream.	for all phases of the project.
ECCC-09	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 9 Follow-up and Monitoring Programs	Section 9 Follow-up and Monitoring	While it is reasonable that specifics of the monitoring program still need to be established, many components of the follow-up program could be more clearly outlined, particularly with respect to how the effectiveness of remediation and natural attenuation approaches will be determined.	The post-remediation monitoring program should include systematic assessment of the effectiveness of the remediation efforts with use of appropriate and adequate receptors and endpoints (which should be established prior to the remediation activities with input

					from local land users and Indigenous communities and other stakeholders, where appropriate). This is needed to confirm that concentrations of contaminants of concern have been reduced to levels which are protective of human health, and that the site is capable of maintaining healthy wildlife populations, and to assess whether local land users have access to traditional country food.
ECCC-10	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(iii) Migratory Birds	Part 9 Follow-up and Monitoring Programs	Section 9 Follow-up and Monitoring	While the Ecological Risk Assessments concluded that there is not a substantive risk to the ecological receptors, there	Monitoring should include further characterization of the baseline condition <i>and</i>

	5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes			were many uncertainties in the assessments. Given these uncertainties, and that there are elevated concentrations of contaminants of concern (e.g. PCDD/Fs) in the environment, as well as the predicted changing environmental dynamics that could alter risk post-remediation (e.g. lower water levels, shift to tidal mudflats, and release of estuary water into the Northumberland Strait).	systematic ongoing monitoring of the ecological components.
ECCC-11	5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 9 Follow-up and Monitoring Programs	Appendix A Human Health and Ecological Risk Assessments 4.2.5 Biological Tissue Sampling Program	The existing tissue sampling seems to be somewhat opportunistic and haphazard. For many tissue types there were not enough samples for statistical analysis, or the sample type may not be representative of valued ecosystem components. As an example of the limited sampling - the only	ECCC requests that a well-defined and systematic sampling program be established during site preparation and construction, and that it be maintained throughout remediation, to allow clear

				avian samples analyzed were muscle tissue from ducks harvested in the fall (October and November). Ideally, future monitoring would include samples that are more reliably representative of the site, such as samples from birds that are known breeders at the site. Tissue types such as avian eggs could also be more useful sample matrices, particularly for hydrophobic contaminants of concern such as PCDD/Fs. Egg concentrations would also be useful for comparing to existing embryotoxicity values and thresholds that are established for several avian species.	establishment of baseline conditions that can be compared to post-remediation conditions, and ongoing monitoring, and can be used to evaluate the effectiveness of mitigation measures.
ECCC-12	5(1)(a)(iii) Migratory Birds	Part 7 Effects Assessment	7.5 Assessment of Terrestrial	The terrestrial assessment is based entirely on soil quality guidelines;	To get a more complete understanding of

	5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Section 7.1.8 Migratory Birds and their Habitat	Mammals and Birds	however, the CCME soil quality guidelines for PCDD/Fs are provisional due to limited data, and the conclusion that “no further assessment or risk management is necessary to protect terrestrial wildlife” is over reliant on these guidelines.	the baseline conditions, as well as to monitor the impact and/or degree of success of the remediation activities on the terrestrial environment, ECCC requests that a more comprehensive terrestrial monitoring program is enacted, that includes collection of samples from adequate receptors and appropriate exposure pathways.
ECCC-13	5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary	Part 7 Effects Assessment Section 7.1.8 Migratory Birds and their Habitat	Appendix A Human Health and Ecological Risk Assessments	Appendix A, HHERA. Executive summary. <i>“The ERA did not identify substantive risks to ecological receptors, including plant and soil invertebrate communities,</i>	Describe the rationale and validity of applying conclusions and criteria from the ERA conclusions in to those areas of

