

Appendix G

Agency Meeting Minutes

June 14, 2019 Meeting Minutes



Minutes

Draft

June 28, 2019

Subject: EIS Guidelines and Baseline Data Ref. No. 11148275
Boat Harbour Remediation Planning and Design

Client: Nova Scotia Lands Inc.

From: Blair Shoniker Tel: 902-334-1808
Christine Skirth 613-297-7687

Venue/Date/Time: 1505 Barrington Street / June 14, 2019 / 9:00 am – 12:30 pm

Distribution: Email SharePoint Electronic Filing Other:
 NS Lands (AS/KS/DB) GHD (CS/KG) All Attendees

Attendees:

Name	Representing	Name	Representing
Ken Swain	NS Lands	MT Grant	ECCC
Angela Swaine	NS Lands	Rita Mroz	ECCC
Jo Ann Fewer	NS Lands	Greg Bickerton	ECCC
Chad Lucas	NS Lands	Michael Hingston	ECCC
Christine Skirth	GHD	Steve Zwicker	ECCC
Blair Shoniker	GHD	Allison Denning	HC
Sarah Weston	GHD	Rick O'Leary	HC
Chief Andrea Paul	PLFN	Beth Lewis	NS OAA
Brian Hebert	PLFN	Betty Cogle	DFO
Lauchie MacLean	CEAA	Jack MacNeil	DFO
Joanna Tombs	CEAA	Amy Deveau	ISC (INAC)

Item Description	Action	Due Date
1. Material was posted on the CEAA section of the Boat Harbour SharePoint Site one week prior to the meeting including a list of reference documents, reference documents, agenda and agenda attachment A. Presentation posted following the meeting. Meeting is focused on: <ul style="list-style-type: none"> i. What's changed since the Project Description (PD). An update and context are provided. ii. A review of existing baseline and historical data in relation to the final EIS Guidelines as issued by CEAA will help to identify and further data 	No Action	



Item Description	Action	Due Date
<p>requirements so that it can be collected and/or provided in a timely manner. This data will inform the effects analysis.</p> <p>iii. It was noted that regulators were not able to review the list of existing data in this timeframe and that it is not clear to everyone what documents exist and how to access them. NS Lands and GHD will follow up with meeting participants to clarify details on how to access the CEAA folder that has been set up on the Boat Harbour Sharepoint site that contains the baseline data table and files discussed in this meeting. There is also a data gap analysis and extensive reference list of all available research and data on Boat Harbour.</p>	<p>NS Lands and GHD to ensure data access. Lauchie will collect email addresses of anyone who needs access. Note: ensure Chief Andrea is on this list.</p>	<p>June 21, 2019</p>
<p>2. An overview of the operational components and current and proposed activities including containment cell modifications and the proposed temporary wastewater treatment facility were discussed. Impact is limited to BHETF active and former components. Baseline studies advanced/completed since the PD include:</p> <ul style="list-style-type: none"> i. Air quality Data collection on and off Site ii. Lobster study by at St. FX. iii. Methyl-mercury study by Dal U. iv. Archaeological monitoring during pilot scale testing. v. Data from all additional studies will be included in the EIS. 	<p>No Action</p>	
<p>3. Chief Andrea Paul expressed concern on behalf of the community regarding:</p> <ul style="list-style-type: none"> i. Contaminated soils ii. Height of the bridge for fishing boats to travel under <ul style="list-style-type: none"> a. Ken Swaine noted that depth of the water is a limiting factor in designing the bridge so that newer fishing boats are able to fit underneath iii. Whether the substrate will return to living ecological conditions following the remediation <ul style="list-style-type: none"> a. Ken Swaine described that the contaminated material would be removed and that studies from St. FX are indicating that it will return to a healthy tidal estuary iv. Potential euthanization of contaminated fish so they're not released into the estuary. v. How rising sea levels will affect Boat Harbour during and after remediation <ul style="list-style-type: none"> a. GHD noted that modelling has been completed to determine water levels in Boat Harbour post-remediation under various tidal and storm scenarios. This will be communicated as part of the consultation process vi. Additional points noted by regulators to consult with PLFN on: <ul style="list-style-type: none"> a. Further plain language session(s) with the PLFN on the topic of odours and emissions during remediation b. Further plain language discussions on why drinking wells will not be impacted. 	<p>NS Lands will consult with PLFN on these topics and will provide documentation in the EIS on how these concerns, and any others that arise during consultation, were addressed.</p>	<p>July – Dec 2019</p>



Item Description	Action	Due Date
<ul style="list-style-type: none"> c. Proposed containment cell on site in comparison to an alternative removal of contaminated materials off site (rationale and community health) d. Ensure that Chief Andrea has access to the HHERA and is aware of it. vii. There is a PLFN election in October. Conclude consultation and engagement by then. 		
<p>4. Baseline data review, and determining if and what further information would be required by regulators for the EA process were the core of this meeting's agenda.</p> <ul style="list-style-type: none"> i. There has been a lot of research on this site over the years and accordingly there is a lot of existing data to draw from. Health Canada noted that they've reviewed data dating to back 2007. There are also significant datasets that were established in 2014. ii. GHD prepared a log of reports reviewed and the suitability of each early in the project. This Data Gap assessment will be updated and posted to SharePoint for reference <p><u>Hydrogeology:</u></p> <ul style="list-style-type: none"> iii. There is a lot of surface water (SW) and groundwater (GW) study data available and these dynamics are well understood on site and surrounding it. iv. Remediation work will not impact PLFN wellfield. v. Greg Bickerton noted that he'll be looking to understand potential contaminant transport, especially regarding the containment cell. Will be looking to determine if there is monitoring in place that would be adequate to detect a breach. There will need to be a clear understanding of potential contaminant pathways demonstrated. <p><u>Atmospheric</u></p> <ul style="list-style-type: none"> vi. Significant amount of data collected from an Air Quality perspective. vii. One aspect ECCC will be looking for information on is the ability to identify and address in real-time any isolated concentration of contaminants that may be encountered during remediation activities. This detection will need to be able to distinguish between site-generated emissions and those coming from the pulp and paper facility. Are there any short-term effects that may occur during remediation and is there a process in place to stop work if this type of issue arises? Make sure you can monitor and mitigate at full scale. Overall, in the long-term this project will decrease emissions. There may be short-term increases. Identify if any of them will be of concern. viii. It is noted that regulators would like to see a noise contour map that is related to sensitive receptors, including both human and non-human receptors. ix. The site is low brightness typical of a rural location. This will be the basis for existing conditions. Dredging for extended hours will be included in the analysis if it will be a factor. No significant cumulative effects from remediation activities are anticipated at this time. Additional data collection is not anticipated as necessary. x. A lot of historical datasets are available from ECCC and provincially for use in establishing baseline conditions and impact assessment. Additional data collection is not anticipated as necessary. 	<p>Update Data Gap Assessment and Post to SharePoint</p>	<p>GHD/NS Lands July 10, 2019</p>



