

Project Name	Coastal GasLink Project	Inspection Status	Final
EA Certificate #	E14-03	Inspection No.	IR2020-007
Project Status	Certified	Inspection Start	2020-02-20
Sector	Energy	UTM	9U 594850E 6008800N
Trigger	Planned Inspection	Inspection Type	Administrative
Project Description	The Coastal GasLink Project (Project) is an approximately 650km long natural gas pipeline.		
Location Description	The Project initiates near the community of Groundbirch in northeast BC and terminates at the LNG Canada facility near Kitimat.		
Inspection Summary	<p>On February 20, 2020, Christie Lombardi, Environmental Assessment Office (EAO) Compliance and Enforcement Specialist (EAO C&E) initiated an administrative inspection of the Project against the requirements of Environmental Assessment Certificate (EAC) E14-03 (Appendix 1).</p> <p>The Project was in Construction at the time of the inspection.</p> <p>On February 24, 2020, the Certificate Holder was notified of the inspection and an information request for documents to support the inspection was issued. On March 4, 2020, the requested documents were received. On March 26, 2020, the Certificate Holder was provided an Opportunity to Respond to this inspection record to identify factual errors or omissions and an additional information request was issued. On April 15, 2020, the Certificate Holder's response was received (Appendix 2). On May 19, 2020, the Certificate Holder was provided a second Opportunity to Respond to this inspection record due to updated compliance determinations and an increase in scope to include the South of Houston Alternate Route (SHAR). The second Opportunity to Respond also included the issuance of a third information request related to the SHAR, the response to which was received on May 27, 2020 (Appendix 3). The second response was reviewed and the material presented was found to solely impact the compliance determinations related to SHAR sites subject to Conditions 6 and 17, with the remainder of the material consistent with the Certificate Holder's response to the first Opportunity to Respond.</p> <p>After review of observations and information obtained during the inspection, the following compliance determinations have been made:</p> <ol style="list-style-type: none"> 1. NOT COMPLIANT with Condition 6 with respect to the implementation of the Wetlands Management Plan. 2. NOT COMPLIANT with Condition 6 with respect to the completion of construction preparation surveys for all ecologically and socio-economically important wetlands. 3. NOT COMPLIANT with Condition 6 with respect to muskrat habitat function survey assessments. 4. NOT COMPLIANT with Condition 6 with respect to site-specific wetland mitigations. 5. NOT COMPLIANT with Condition 6 with respect to the timing of construction preparation surveys. 6. NOT COMPLIANT with respect to the content requirements of the wetlands construction preparation report map book. 		

	<p>7. COMPLIANT with Condition 17 with respect to the completion of site habitat assessment surveys for red- and blue-listed plants and ecological communities in the reduced MRTA and SHAR.</p> <p>Additional detail regarding these findings may be found in the sections below.</p> <p>The compliance determinations in this report reflect the findings from the inspection date noted above. These determinations can change at any time upon information gathered through future inspections or if new information is obtained by EAO C&E.</p>
In Attendance	n/a
Certificate Holder	Coastal GasLink Pipeline Limited
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INSPECTION DETAILS

Requirement 1	<p>Condition 6 of EAC E14-03 Schedule B, Table of Conditions</p> <p>The Holder must develop and implement a Wetlands Management Plan in consultation with EC, FLNR and OGC. The Wetlands Management Plan must meet the objective of no net loss in wetland function, in a manner consistent with the <i>Federal Policy on Wetland Conservation</i>. In addition, the Plan must contain:</p> <ul style="list-style-type: none"> • description of surveys for wetlands that must be undertaken prior to Construction to collect site-specific information on wetland location, type, area, and function; • five years of post-Construction wetland monitoring to confirm whether residual loss of wetland area and function occurs as a result of Project Construction and Operations; and • mitigation and compensation measures to address any loss of wetland area and function, and a description of the manner and extent to which the measures are consistent with <i>Federal Policy on Wetland Conservation</i>. <p>In order to allow for 30 days review and comment, the Holder must provide the Plan to EAO no less than 60 days prior to the Holder’s planned date to commence Construction. Once the Plan is complete, the Holder must also provide the Plan to EC, FLNR and OGC.</p>
Findings	<p>The Wetlands Management Plan was submitted to the EAO on October 20, 2015. In an April 29, 2016 letter from the EAO to the Certificate Holder the plan was confirmed to be to the satisfaction of the EAO, see Appendix 4. On March 2, 2020, the Certificate Holder confirmed that the current version of the Wetlands</p>