	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes			<i>mammals, birds and SAR. Hence, risk management or remediation measures for the protection of ecological receptors associated with the <u>Upland Areas</u>, <u>Freshwater Wetland and Estuary</u> are not required.”</i> Appendix A, HHERA. Two of the critical guidelines for this project are based on the outcome of the HHERA. This study was focused on wetland and estuary areas however these guidelines have been more broadly applied to the overall project, including the stabilization lagoon.	the project not specifically included in the HHERA. <i>The HHERA is a key aspect of this project and its conclusions will be a significant driver in the scope and extent of the sediment remediation activities. While ECCC has provided technical and scientific comments on the ERA, such a review does not fulfil the role of an actual peer review. A peer review is often recommended within the Federal Contaminated Sites Action Plan, to validate and</i>
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					<i>confirm the results of a risk assessment. ECCC encourages a peer review of the ERA given the scope and magnitude of the Boat Harbour remediation project and its reliance on the outcomes described in the report.</i>
ECCC-14	5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 7 Effects Assessment Section 7.1.8 Migratory Birds and their Habitat	Section 7.3.9 Wetlands.	Page 7-425, Table 7.3-159, details the quantity of material requiring remediation and the figures following illustrate the extent of possible dredging activities (Figures 7.3-19 – 7.3-23). Page 7-425 also explains that additional sampling is ongoing, in order to further delineate and refine these areas, in order to minimize the disturbance of the wetlands.	If there are changes to the risk management plan (e.g. Ongoing sampling program reveals more material requiring removal, a decision to leave material in place above guidelines and manage in-situ, etc.), there should be a mechanism to ensure appropriate agencies and

				Each wetland figure indicates a large area of the wetland to be removed, if removing material “based on individual samples exceedances of SSTL” while a smaller area would be excavated if the removal is based “Exposure Point Concentration”. The difference in these two types of areas is most significant in Risk Management Area 5, as per Fig 7.3-23. EPCs are used in the calculation of the SSTL, as a conservative estimate of the chemical concentration present and are not a remedial target, nor are they risk-based. Is the approach such that if that “EPC” area was excavated, an EPC for the wetland, post excavation, would then be at/below the SSTL?	departments are made aware. Explain further how EPCs are being used to define possible areas for excavation/removal.
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ECCC-15	5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 7 Effects Assessment Section 7.1.8 Migratory Birds and their Habitat	Appendix A 7.2.2.4, Table I-1.3 and Table C-1.4A	There appears to be no dioxin/furan analysis for freshwater wetland surface waters.	ECCC requests that a dioxin/furan analysis for freshwater wetland surface waters be carried out or explain why it is not required.
ECCC-16	5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Section 7.3.3, Marine Environment	Vol IV Section 7.3.11, Marine Environment	The EIS includes a commitment to drafting a Wildlife Emergency Response Plan (WERP) as part of the EMP/PEPP. Some mitigation measures are included in section 9.1.3 of the EMP and PEPP. However, the potential for indirect effects on migratory birds from a release of contaminants has not been discussed sufficiently to assess the adequacy of any proposed mitigation. Reference: ECCC-15 (Conformity Review),	Provide a more detailed explanation of how a potential release of contaminants could impact water quality, specifically changes in chemical composition and the indirect effects on migratory birds. Also, see ECCC-26 and attached guidance. The draft WERP should be submitted for review.

				Proponent's Response to ECCC).	
ECCC-17	5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes			Under ss. 79(2) of the <i>Species at Risk Act</i> (SARA), the Impact Assessment Agency (the Agency) must ensure that an assessment of environmental effects is conducted, must identify adverse effects on all listed species, which include species of Special Concern and the critical habitat of Extirpated, Endangered and Threatened species; and if the project is carried out, ensure that measures are taken to avoid or lessen those effects and to monitor them. These measures must: • be consistent with best available information including any Recovery Strategy, Action Plan or Management Plan in a final or proposed version; and • respect the terms and conditions of the SARA regarding protection of	ECCC recommends the proponent to consider SARA s.79(2), as well as the FPWC in preparing mitigation measures. The proponent should also be aware that ECCC recommends that the avoidance hierarchy be documented, and include the following: • Plans to maintain/improve wetland functions; • Areas where avoidance is not possible, and justification; • Amount of wetland area and functions loss;

				individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species. For species which are not yet listed under SARA, but are listed under provincial legislation only or that have been assessed and designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), it is best practice to consider these species in EA as though they were listed under SARA. NS Lands Inc. is expected to provide adequate information in order for the Agency to fulfill their obligations under S.79 of SARA. SAR observed during 2018 breeding bird surveys: Eastern Wood Pewee, Bank Swallow, Evening Grosbeak	• Mitigation measures for minimizing impacts to wetlands; • As a last resort, identification of compensation measures (e.g. conservation allowances) with the goal of no net loss of wetland functions, including those required to support bird SAR; and, lastly, • A plan to monitor mitigation measures. It should be acknowledged that if work activities are scheduled during the breeding season in complex habitat that could impact migratory birds or
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				and Canada Warbler, Barn Swallow, Bank Swallow. Suitable habitat for Piping Plover is adjacent coastal habitat. Common Nighthawk were also observed during nightjar survey using the aeration ponds for foraging and nesting near parking area. For wetlands (including coastal area wetlands) where direct and indirect effects cannot be avoided, or be entirely minimized, the implementation of conservation allowances would be an important element to consider in satisfying the requirement to minimize effects to wetland-associated SAR in the project area as per S. 79 of SARA and the Federal Policy on Wetland Conservation (FPWC).	SAR that monitoring will be carried out by qualified and experienced observers. Also, note the applicability of ECCC-27 general comment related to the FPWC.
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ECCC-18	5(1)(a)(iii) Migratory Birds 5(1)(b) Federal Lands /Transboundary 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes		Vol IV Section 7.3.9 Predicted Changes to Wetlands (s. 7.3.9, Page 7-405)	The EIS states on p. 7-405 <i>“The removal of the flow control structure found at the mouth of the BHSL has the potential to alter the water levels in the area, this change may cause wetlands to expand, shrink, or dry up depending on the wetland location within the watershed. Additional wetlands areas may be created when tidal influence is introduced”</i>. It is recognized that wetland management activities and the removal of flow control structures (e.g. berms and dam) will likely result in modifications to water levels and impacts to wetlands and estuary. The indirect impacts to wildlife have been included in the list of indirect effects (see Table 7.3-149 Direct and Indirect Impacts of the Dam on Wetlands).	ECCC requests that wetland management activities and removal of flow control structures (e.g. berms and dam) resulting in the modifications to water levels and result in impacts to wetlands and estuary, and possible indirect impacts to ground nesting species, be avoided during the bird breeding season.
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				However, mitigation measures and BMPs outlined in Table 7.3-1 only speak to “avoiding” the removal of vegetation and “completing remediation activities within the wetlands outside the known breeding window” beginning of April to end of August for migratory birds, and does not address impacts from flooding. When planning activities which could result in flooding and drying out of wetlands, the proponent should determine if birds are or will likely be nesting in or near wetlands and along shoreline near the mouth of the estuary, and avoid regulating water levels that could result in impacts on nests and young until after birds have raised their young.	
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ANNEX 3: Advice to the proponent

Table 3: Additional advice to the proponent, such as guidance or standard advice related to your departmental mandate