Item Description	Action	Due Date
<ul style="list-style-type: none"> <li data-bbox="272 302 1127 390">xi. Odour was included in the Final EIS Guidelines from a modeling and effects assessment perspective. All previous discussion of AQ monitoring above applies to the analysis of this component. <li data-bbox="272 401 1110 489">xii. Alternative project means will be examined in the EIS and were studied, outlined, and scored in the Remedial Options Document in detail. <li data-bbox="272 499 1110 646">xiii. The pilot scale studies are intended to confirm the project results of the alternative means. Should any pilot scale results not match the projected alternative scenarios, further work will be done to align project activities with projected outcomes. This is the purpose and function of the pilot scale phase. 		
<p data-bbox="224 688 574 716"><u>Geology and Geochemistry</u></p> <ul style="list-style-type: none"> <li data-bbox="272 726 1117 905">xiv. A lot of surficial geology data exists and further augmentation is not anticipated. This is documented in existing reports on the SP site. There is also a lot of geotechnical data prepared by WSP on the SP site including geomorphology and topography. Depending on construction developments further studies will be constructed if necessary. 		
<p data-bbox="224 951 493 978"><u>Landforms and Soils</u></p> <ul style="list-style-type: none"> <li data-bbox="272 989 1149 1077">xv. There is a significant amount of data on these components including soil depth and overburden and results of the Phase II site assessment. From a HHERA perspective further soil sampling is not necessary. <li data-bbox="272 1087 1149 1199">xvi. The draft HHERA will include agency review comments in the coming week. Update reports will be posted on SharePoint with incorporation of comments reflected in the filename and/or comments in the document. 		
<p data-bbox="224 1245 1052 1304"><u>Wetlands, Terrestrial Environment, Marine, Fish and Fish Habitat, Migratory Birds, Species at Risk</u></p> <ul style="list-style-type: none"> <li data-bbox="272 1314 1133 1398">xvii. Significant data exists on these components. No significant update to baseline data is anticipated. Species At Risk will need to be updated base on updated listings. 		
<p data-bbox="224 1444 509 1472"><u>Mammals and Wildlife</u></p> <ul style="list-style-type: none"> <li data-bbox="272 1482 1143 1566">xviii. Lots of data collection and assessment in 2017 and 2018 including trapping data from PLFN. No major additions to this data set are anticipated. 		
<p data-bbox="224 1612 315 1640"><u>Marine</u></p> <ul style="list-style-type: none"> <li data-bbox="272 1650 1143 1829">xix. A lot of existing data to address EIS guideline requirements including the estuary and shoreline outside of Boat Harbour regarding water quality, sediments, bathymetry, marine flora and fauna including species at risk. A lot of marine data was collected for the PD (this info in PD and in SP CEAA folder). No endangered or threatened species (provincial or federal) have been identified. 		
<p data-bbox="224 1875 493 1902"><u>Fish in Boat Harbour</u></p> <ul style="list-style-type: none"> <li data-bbox="272 1913 1068 1963">xx. Main item discussed was in relation to euthanizing fish due to contamination. There is concern around releasing them into the 	DFO to provide	



Item Description	Action	Due Date
<p>5. Consultation & Engagement</p> <ul style="list-style-type: none"> i. The Crown is required to have a consultation plan. Best practice is that the proponent has a consultation plan for indigenous stakeholders and another for the general public. Parallel to that the proponent has procedural delegation responsibilities regarding impacts to address concerns raised by stakeholders and document how they've been addressed. From a government perspective, reviewers want to see them addressed. ii. PLFN doesn't have the capacity to navigate the coming consultation and engagement process. CEA Agency has funding to help them acquire an independent liaison/monitor. iii. There is a PLFN election in October. Conclude consultation and engagement by then. iv. Ken Swain has noted that there needs to be a communication process established to proceed through the EA process. Who receives what correspondence, who is copied, etc. Possibly a communication matrix. This will facilitate all components including technical and consultation. v. Additional regulatory review meetings of this type for EA milestones should be scheduled soon to get them in calendars and allow for meeting preparation beforehand. This will help to keep everyone together and facilitate a collaborative process. vi. The first set of consultation activities is approaching and field season windows will close soon. Regulatory feedback from this meeting based on required data for input into the EIS will be provided to NS Lands by June 28th. 	<p>NS Lands drafting Consultation Plan(s)</p> <p>CEA Agency to follow-up with PLFN</p> <p>NS Lands/ GHD to draft, send to CEA Agency</p> <p>GHD to provide future meeting dates</p> <p>Further Federal Agency input to be provided</p>	<p>July 10, 2019</p> <p>Mid-July, 2019</p> <p>July 10, 2019</p> <p>July 10, 2019</p> <p>June 28, 2019</p>
<p>6. Schedule</p> <ul style="list-style-type: none"> i. January/early February 2020 is the targeted submission date for the EIS to CEA Agency. ii. GHD has offered to assist any regulatory reviewers get up to speed on existing data if they would like. iii. Site visits for regulators can be scheduled anytime, request should be made through NS Lands 		

Attachments: _____

This confirms and records GHD's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 5 days of the date issued, we will assume that this recorded interpretation or description is complete and accurate.

September 25, 2019 Meeting Minutes



Minutes

October 1, 2019

Subject: IAAC/TAC Session [2019-09-25] Ref. No. 11148275
Boat Harbour Remediation Planning and Design

Client: Nova Scotia Lands Inc.