	<p>Management Plan is Revision 2, found as Appendix D.12 of the Environmental Management Plan dated December 14, 2018, attached here as Appendix 5.</p> <p>The inspected components of the Wetlands Management Plan are broken down below. Any non-compliance with the components inspected will result in a non-compliance determination for this condition.</p>
Compliance Determination	Out – Refer to Enforcement Summary

Requirement 2	<p>Condition 6 of EAC E14-03 Schedule B, Table of Conditions Wetlands Management Plan Section 2.0 Monitoring Plan</p> <p>To satisfy Condition #6, construction preparation surveys must be undertaken to establish the existing condition of ecologically and socio-economically important wetlands that may be affected by the project.</p>
Findings	<p>As required by Condition 6, the Wetlands Management Plan (Appendix 5) details the requirements for construction preparation surveys which must be undertaken to establish the existing condition of ecologically and socio-economically important wetlands that may be affected by the Project. On March 4, 2020, the Certificate Holder provided EAO C&E with a copy of the Wetland Functions Construction Preparation Report, Revision 0 dated January 25, 2019, which is included here as Appendix 6. As stated in Section 1.2 of the report, the Wetland Functions Construction Preparation Report “provides results of construction preparation surveys completed in accordance with the Wetlands Management Plan”. On May 27, 2020, the Certificate Holder provided EAO C&E with a copy of the Wetland Functions Construction Preparation Report for SHAR, Revision 0 dated December 2019, which is included here as Appendix 7. The methodology in the SHAR report appears to be consistent with that employed for the rest of the Project.</p> <p>Due to the complex nature of this requirement, the compliance analysis has been broken down to aid with clarity.</p> <p><u>Definitions:</u></p> <p>Section 1.3 of the Wetlands Management Plan provides the following definition of ecologically important wetlands:</p> <p>“[Environment and Climate Change Canada (ECCC)] guidance indicates that wetlands designated as ecologically-important to a region include:</p> <ul style="list-style-type: none"> • areas of regional or continental significance to waterfowl within the Joint Venture planning boundaries of BC • estuaries identified by the Pacific Estuary Conservation Program • eelgrass (<i>Zostera</i> spp.) beds • red- and blue-listed wetland communities (EC2014a)” <p>Section 1.3 also notes “ECCC’s guidance indicates that there are areas of regional or continental significance to waterfowl within the study area that includes portions or the Canadian Intermountain and Prairie Habitat Joint Venture service areas, critical waterfowl habitat areas and important bird areas (ECCC 2014b). Wetlands known to</p>

support important life history requisites for known occurrences of species listed on Schedule 1 of the Species at Risk Act (SARA) are also considered ecologically important to a region. No estuaries or eelgrass beds were delineated in the study area.”

Methods to be Implemented:

Section 2.2 of the Wetlands Management Plan details the procedures for fieldwork to be undertaken. This section includes wetland delineation and classification field information to be collected “at each occurrence”; key features for habitat function assessments; wildlife suitability ratings to “be conducted at each wetland”; biogeochemical functions to be assessed “in the field by looking at the hydrogeomorphic unit and hydrodynamic index of the wetland (i.e. the landform of the wetland plus the depth, duration, source and movement of water) and amount of vegetation present”; and hydrological function indicators to be “assessed in the field”.

Section 2.3.2, titled Access Constraints, notes:

“Portions of the Coastal GasLink route cross remote terrain that can be difficult to access. Two methods of site access are access via helicopter or access via vehicle.”

Background and Data Sources:

As required by Condition 1 of the Project’s EAC (Appendix 1), the Wetlands Technical Data Report (Wetlands TDR), Appendix C of the Condition 1 Report 1 dated October 30, 2015, was prepared by the Certificate Holder to complete the outstanding baseline wetland field data collection in the Morice River Technical Boundary Area (MRTA). The MRTA is defined as the area between UTM Zone 9U East 611335 North 6003957 and UTM Zone 9U East 577769 North 6000758 (KP 553.1 to 593.3). The Wetlands TDR is included here as Appendix 8.