ID	Reference to EIS	Context and Rationale	Advice to the Proponent
ECCC-19	Section 2.3.8 Summary of Preferred Alternative Means for All Project Components; Page 2-77: Summary of the Preferred Alternative for Leachate Management.	Text discusses "Post Remediation" Alternative Mean 2 (Off-site Disposal) only, whereas Page 2-42 identifies that a combined approach to leachate treatment is the preferred option with both on-site and off-site leachate management will be utilized.	Please provide clarification.
ECCC-20	Volume II of IV, Section 1.4.1.3, Table 1.4- 1 Project Activity: Bulk Water Management and Dewatering Effluent Management • Applicable Legislation is identified as "To be determined". • Required Approval of Permit is identified as "Authorization for this specific discharge will need to be determined".	This is standard information provided to proponents of EA projects and other projects.	The applicable legislation Administered by ECCC is as identified above in Table 1.4-1 for the "Entire Project" Project Activity. It is Sections 36(3) to (6) of the <i>Fisheries Act</i> . There are no provisions for approvals, permits or Authorizations to be issued for this Activity under the Fisheries Act. This section of the Fisheries Act is a general prohibition.
ECCC-21	Page 3-41, Leachate Management, states: <i>"The existing leachate contains elevated concentrations as compared to</i>	The use of more recent monitoring data may address any questions related to data gaps.	Given the availability of more recent monitoring data in the BHETF – 2019

	<i>criteria of chloride, ammonia, nitrite and nitrate, as well as select metals including aluminum, arsenic, cadmium, chromium, copper, iron, lead, mercury, silver, and zinc; based on the containment cell – BHETF – 2018 Monitoring Report (Dillon, 2019).</i>		Monitoring Report (Dillon, 2020) it may be prudent to update this statement.
ECCC-22	Section 7.1.4.2.2 Water Quality (pg 7-87) states: <i>Surface water quality sampling was also conducted for the Boat Harbour Soil Sampling Report. Two sample locations were monitored regularly from February to May of 2017. Aluminum, cadmium, copper, iron, lead, manganese, silver, zinc, and modified TPH concentrations did not meet NSE surface water Tier 1 EQS (see Appendix Z - AECOM 2016).</i>	AECOM 2016 in Appendix Z is “Boat Harbour Hydrogeology Assessment”. There does not appear to be any surface water quality sampling associated with AECOM 2016 in Appendix Z.	Provide the appropriate reference for the surface water quality sampling referred to in Section 7.1.4.2.2 of the EIS.
ECCC-23	Appendix A Table 7.5	Confirmation of units	the units should be pg/g or ng/kg (not mg/kg)
ECCC-24	EMP/PEPP	Compliance with the <i>Migratory Bird Convention</i> Act (MBCA) and associated regulations is expected for all project-related activities and during all project	In drafting preventative and mitigative measures the following should be considered:

		phases, and are expected to take appropriate measures to ensure that they avoid the disturbance or harm of migratory birds. Section 5.1 of the MBCA indicates that it is unlawful to deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area. It is stated that “Contractors for NS Lands Inc. will visually monitor the use of dredged areas by migratory birds, as well as, monitor re-suspended contaminated sediments that may be harmful to migratory birds through the PEPP.” Should there be potential impacts to migratory birds measures to be taken are expected to be further detailed in the PEPP.	• Measures to prevent contact of migratory birds with harmful substances detected in settling ponds or other water bodies that contain substances harmful to migratory birds; • Evaluate the available suites of deterrents and hazing tools that could be useful. The proponent should also be aware a permit may be required if such tools are implemented.
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ECCC-25	EMP/PEPP	There are inconsistencies in migratory bird mitigation measures described in the EMP/PEPP including: EMP Section 6.13 Migratory Birds: <i>“Avoid removal of native vegetation during the breeding season for migratory birds where practical (beginning of April to end of August for most migratory birds). Where this is not practical, a bird nest mitigation plan will be developed prior to construction and in consultation with Environment and Climate Change Canada (ECCC) and provincial regulators.”</i> EMP, Table 8.1 and Section 8.2.8 Migratory Bird Monitoring: <i>“Should Project activities occur during the breeding bird season, a nest survey should be conducted within 10 days of any Project activity occurring.”</i> PEPP, Table 7.1: <i>“Nest survey conducted during breeding bird season within 7 days of any project activity occurring”.</i> PEPP, Section 7.5.10 Migratory Birds: <i>“The Contractor(s) shall prepare SSEPP using BMPs to protect migratory bird nesting activity during the remediation</i>	Information regarding regional nesting periods can be found at: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html. Some species protected under the MBCA may nest <i>outside</i> these timeframes. Scenarios where avoidance is not practicable should be further described/justified in the final report. ECCC-CWS generally does not recommend nest searches in vegetation; nests in complex habitat are difficult to locate, and adult birds avoid approaching their nests in a manner that would attract predators to their eggs or young. In many circumstances, incidental take is still likely to occur even when active nest searches are conducted prior to development activities, except when the nests searched are known to be easy to locate without disturbance (e.g. previously cleared area, low vegetation).
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		<i>stages to facilitate the identification and protection of active nests...the bird monitoring program will include: should Project activities occur during the breeding bird season, a nest survey should be conducted within 3 days of any Project activity occurring. Should a nest be identified, a buffer must be established and the nest is to be monitored."</i> PEPP, Section 7.5.10.1, Nest Surveys Protocols: <i>"Observations of shorebird nesting activities by the Contractor(s) staff...In most instances where construction work cannot avoid the key nesting period, a single pre-construction migratory bird nest survey will be completed, typically a maximum of 7 days before the construction or operation activity, to adjacent to the disturbance footprint. These surveys shall be conducted in both forested and non-forested habitat and wetlands, as well as any anthropogenic habitats that may be affected. If deemed necessary, an avian monitor shall be used to monitor active nests and assess any nests discovered during construction".</i>	In many circumstances, harm is likely to occur during industrial or other activities even when active nest searches are conducted prior to these activities. In some cases, nest surveys may be carried out successfully by skilled and experienced observers using appropriate methodology, and in the event that activities would take place in simple habitats (often in man-made settings) with only a few likely nesting spots or a small community of migratory birds. Examples of simple habitats include: · An urban park consisting mostly of lawns with a few isolated trees; · A vacant lot with few possible nest sites; · A previously cleared area where there is a lag between clearing and construction activities (and where ground nesters may have been attracted to nest in cleared areas or in stockpiles of soil, for instances); or · A structure such as a bridge, a beacon, a tower or a building
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		Where avoidance is “not practicable”, the proponent proposes to conduct nest surveys by contractor or their staff in the event that vegetation clearing is required during the general nesting period for birds in the project area. Migratory bird nests can be found in a wide variety of habitats and locations. Depending on the species, nests may be found at many heights in trees, in tree cavities, in shrubs, on the ground (including in hayfields, crops and pastures), on cliffs, in burrows, in stockpiles of overburden from mines, in quarry banks, within wetlands, and on human-made structures such as bridges, ledges, and gutters. It is difficult to locate most nests. Nest sites are often hidden and adult birds avoid approaching their nests in a manner that would attract predators to their eggs or young. Moreover, the amount, and complexity of habitat to be searched often limits the success of surveys intended to locate all active nests. The nests of a few species are easier to locate, particularly those in	(often chosen as a nesting spot by robins, swallows, phoebes, Common Nighthawk, gulls and others). Nest searches can also be considered when looking for: · Conspicuous nest structures (such as nests of Great Blue Herons, Bank Swallows, Chimney Swifts); · Cavity nesters in snags (such as woodpeckers, goldeneyes, nuthatches); or · Colonial-breeding species that can be located from a distance (such as a colony of terns or gulls). It should be noted that some ground nesting species of migratory birds, including the threatened Common Nighthawk, may be attracted to previously cleared areas for nesting in the spring if there is a delay between clearing activities (e.g. conducted in the fall/winter) and remediation and road clearing activities for accessing remediation sites.
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		isolated trees, on human-made structures and/or in colonies. To determine the likelihood that migratory birds, their nests or eggs are present in a particular location, a scientifically sound approach that considers the available bird habitats, which migratory bird species are likely to be encountered in such habitats, and the time periods when they would likely be present is required.	In such instances, active nest surveys of the cleared areas may be carried out successfully by skilled and experienced observers using appropriate scientific methodology. Should any nests or unfledged chicks be discovered, protection by an appropriate-sized buffer is expected. ECCC CWS can be contacted for further advice on avian monitoring as required.
ECCC-26	Applicable to all project-related activities and all project phases.	This is standard information provided to proponents of EA projects and other projects.	Migratory birds, their eggs, nests, and young are protected under the <i>Migratory Birds Convention Act</i> (MBCA). Migratory birds protected by the MBCA generally include all seabirds (except cormorants and pelicans), all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles). The list of species protected by the MBCA can be found at https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/convention-act.html. Bird species not listed may be protected under other legislation.