From:  Blair Shoniker
Christine Skirth Tel: 613-297-7687

Venue/Date/Time: NS Lands Rm 514, September 25, 2019, 2:00 – 4:00 PM

Distribution: Email SharePoint Electronic Filing Other:
 NS Lands (AS/KS/DB) GHD (CS/KG) All Attendees _____

Attendees:

Name	Representing	Name	Representing
Beth Lewis (BL)	NSOAA	Christine Skirth (CS)	GHD
Beata Dera (BD)	NSOAA	Peter Oram (PO)	GHD
Karen Lalonde (KL)	IAAC	Blair Shoniker (BS)	GHD
Lauchie MacLean (LM)	IAAC	Rita Mroz (RM)	ECCC
Wayne Denny (WD)	PLFN	M.T. Grant (MTG)	ECCC
Kelly Phillips (KP)	PLFN	Stephen Zwicker (SW)	ECCC
Marsha Mills (MM)	PLFN	Jack MacNeil (JM)	DFO
Derek Francis (DF)	PLFN	Mark McLean (MMc)	DFO
Tina Northrup (TN)	McKiggan Hebert	Betty Cogle (BC)	DFO
Brian Herbert (BH)	McKiggan Hebert	Angela Swaine (AS)	NSL
Sara Rumbolt (SR)	HC	Cory MacPhee (CM)	NSL
		Chad Lucas (CL)	NSL
		Ken Swain (KS)	NSL

On the Phone:

Donnie Burke (DM)	NSL	Maureen Robinson (MR)	HC
Steve Schaller (SS)	EXP	Sylvie Desroches (SD)	TC



Minutes

Item Description	Action	Due Date
1. Presentation led by: Blair Shoniker		
2. Baseline Studies <ul style="list-style-type: none"> i. GHD provided a review of supplemental environmental baseline program. Supplemental programs being undertaken: <ul style="list-style-type: none"> a. Field program in support of Human Health and Ecological Risk Assessment (HHERA) b. Field program for groundwater and surface water interactions in vicinity of containment cell c. Field program on fish and fish habitat in Boat Harbour, estuary and 6 water courses that contribute to Boat Harbour. Work being completed by CBU. d. Avian Surveys for Bank Swallow and Shorebirds e. Need and scoping for additional baseline work for Light and Marine Environment ongoing ii. HC inquired about the exposure scenario for the HHERA, given the potential for sediment exposure in Boat Harbour under lower tide conditions. GHD noted that an additional exposure pathway will be added to HHERA. GHD to discuss exposure assumptions with HC. 	GHD	Prior to next meeting
3. Project Components and Activities <ul style="list-style-type: none"> i. Wetlands Limit of wetland remediation up stream of BH and ASB is being determined through the HHERA. These wetlands will be returned to tidal condition following remediation. ii. Bridge Bridge will be replaced after sediment remediation is completed and before the dam is removed. The PLFN water supply line will be temporarily relocated to provide potable water to PLFN during causeway removal and bridge construction. Water line to be suspended from bridge post remediation. <p>Question: Is there a Temporary Bridge? Last time there was a detour, the community lost revenue. Additionally the road is used for school access.</p> <p>Answer: A temporary bridge is not being planned at this time as per NSTIR standard for this class of road. If a temporary bridge is not constructed the detour will be via Chance Harbour Road and would be in place for approximately 4 months. NS Lands will reconsider the construction of a temporary bridge.</p> iii. Water Treatment A contingency area for water treatment has been planned (ID Area 7) near existing causeway, if needed. GHD noted that PLFN approval for use of this area is required. Alternatively, the treatment plant could be on the upstream end of the BH however additional pumps and other temporary infrastructure will be required. <p>Question: What type of wastewater treatment plant will be used?</p> <p>Answer: The water treatment effluent criteria will be established in conjunction with NSE and will drive water treatment process design.</p> 	NS Lands to consider temporary bridge to avoid the need for a detour	Prior to next meeting



Item Description	Action	Due Date
<p>iv. Infrastructure and Decommissioning All infrastructure will be decommissioned. NS Lands noted that if there is a beneficial use for the building (i.e., plant building) it would be considered.</p> <p>v. Containment Cell Containment cell will undergo a vertical expansion consisting of the addition of a geomembrane liner and a new leachate collection system to facilitate dewatering of sludge in the geotubes within the containment cell. It was acknowledged that the containment cell is proven to be effective and that additional improvements are being made to increase the level of protection. The use of the containment cell is protective of the environment and is a common and proven technology. However, it is recognized that the social impact is not addressed through science.</p> <p>Question: Where would dewatering happen?</p> <p>Answer: Dewatering will occur on-Site in the containment cell area or in other existing infrastructure on-Site such as the ASB or settling basins.</p> <p>Question: How long does sediment/sludge take to dry out?</p> <p>Answer: In geotubes, the majority of the dewatering happens in a short timeframe (days to weeks). However final capping of the containment cell will likely be completed 1-2 years following placement of all waste as this will ensure it is dry enough to facilitate cap installation and reduce differential settlement and short term maintenance. During the interim period a temporary geomembrane cap will be installed to reduce leachate generation.</p> <p>Question: Could the containment cell be "temporary" with the material taken somewhere else once a new containment cell site is approved?</p> <p>Answer: It is possible but would be considered a separate project.</p> <p>vi. Sediment Remediation The mandate is to remediate the site to allow for traditional uses. Future land uses are not part of the remedial objectives.</p> <p>Question: Where would marine conditions return to? Should this be on the Figure?</p> <p>Answer: All of BH, ASB and wetlands will be returned to marine environment. This will be presented on a figure in the EIS.</p> <p>Question: When are remedial targets being set?</p> <p>Answer: Remedial targets are under development and will be will be presented in the EIS.</p>		
<p>4. Assessment Methodology</p> <p>i. Showed the VC table and assessment methodology table and requested feedback from participants within 2 weeks.</p> <p>ii. IAAC to send email with due date for Federal Authority (FA) feedback on the VC Table and recirculate presentation and VC and</p>	<p>Regulator review and comment on VC and Methodology Tables</p> <p>IAAC</p>	<p>October 10, 2019</p> <p>September 26, 2019</p>



Item Description	Action	Due Date
<p>Methodology table. <i>Post Meeting Note: presentation recirculated. GHD notes that the Tables are at the end of the presentation.</i></p> <ul style="list-style-type: none"> iii. Reviewed project/ Study Area boundaries using slides. iv. Reviewed significance. v. Reviewed thresholds. vi. Reviewed residual effects. vii. Provided an overview on our approach and there were no objections to the overall approach. viii. Emphasized the need for FA feedback on the assessment methodology on the table. ix. Emphasized the need to be able to follow the logic path assessment. x. Accidents/Malfunction - reviewed the slide. xi. Cumulative Effects. - provide rationale on how we do this assessment. xii. Project Schedule - reviewed the slide. 		
<p>5. Additional Questions</p> <p>Question: Next open house with visuals be available on the containment cell?</p> <p>Answer: Yes.</p> <p>Question: Will a fish assessment be completed to determine what fish will return to Boat Harbour?</p> <p>Answer: The remediation including velocities of the water are being design to allow natural rehabilitation of Boat Harbour. Fish stocking is not being planned as part of the remediation effort. DFO noted the bridge will also need to consider natural rehabilitation. NS lands noted that a study has been completed on the natural rehabilitation potential of the marine sediment for eel grass, and the results are favourable.</p> <p>Question: When will it (A'se'k) be tidal again?</p> <p>Answer: The schedule will be better established as we near completion of design. It is anticipated that the remediation will take 4-7 years. BH will be tidal as soon as the dam is removed, which is planned to occur late in the remediation schedule.</p> <p>Question: A road along the north side of A'se'k was suggested by PLFN?</p> <p>Answer: This can be considered in context with the Land Use Plan, but is not planned as part of remediation.</p> <p>Discussion: Fisheries in the area - Aquaculture in Chance Harbour, lobster and finfish in Pictou Harbour oyster and clam leases are in the area.</p> <p>Question: GHD asked for input from regulator on other projects in the area for Cumulative Effects Assessment</p> <p>Answer: Group - Northern Pulp, check with NSE EA Branch.</p> <p>Question: Was NSE invited to this session?</p> <p>Answer: Not specifically but they are aware of the Committee and meeting times and locations.</p>		