Also in accordance with Condition 1, on November 19, 2019 the Certificate Holder submitted the Condition 1 Report 2, prepared to complete the remainder of all outstanding baseline field data collection between KP 553.1 to 571.0 in the MRTA (the reduced MRTA). The report is attached here as Appendix 9. Appendix C to the report is the Condition 1 Vegetation Technical Data Report #2 (Vegetation TDR #2), which notes in Section 2.1:

“Where wetland ecosystems are red- or blue-listed, they are included in this report; however, their potential to provide habitat for at-risk communities is discussed in more detail in the 2015 Condition 1 Wetlands TDR.”

The Wetland Functions Construction Preparation Report, dated January 2019, contains a table of “Ecologically Important Wetlands Summary Information” as Table C-1 in Appendix C. This data table includes the location and ID of each wetland in terms of the KP markers.

On May 15, 2018, Amendment 1 to E14-03 was approved, see Appendix 10. Amendment 1 added the South of Houston Alternate Route (SHAR) to the existing Certified Pipeline Corridor. The SHAR diverges south of the original corridor from approximately KP 465 to KP 505 and has a unique KP format preceded by an “S”, with the SHAR route running from KP S_0+000 to KP S_41+941 per Appendix 11.

	<p><u>Analysis:</u></p> <p>Comparison of the data in the Wetlands TDR, the Vegetation TDR #2 and the Wetland Functions Construction Preparation Report yields a number of apparent discrepancies: red- or blue-listed communities cited in the Wetlands TDR that are absent in the Wetland Functions Construction Preparation Report; red- or blue-listed communities cited in the Vegetation TDR #2 that are absent in the Wetland Functions Construction Preparation Report; observations of SARA-listed species in the MRTA cited in the Wetlands TDR, which would qualify the wetland as “ecologically important” by the definition above, that are not described in the Wetland Functions Construction Preparation Report; and that the Wetland Functions Construction Preparation Report is dated six months earlier than the Vegetation TDR #2, which was prepared to complete outstanding baseline field studies in the MRTA.</p> <p>On April 15, 2020, as part of the Opportunity to Respond to this inspection record, Stantec provided information relating to the observations above as part of the technical response to the inspection record (Attachment 1 to the response, see Appendix 12). The technical response identified the differing objectives and spatial boundaries of the three reports as the primary factors resulting in the noted data variations and provided a rationale for each of the discrepancies identified.</p> <p>Tables 2 and 3 of the technical response provide itemized explanations for why red- or blue-listed communities were cited in one report but not another, including that the scope of Wetlands TDR extended beyond the Project footprint, which the other reports are limited to; that one site association went from being blue-listed to yellow-listed in the time between the reports; and that despite a group of site associations (floodplains) being outside the definition of wetlands as defined by the Wetlands Management Plan, they were included in the Wetlands TDR. With respect to SARA-listed species, the technical response notes that the mobility of wildlife drove differences in observations and that records of any SARA-listed wildlife seen during the field surveys were recorded and included in the summary sheets within Appendix B of the Wetland Functions Construction Preparation Report. Finally, with respect to the relative timing between the Wetland Functions Construction Preparation Report and the Vegetation TDR #2, the technical response indicates:</p> <p style="padding-left: 40px;">“The 2019 Condition 6 Wetland Functions Construction Preparation Report does not rely on baseline field work conducted for the purposes of Condition 1 reporting. The only outstanding field work required to complete the 2019 Condition 1 Vegetation TDR report was a rare plant survey, which has no bearing on the Condition 6 Wetland Functions Construction Preparation Report.”</p> <p>The Ecologically Important Wetlands Summary Information presented in Table C-1 of the Wetland Functions Construction Preparation Report includes multiple instances throughout the Project where ecologically and socio-economically important wetlands were not surveyed on the ground, rather, field surveys plots from wetlands in other areas of the Project were utilized. Examples include, but are not limited to:</p>
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- Survey DP18282 was utilized for wetlands WL-8187 (KP 434) and WL-0961 (KP 481)
- Survey DP18295 was utilized for wetlands WL-2224 (KP 451), WL-9168 (KP 521) and WL-9166 (KP 521)
- Survey DP16086 was utilized for wetlands WL-9003 (KP 516), WL-1140 (KP 558), WL-1174 (KP 563) and WL-1186 (KP 564)