			Under Section 6 of the <i>Migratory Birds Regulations</i> (MBR), it is forbidden to disturb, destroy, or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the MBR, no permits can be issued for the harm or disturbance of migratory birds caused by development projects or other economic activities. Furthermore, Section 5.1 of the MBCA describes prohibitions related to depositing substances harmful to migratory birds: “5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area. (2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, result in a substance – in waters or an area
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			frequented by migratory birds or in a place from which it may enter such waters or such an area – that is harmful to migratory birds.” It is the responsibility of the proponent to ensure that activities are managed to ensure compliance with the MBCA and associated regulations. The following should be considered: • Information regarding regional nesting periods can be found at: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html. Some species protected under the MBCA may nest <i>outside</i> these timeframes. • Most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, but several species nest at ground level (e.g., Common Nighthawk, Killdeer, sandpipers), in hay fields, pastures or in burrows. Some bird species may nest on cliffs or in stockpiles of overburden material from mines or the banks of quarries. Some migratory birds (including certain waterfowl species) may nest in head ponds created by beaver dams.
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			Some migratory birds (e.g., Barn Swallow, Cliff Swallow, Eastern Phoebe) may build their nests on structures such as bridges, ledges or gutters. • One method frequently used to minimize the risk of destroying bird nests consists of avoiding certain activities, such as clearing, during the regional nesting period for migratory birds. • The risk of impacting active nests or birds caring for pre-fledged chicks, discovered during project activities <i>outside</i> the regional nesting period, can be minimized by measures such as the establishment of vegetated buffer zones around nests, and minimization of activities in the immediate area until nesting is complete and chicks have naturally migrated from the area. It is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA. Further information can be found at: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html
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ECCC-27	EMP and PEPP	Wildlife Emergency Response Plans (WERP) and avifauna surveys should be incorporated into emergency response contingency plans for scenarios that may impact avifauna directly (injury or mortality) or indirectly (impacts to habitat). In particular, during dredging activities, and fuel and hazardous materials spills (including worst-case scenarios).	ECCC-CWS has guidance documents available to support emergency response contingency planning for wildlife: • Guidelines for effective wildlife response plans; • Technical guidance and protocols for migratory bird surveys for emergency response; • Guidelines for the capture, transport, cleaning and rehabilitation of oiled wildlife.
ECCC-28	Applicable to all project-related activities and all project phases.	ECCC advocates that project effects on wetlands should be avoided, where they cannot be avoided, they should be minimized, and for residual impacts, there should be compensation to mitigate the effects.	The lost habitat function of wetlands, including a consideration of loss of wetland habitat used by species at risk, will require a Wetland Compensation Plan that fully describes the mitigation hierarchy. The precise details of the compensation plan would need to be determined as part of the project review but should: ○ Identify wetlands which would potentially be affected by the project; ○ Provide a detailed description of potential effects, and of the reasons why avoidance and minimization of

			impacts were determined not possible; and, ○ Identify and justify the proposed offset ratios. As a measure to compensate for the lost habitat function for wetland-associated landbird species at risk (SAR) and Species of Conservation Concern (SOCC) in instances where such habitat cannot be avoided, ECCC-CWS recommends the use of conservation allowances as a third step in the mitigation hierarchy of avoidance, mitigation, and compensation. ECCC-CWS is available to work with the Agency and the proponent in the development and review of a wetland compensation plan that meets both the federal and provincial wetland requirements.
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