Item Description	Action	Due Date
<p>Question: For DFO from PLFN - How soon will fish come back in to A'se'k?</p> <p>Answer and Group Discussion: Depends on the species, tides, time of year the causeway come out.</p>		

Attachments: _____

This confirms and records GHD's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 5 days of the date issued, we will assume that this recorded interpretation or description is complete and accurate.

November 26, 2019 Meeting Minutes



Minutes

December 16, 2019

Subject: IAAC/HC Session [2019-11-26] Ref. No. 11148275
Boat Harbour Remediation Planning and Design

Client: Nova Scotia Lands Inc.

From: Christine Skirth *CS* Tel: 613-297-7687

Venue/Date/Time: IAAC Halifax, November 26, 2019, 10 AM to 12:15 PM

Distribution: Email SharePoint Electronic Filing Other:

NS Lands (AS/KS/DB) GHD (CS/KG) All Attendees _____

Attendees:

Name	Representing	Name	Representing
Mike Atkins	IAAC	Christine Skirth	GHD
Melanie Smith	IAAC	Peter Oram	GHD
Lauchie MacLean	IAAC	Troy Small	GHD
Derek Prosper	PLFN	Angela Swaine	NSL
Wayne Denny	PLFN	Sara Rumbolt	HC
Dominic Denny	PLFN	Maureen Robinson	HC
Marsha Mills (MM)	PLFN	Rick O'Leary	HC
Michelle Francis Denny	PLFN	Brian Herbert (BH)	McKiggan Hebert
Chief Andrea Paul	PLFN		
Gordie Prosper	PLFN		
Heather Head	PLFN		

On the Phone:

Christine Plourde	GHD	
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Item Description	Action	Due Date
1) Purpose of the meeting was to discuss comments from Health Canada (HC) on the Human Health and Ecological Risk Assessment (HHERA) for the Boat Harbour Remediation Project (BHRP). GHD received the comments by email on November 18, 2019. A copy of the email is attached. The email identified concerns/discussion points for the following:		



Item Description	Action	Due Date
<ul style="list-style-type: none"> i. Potential exposure via food that may be consumed from the BHETF area after remediation ii. HH site specific target limits (SSTLs) to address food consumption including serving size, consumption patterns by PLFN iii. Use of child as potential receptor vs. toddler for sediment iv. Rational needed for anticipated sediment exposure scenario of 4 days per week averaged over 7 days v. Ingestion rate for sediment exposure 		
<p>2) Traditional Food Consumption and SSTLs in HHERA</p> <ul style="list-style-type: none"> i. GHD discussed the source of the food consumption values used, that being the First Nation Foods, Nutrition and Environment Study (FNFNES) for Atlantic AFN regions completed by University of Ottawa, Final Report. The values used in the draft HHERA were the 95th percentile values for consumers only from the Atlantic FN communities surveyed. GHD also noted that the results of sampling completed as part of the HHERA indicate low levels of contaminants in vegetation and fish collected. GHD also explained that the main contaminant of concern is dioxin and furans (D&F) in sediment. It was noted D&F bioaccumulate in the food chain but do not biomagnify. ii. PLFN and HC engaged in a conversation around the data used in the FNFNES as well as data that may be collected as part of the Well Being baseline study being undertaken as part of the Environmental Impact Statement for the remediation of the BHETF. Following the discussion it was agreed that the use of the data was reasonable, however a small focus group would be organized with select PLFN community members to verify data. IAAC agreed to help coordinate the focus group. <i>Post Meeting Note: NS Lands with assistance from GHD and PLFN carried out a focus group session to validate anticipated traditional food consumption post remediation of Boat Harbour. The Focus group was held on December 10, 2019. The results will be presented in the final HHERA.</i> 		
<p>3) Sediment Exposure Scenario and Receptors</p> <ul style="list-style-type: none"> i. GHD provided an overview of the scenarios being considered that being that a child and toddler being exposed to sediment (in a beach like setting) for 8 hours per day up to 5 days per week. GHD also provided informal sketches that showed the limited distance between the high and low water levels indicating limited shoreline exposure. Historical aerial photos were also review showing historic water marks. ii. PLFN and HC engaged in a conversation around the exposure scenarios. PLFN suggested that an exposure scenario of 7 days per week for 8 hours a day would be conservative, however indicated that an exposure scenario of 4 hours per day for 7 days per week was more realistic than limiting the number of days to 4 or 5. As part of the conversation HC provided information on the term Hazard Quotient (HQ) which is used in the calculation of risk to HH. In general, only 20 percent of the allowable exposure level (or HQ) can come from one specific site, as it is recognized that other sites visited in a given day may also result in similar exposure to a given contaminant. HC also noted that the 20 percent needs to consider the level of contaminants in five media, that being air, water, sediment, soil, and food. <i>Post Meeting Note: GHD discussed the use ATSDR - Agency for Toxic</i> 		



Item Description	Action	Due Date
<i>Substances and Disease Registry - sub-chronic (intermediate duration) minimal risk level (MRL) as a toxicity reference value (TRV) to calculate the SSTLs with Maureen Robinson from HC on December 9, 2019. HC is in general agreement with the use of the ATSDR intermediate duration MRL as it more accurately represents the exposure at the Site. HC also noted that the decision on the number of hours per day (4 or 8) could be acceptable as long a solid justification is provided. HC further noted that they generally prefer to see the use of the most conservative exposure assumptions unless there is good justification for doing otherwise. The HHERA will carry 8 hours per day, 7 days per week for 30 weeks per year (non-winter months) as the most conservative exposure time for direct contact with sediment. The most sensitive receptor is a toddler and the most sensitive exposure scenario will be a toddler playing in mudflats.</i>		

Attachments: Email from HC dated November 18, 2019

This confirms and records GHD's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 5 days of the date issued, we will assume that this recorded interpretation or description is complete and accurate.

Christine Skirth

From: Robinson, Maureen (HC/SC) <maureen.robinson@canada.ca>
Sent: Monday, November 18, 2019 11:48 AM
To: Ken.Swain@novascotia.ca; Angela.Swaine@novascotia.ca; Christine Skirth; Christine Plourde
Cc: Maclean, Lachlan (IAAC/AEIC); Rumbolt, Sara (HC/SC); O'Leary, Rick (HC/SC)
Subject: FW: HC's comments on SSTL derivation at BHRP

Hello,
Please see below recent correspondence from Health Canada to IAAC.
Maureen

From: Rumbolt, Sara (HC/SC) <sara.rumbolt@canada.ca>
Sent: 2019-11-13 1:07 PM
To: Maclean, Lachlan (IAAC/AEIC) <lachlan.maclean@canada.ca>
Cc: O'Leary, Rick (HC/SC) <rick.oleary@canada.ca>; Ma, Kitty (HC/SC) <kitty.ma@canada.ca>; Robinson, Maureen (HC/SC) <maureen.robinson@canada.ca>
Subject: Fwd: HC's comments on SSTL derivation at BHRP

Hi Lauchie,

Please see below from Maureen Robinson- Health Risk Assessment & Toxicology Specialist. Please review and let me know when you would like to discuss further.

Regards,
Sara

Sent from my iPhone

Begin forwarded message:

From: "Robinson, Maureen (HC/SC)" <maureen.robinson@canada.ca>
Date: November 13, 2019 at 12:35:56 PM AST
To: "Rumbolt, Sara (HC/SC)" <sara.rumbolt@canada.ca>
Cc: "Petrovic, Sanya (HC/SC)" <sanya.petrovic@canada.ca>, "Lorusso, Luigi (HC/SC)" <luigi.lorusso@canada.ca>, "O'Leary, Rick (HC/SC)" <rick.oleary@canada.ca>, "White, Louise (HC/SC)" <louise.white@canada.ca>
Subject: HC's comments on SSTL derivation at BHRP

Hi Sara,

The Contaminated Sites Division has written the following letter to facilitate your discussion with the Impact Assessment Agency of Canada (formerly known as CEAA):

Health Canada is providing the following comments in response to questions identified in a meeting with IAAC on October 22, 2019 regarding the draft Human Health and Environmental Risk Assessment (HHERA) (GHD, March 2019) for the Land Based Areas, Wetlands and Estuary site for the Boat Harbour Remediation Project (BHRP) .

The draft HHERA report has identified site-specific target levels (SSTLs) for remediation of wetlands which have been reported to have elevated concentrations of dioxins and other substances in sediments due to historical activities. Health Canada has provided comments on the draft HHERA for the Land Based Areas, Wetlands and Estuary site as some of the information presented in the report was not consistent with Health Canada guidance and may underestimate potential health risk. Health Canada received a request for additional clarification in relation to derivation of SSTLs related to protection of human health based on exposures to sediment in the freshwater and estuary wetlands. As indicated in previous comments, the proposed SSTLs for remediation targets may not be adequate to protect human health based on the information provided regarding the proposed use of the area.

Health Canada requests that the final report provide clarification of whether the SSTLs for dioxins and other substances are health protective in relation to several issues, including: i) whether all potentially impacted media were considered (e.g., whether foods may be consumed from the area in future); ii) whether all sensitive receptors were considered; iii) whether short duration exposure was adequately considered (e.g., dose averaging of short term exposures may underestimate potential exposure); and iv) whether exposure to sediments via incidental ingestion was assessed for exposed sediments in the intertidal zone (e.g., whether incidental ingestion of sediment is expected to be limited to only suspended sediment in the water column):

- i) The SSTLs provided in the HHERA report were derived based on direct contact with sediments and did not indicate whether potential exposure via foods that may be consumed from the area in future has been fully evaluated. It is understood by Health Canada that community surveys are ongoing to verify community expectations of future site usage (including traditional and country food collection and consumption). It is understood that there is no food consumption at the present time but it is not clear, given the current lack of information on future food consumption patterns, whether the report provided an SSTL that is expected to be protective of potential future food consumption. Identification of an SSTL based on direct contact exposure only may underestimate potential health risk if there is additional exposure via consumption of foods that may have elevated concentrations of dioxins or other contaminants as a result of uptake from the contaminated sediments. It is requested that the report fully evaluate whether the SSTL is intended to be protective of future food consumption in this area or whether an additional SSTL will be derived to address this issue.
- If foods that may be impacted by the contamination may be consumed from this area post-remediation, it is requested that the report specify which foods may be consumed, the serving size and consumption patterns and that an SSTL be identified that includes this exposure pathway. Please identify whether additional food chain modelling will be conducted to provide an estimate of future tissue concentrations of dioxins and other contaminants in edible biota in order to estimate future exposures and an SSTL for this pathway. Please identify whether a sampling program will be implemented at the site post-remediation to confirm the results of the food chain modelling.
- ii) The SSTLs did not consider the presence of toddlers in this area which may underestimate potential health risk for toddlers as they may have a higher ingestion rate of sediment based on their body weight. The report identified that there is a

residential community near this area; however, it is not clear why a toddler receptor would not be present or would not be in contact with the sediments as the report identified for children. It is requested that all receptors that may be present at the site be included in the assessment or that rationale be provided if some receptors are not expected to be present in this area.

- iii) The SSTLs were based on anticipated exposure 4 days per week which was averaged over 7 days per week; however, the report did not provide rationale as to whether nearby residents may access the site daily in warmer months. Further, please note that dose averaging of 4 days over 7 days may underestimate potential exposure. Further, if it is expected that people may only access the area 4 days per week, it is requested that rationale for any dose averaging be provided on a chemical-specific basis with references to allow for technical review. Alternately, given the proximity to a residential area (based on the proposed future land use of the project site), if it is possible that people may access the site daily, it is requested that the report provide an SSTL associated with the highest exposure period (e.g., in summer months).
- iv) The SSTLs provided for sediment direct contact may underestimate exposure if people are exposed to sediments at the water's edge, as the ingestion rate of sediment was limited to ingestion of sediment suspended in the water column. For example, the exposure assessment did not include ingestion of sediment that people may be in contact with via hand to mouth activity while at the water's edge. Health Canada guidance specifies that the hand-to-mouth contact sediment ingestion rates are relevant for on-land activities (such as playing in the sand on a beach), where the sediment is exposed. The suspended sediment ingestion rates used in the report are accurate and are relevant for near-shore in-water activities in shallow water (such as wading, walking and playing in water) where immersion in water is likely. For sites where both on-land and near-shore in-water activities are expected, the hand-to-mouth contact rates should be applied for the duration of the time spent on-site, unless the division of time between on-land and in-water activities can be clearly defined. The input parameter used in the report may underestimate the potential exposure and it is requested that the calculation for direct contact with sediment be updated with information relevant to on-land activities if relevant. Alternately, it is requested that justification be provided for the input parameter used (e.g., please identify whether the contamination is limited to areas where the sediment is submerged and the SSTLs are not intended for use for on-land activities in areas at the water's edge).

Health Canada can review the revised report and/or provide additional clarification. It is recommended that Health Canada guidance be used in calculation of exposure and derivation of SSTLs, ensuring that all potential exposure pathways are fully considered.

Sara, please let me know if you request any additional clarification on any of the issues discussed above.

Thanks,
Maureen

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December 11, 2019 Meeting Minutes



Minutes

December 19, 2019

Subject: IAAC/TAC Session [2019-12-11] Ref. No. 11148275
 Boat Harbour Remediation Planning and Design

Client: Nova Scotia Lands Inc.

From: Blair Shoniker Tel: 905-429-5040
 Christine Skirth 613-297-7687

Venue/Date/Time: In Person & Conference Call, December 11, 2019, 2:00 pm

Distribution: Email SharePoint Electronic Filing Other: _____

NS Lands (AS/KS/DB) GHD (CS/KG) All Attendees

Attendees:

Name	Representing	Name	Representing
Lauchie MacLean (LM)	IAAC	Christine Skirth (CS)	GHD
Karen Lalonde(KL)	IAAC	Blair Shoniker (BS)	GHD
Brian Herbert (BH)	McKiggan Hebert	Angela Swaine (AS)	NSL
Tina Northrup (TN)	McKiggan Hebert	Ken Swain (KS)	NSL
Jack MacNeil (JM)	DFO	Donnie Burke (DM)	NSL
Rita Mroz (RM)	ECCC		
Stephen Zwicker (SW)	ECCC		
Rick O'Leary (RO)	HC		

Item Description	Action	Due Date
1. Purpose of the meeting was to provide an update to the members of IAAC/ TAC on the preliminary results of the Impact Assessment, including cumulative effects, effects of the environment on the project and preliminary monitoring. Additional purpose of the meeting was to review the current gaps in analysis based on current data collection as well as to provide an overview of the 2 nd round of consultation/engagement with the public and Pictou Landing First Nation (PLFN).		
2. Overview of Presentation – BS delivered the presentation with inputs from CS. Questions from attendees were answered throughout the presentation, with a summary of questions included under Item 3. <ul style="list-style-type: none"> i. Project Overview – description on Components/Activities that are included in the impact analysis (Waste Management, Dredging, 		



Item Description	Action	Due Date
<p>Wetland Management, Water Management, Bridge at Highway 348, Infrastructure Decommissioning, Remediation Infrastructure)</p> <ul style="list-style-type: none"> ii. Areas of Remediation – description of the areas of remediation, with discussion on potential phasing of the remediation. It was noted that the remediation would generally follow a phased approach, but flexibility for the dredge program is required iii. Valued Components – reviewed the Valued Components (VC's) that were utilized in the preliminary impact assessment iv. Impact Assessment Summary – a summary of the impact assessment for each project component/ activity was provided, focused on key mitigation measures and residual effects <ul style="list-style-type: none"> i. Water and Waste Management focused on a conceptual cross section of the containment cell as well as screen shots of the visualization video ii. The visualization video of what Boat Harbour will look like at the closure stage of the containment cell and the reintroduction of tidal influence was provided iii. The visualization (still, not video) of the Bridge at Highway 348 was also provided v. Current Identified Gaps – description of study's and material currently underway that will be factored into the impact assessment was provided. Two key areas to be determined relate to the construction of the Bridge at Highway 348 (i.e. temporary bridge or detour) and pipeline decommissioning in different areas (i.e., clean and leave in place, remove, etc). vi. Other Federal EIA requirements – description on Accidents and Malfunctions, Effects of the Environment on the Project and Cumulative Effects Assessment (CEA). Further description on the CEA methodology was also provided vii. Monitoring – description on monitoring before and after remediation, as well as how Mi'kmaq of Nova Scotia will be engaged in monitoring viii. Summary of PLFN and Public Consultation – description on Open House #2 for PLFN and the Public, specifically the information presented and the commentary provided at the Open House events. ix. Schedule – High level overview of the proposed schedule with respect to the Draft Environmental Impact Statement (EIS) and IAAC decision. 		
<p>3. Further discussion and clarification during the presentation was provided on water management, interim leachate treatment, long term leachate management, future modelling and number of trucks per week to manage leachate long term. Specific questions after the presentation include:</p> <ul style="list-style-type: none"> i. Question: What were the general comments on the containment cell from PLFN/Public? Or other comments? Answer: Generally acknowledgment of the design, the requirement for the containment cell and questions around environmental protection/ considerations. Some still do not like the containment cell, some were also unaware that the 		



Item Description

Action

Due Date

Attachments: _____

This confirms and records GHD's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 5 days of the date issued, we will assume that this recorded interpretation or description is complete and accurate.

February 19, 2020 Meeting Minutes



Minutes

March 10, 2020

Subject: IAAC and HC EIS Session Ref. No. 11148275
 Boat Harbour Remediation Planning and Design

Client: Nova Scotia Lands Inc.

From: Blair Shoniker Tel: 905-429-5040
 Christine Skirth 613-297-7687

Venue/Date/Time: In Person & Conference Call, February 19, 2020

Distribution: Email SharePoint Electronic Filing Other: _____

NS Lands (AS/KS/DB) GHD (CS/KG) All Attendees

Attendees:

Name	Representing	Name	Representing
***See Summary for each Working Session For Agency and Regulator Attendance			
Christine Skirth (CS)	GHD	Angela Swaine (AS)	NS Lands
Blair Shoniker (BS)	GHD	Ken Swain (KS)	NS Lands
Peter Oram (PO)	GHD		

Item Description	Action	Due Date
1. Draft EIS Meeting Overview and Organization <ul style="list-style-type: none"> i. GHD and NS Lands held meetings with the Impact Assessment Agency of Canada (IAAC or Agency) and the Technical Advisory Committee to review the Draft Environmental Impact Statement (EIS) for the Boat Harbour Remediation Project. Four meetings were held. Each meeting was attended by IAAC, GHD, and NS Lands and one of the following regulatory agencies: Environment and Climate Change Canada (ECCC) and Canadian Wildlife Services (CWS): Health Canada (HC): Department of Fisheries and Oceans (DFO); and Transport Canada (TC). ii. The purpose of the meeting was to provide an overview of the EIS; walk through Sections 7-9 of the EIS with a focus on valued components (VC) of specific interest to the regulator, review anticipated schedule for submission of the EIS, and answer any specific questions the attendees may have. iii. A copy of the presentation is attached. During the meeting informal discussions occurred, but no specific questions requiring 		



Item Description	Action	Due Date
<p>a specific action were noted. As such the purpose of the meeting minutes is to record the meeting date, time and attendance.</p>		
<p>2. Meeting Date, Time and Attendance</p> <ul style="list-style-type: none"> i. A meeting was held with IAAC, ECCC, and CWS on February 19, 2020 from 9:00 to 10:30 AM. In addition to NS Lands and GHD the following persons were in attendance: <ul style="list-style-type: none"> i. IAAC: Lauchie MacLean, Melanie Smith ii. ECCC: Steve Zwicker, MT Grant, Rita Mroz, Mike Hingston iii. CWS: Paul Knaga, Josh Mailhiot ii. A meeting was held with IAAC and HC on February 19, 2020 from 10:30 AM to noon. In addition to NS Lands and GHD the following persons were in attendance: <ul style="list-style-type: none"> i. IAAC: Lauchie MacLean, Karen Lalonde ii. HC: Pierre Pelletier, Maureen Robinson, Sara Rumbolt, Ellen Chappell iii. A meeting was held with IAAC and DFO on February 19, 2020 from 1:00 to 2:30 PM. In addition to NS Lands and GHD the following persons were in attendance: <ul style="list-style-type: none"> i. IAAC: Lauchie MacLean, Karen Lalonde ii. DFO: Betty Cogle, Sean Wilson, Mike Wambolt, Jack MacNeil iii. Ian Bower from the Office of Aboriginal Affairs also attended a portion of this meeting. iv. A meeting was held with IAAC and TC on February 19, 2020 from 2:30 to 3:30 PM. In addition to NS Lands and GHD the following persons were in attendance: <ul style="list-style-type: none"> i. IAAC: Karen Lalonde ii. TC : Jason Flanagan, Melanie LeBlanc, Sylvie Desroches iii. Peter Oram from GHD was not in attendance for this meeting. 		
<p><input checked="" type="checkbox"/> Attachments: <u>Presentation</u></p>		

This confirms and records GHD's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 5 days of the date issued, we will assume that this recorded interpretation or description is complete and accurate.



Boat Harbour Remediation Planning and Design Draft EIS – with Federal Agencies

Ken Swain | NS Lands Project Lead

Angela Swaine | NS Lands Project Manager

Christine Skirth | GHD Project Manager

Blair Shoniker | GHD EA Lead

Peter Oram | GHD EA Advisor

February 19, 2020



Agenda

Part 1 - Overview

1. Introductions
2. Meeting Objectives
3. Overview of Draft EIS
 - a) Baseline
 - b) Impact Assessment
 - c) Cumulative Effects
 - d) Accidents/Malfunctions, Effects of Environment on the Project
 - e) Monitoring

Part 2 – Agency Specific

1. Walk through Section 7-9

Part 3 – Wrap-up

1. Schedule
2. Questions/ Other Business



Meeting Objective(s)

1. Provide an overview of the Draft EIS
2. Highlight key sections/ areas of interest and review specific Sections (7 – 9)
3. Provide supporting materials

Project Overview – Components/Activities

Waste Management

- Sludge generated from remediation of Boat Harbour Effluent Treatment Facility
- Construction/ Demolition debris
- Industrial waste from remediation activities

Dredging

- Aeration Stabilization Basin (ASB), Boat Harbour Stabilization Lagoon (BHSL), estuary
- Hydraulic dredge, completed in the wet, dewater within Geotubes

Wetland Management

- Impacted area in the wetlands is approximately 38 ha and contains approximately 260,000 m³ of sludge and root mass to be managed
- Risk-based remedial approach completed to reduce volume and area

Water Management

- On-site temporary wastewater treatment facility (WWTF) will be constructed to treat impacted waters as needed. Water in BHSL turns itself over 3 times per year as a result of groundwater/surface water inflows, WWTF only implemented to address leachate from containment cell when under interim cover, remainder is pre-treatment through geotubes and natural attenuation



Project Overview – Components/ Activities

Bridge at Highway 348

- Causeway will be demolished/ decommissioned, replaced with a concrete girder bridge along the same alignment, (approx. 34 m long)
- Constructed prior to dam decommissioning to allow sediment to be managed within Boat Harbour and prevent its migration downstream to the estuary or Northumberland Strait, bypass in form of single lane causeway adjacent to the downstream side of the Highway

Infrastructure Decommissioning

- Pipeline (on-land and under water), (remove portion on-land at PLFN request)
- Treatment Buildings
- Dam

Remediation Infrastructure

- Water supply pipe to Pictou Landing First Nation (PLFN)
- Site Access
- Permanent and Temporary Linear Infrastructure
- Energy Supply



EIS Overview

Sec.	Title	Sub. Sec.	Title
NA	Executive Summary		
1	Introduction and Overview	1.1	The Proponent
		1.2	Project Overview
		1.3	Project Location
		1.4	Regulatory Framework and the Role of Government
2	Project Justification and Alternatives Considered	2.1	Purpose of the Project
		2.2	Alternative Means
		2.3	Alternative Means by Project Component
3	Project Description	3.1	Project Components
		3.2	Project Activities
4	Public Participation and Concerns	4.1	Persons and Organizations Consulted With
		4.2	Methods of Communication and Consultation
		4.3	Distribution of Information and Materials
		4.4	Consideration of Key Issues Raised
		4.5	Addressing Outstanding Issues and Ongoing Consultation



EIS Overview

Sec.	Title	Sub. Sec.	Title
5	Engagement with the Mi'kmaq of Nova Scotia and Concerns Raised	5.1	Informal Consultation and Community Engagement Prior to the Initiation of the Federal Environmental Impact Assessment Process
		5.2	Formal Consultation Prior to CEA Agency/IAAC Notice of Determination of Requirement for Federal Environmental Impact Assessment
		5.3	Engagement with the Mi'kmaq of Nova Scotia and Concerns Raised During the Federal Environmental Impact Assessment
		5.4	Consideration of Key Issues Raised
6	Impacts to Potential or Established Aboriginal or Treaty Rights	6.1	Identifying Potential or Established Aboriginal or Treaty Rights
		6.2	Use and Importance of Lands and Resources for Traditional Purposes
		6.3	Land Management, Use, and Planning
		6.4	Potential Adverse Effects on Potential or Established Aboriginal or Treaty Rights (includes direct, residual, and cumulative impacts)
		6.5	Accommodations for Potential Effects on Aboriginal and Treaty Rights
		6.6	Residual Impacts of the Project on PLFN's Aboriginal or Treaty Rights



EIS Overview

Sec.	Title	Sub. Sec.	Title
7	Effects Assessment	7.1	Baseline Assessment
		7.1.1	Valued Components
		7.1.2	Atmospheric Environment
		7.1.3	Geology, Geochemistry and Soil
		7.1.4	Groundwater and Surface Water
		7.1.5	Riparian, Wetland and Terrestrial Environments
		7.1.6	Aquatic Environments
		7.1.7	Migratory Birds
		7.1.8	Species at Risk Act Listed Species
		7.1.9	Mi'kmaq of Nova Scotia
7.1.10	Human Environment		

EIS Overview

Sec.	Title	Sub. Sec.	Title
7	Effects Assessment	7.2	Environmental Effects Methodology
		7.2.1	Project Boundaries
		7.2.2	Thresholds for Characterizing and Determining Significance of Effects
		7.2.3	Anticipated Project Environment Interaction
		7.2.4	Effects Prediction
		7.2.5	Mitigation Measures
		7.2.6	Residual Effects and the Determination of Significance



EIS Overview – Section 7.3 (VCs)

- 7.3.1 - Air Quality & Odour
- 7.3.2 - Greenhouse Gases (GHGs)
- 7.3.3 - Noise
- 7.3.4 - Light
- 7.3.5 - Geology, Geochemistry, and Soil
- 7.3.6 - Groundwater
- 7.3.7 - Surface Water
- 7.3.8 - Terrestrial Habitat & Vegetation
- 7.3.9 - Wetlands
- 7.3.10 - Mammals & Wildlife
- 7.3.11 - Marine Environment
- 7.3.12 - Fish & Aquatic Habitat
- 7.3.13 - Migratory Birds
- 7.3.14 - Species At Risk
- 7.3.15 - Mi'kmaq of Nova Scotia
- 7.3.16 - Economic and Social
- 7.3.17 - Archaeological/ Cultural Heritage Resources
- 7.3.18 - Human Health



EIS Overview – Section 7.3 (VCs)

Each VC under Section 7.3 has the following:

- Boundaries
- Standards or Thresholds for Determination of Significance
- Project Activities and VC Interactions and Effects and Mitigation Measures for:
 - Waste Management
 - Dredging
 - Wetland Interaction
 - Bridge at Highway 348
 - Pipeline Decommissioning
 - Treatment Buildings
 - Dam
- Monitoring
- Significance of Residual Effects



EIS Overview

Sec.	Title	Sub. Sec.	Title
7	Effects Assessment	7.4	Other Effects to Consider
		7.4.1	Effects of Potential Accidents or Malfunctions
		7.4.2	Effects of the Environment on the Project
		7.4.3	Cumulative Effects Assessment
8	Summary of Environmental Effects		Summary of Environmental Effects
9	Follow-up and Monitoring Programs	9.1	Follow-up Programs
		9.2	Monitoring Programs



Part 2 – Reviewing the EIS

- Baseline – Refer to Section 7.1
- Impact Assessment – Recap on Methodology, Refer to Section 7.3
- Summary of Effects – Refer to Section 8
- Monitoring – Refer to Section 9
- Reference Material – Appendices and Reference List

BASELINE – Section 7.1



Impact Assessment – Recap on Methodology

Identification of Project Boundaries – Spatial

- **Site Study Area** – spans from the effluent pipeline from the first standpipe on the mill property, through existing and historic BHETF lands, Boat Harbour and its banks, extending to Northumberland Strait, and PLFN, located between Boat Harbour and Northumberland Strait
- **Local Study Area** – all lands and water within 500 m of the Site Study Area
- **Regional Study Area** – all lands and water within approximately 3-5 km of the Site Study Area

Impact Assessment – Recap on Methodology

Identification of Project Boundaries – Temporal

- Represent the duration over which Project activities interact with each valued component.
- Temporal boundary encompasses all Project phases:
 - Site preparation and Construction
 - Operation
 - Decommissioning and Abandonment

Impact Assessment – Recap on Methodology

Identification of Project Boundaries – Administrative

- Represent the regulatory, public policy, and/or economic limitations placed on the execution of the Project

Identification of Project Boundaries – Technical

- Represent the limits of the Study Team's ability to assess a VC.
- Limitations to measure, assess, and/or monitor the effects of the Project on VCs may be theoretical or physical. Refer to Draft staging and considerations portion of this presentation



Impact Assessment – Recap on Methodology

Threshold for Determination of Significance

- Criteria or established thresholds for determining the significance of residual effects from Project activities will be described for each VC
- These criteria or thresholds establish a level beyond which a residual effect would be considered significant.
- Thresholds may be based on regulations, standards, resource management objectives, scientific literature, and/or ecological processes.
- Significance criteria will be defined quantitatively where possible, and qualitatively with supporting justifications where no standards exist.



Impact Assessment – Recap on Methodology

Project-Environment Interaction and Effects Prediction

- Interactions between Project activities and the VCs will either be direct or indirect.
- Once these interaction relationships are established, determination of changes to VCs, defined as effects, as a result of Project activities is accomplished through:
 - predicting adverse effects from Project activities;
 - detailing mitigation measures to eliminate, reduce, or control the effect
 - predicting cumulative effects from other projects occurring in the same spatial and temporal boundaries;
 - determining residual effects remaining after mitigation measures are considered and cumulative effects are identified, to assess the significance of those effects in the context of each VC.

Impact Assessment – Recap on Methodology

Significance of Residual Effects

- In order to identify if residual effects are significant or not, consideration of the magnitude, geographical extent, duration, frequency, and reversibility and ecological and social context is required.
- Where possible, criteria will be described quantitatively. When residual effects cannot be characterized quantitatively, they will be characterized qualitatively.



**SUMMARY OF EFFECTS – Section 8
Review**



MONITORING – Section 9 Review

Reference Material

- Appendices
 - List
 - Location
- Other Reference Material
 - List
 - Location



Part 3 - Schedule & Other Business

Environmental Impact Statement

- March 2020

Information requests and additional Studies

- Through 2020

IAAC Decision

- Early 2021

If approved, cleanup to start

- Late 2021



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