Section 3.0 of the Wetland Functions Construction Preparation Report notes:
 “Where physical or technical access was limited (e.g. helicopter unable to land in or near a given wetland or access-permission not granted), baseline wetland functions were inferred using ground-level field survey plot data from the nearest wetland of the same type (class and association) and wetland associations were determined using either air photo interpretation or aerial visual site inspection from helicopter.”

As noted above, Section 2.3.2 of the approved Wetlands Management Plan identifies that the Project terrain “can be difficult to access”, but it does not include alternate provisions for sites which are difficult to access. The use of inferred data and air photo/aerial visual site inspection is an alternate survey means which is not discussed or approved in the Wetlands Management Plan.

On April 15, 2020, as part of the Opportunity to Respond to this inspection record, Stantec noted as part of the technical response to the inspection record (Attachment 1 to the response, see Appendix 12):

“This adaptation of the methods is not discussed in the WMP; however, it is the professional opinion of the QP of record that this application of inference is sufficient for meeting the overall technical objectives of the WMP”

As part of the Opportunity to Respond to this inspection record received on April 15, 2020, the Certificate Holder indicated that “should the EAO determine that the use of inferred data is out of compliance with the WMP, Coastal GasLink will initiate the process to revise the WMP consistent with consultation requirements in Condition 6 in order to provide for the use of inferred data methodology as recommended by QPs”. The Certificate Holder also indicated in the response that until the plan is updated, interaction with wetlands that relied on inferred data will be avoided until a field-based assessment can be safely completed prior to commencing construction. The Opportunity to Respond is attached here as Appendix 2.

On May 4, 2020, the Certificate Holder provided a Notification of Alternate Wetland Management Plan Methods to the EAO, see Appendix 13. The notification identified that 57 of the 292 wetlands subject to Condition 6 were assessed using inferred methodology, and provided a detailed listing of the sites that identified clearing or some form of construction has already occurred at 42 of the 57 wetlands. The notification further indicated:

“To resolve this issue, no further construction activities will occur within the boundaries of the wetlands listed in Attachment 1 until field-based wetland function assessments are completed, or the applicable changes are made to the WMP to allow for use of the Inferred Method. Coastal GasLink will track

	<p>completion of the field-based wetland function assessments to confirm that construction activities in each wetland do not resume until the field-based wetland function assessment is complete for that specific wetland.”</p> <p>This commitment was further confirmed in the May 27, 2020 response to the second Opportunity to Respond, which additionally indicated that Coastal GasLink intends to update the Wetlands Management Plan “to align with the QP supported methodological modifications as identified through this inspection” (see Appendix 3).</p> <p>The list of 57 ecologically and socio-economically important wetlands assessed using inferred methodology was reviewed with respect to the specific locations of sites that were identified in the May 4, 2020 notification as locations where “Coastal GasLink was unable to conduct field assessments”. Available spatial information for a number of these sites does not indicate access restrictions by ground or air. The EAO may conduct a field review to determine the level of access at these sites and report those findings in a separate inspection record. On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, the Certificate Holder indicated that additional constraints which led to wetlands not being surveyed on the ground included schedule and seasonal limitations, protest activity, and locations where physical access was too difficult or potentially unsafe.</p> <p>Further review of the Wetland Functions Construction Preparation Report identified that the report does not include data for wetlands along the SHAR, rather, the wetlands data presented between approximately KP 465 and KP 505 corresponds to the original Certified Pipeline Corridor. On May 19, 2020, EAO C&E requested confirmation that the SHAR was the route being constructed as well as evidence of wetland pre-construction surveys completed for all ecologically and socio-economically important wetlands that may be affected by the project along the SHAR. On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, the Certificate Holder confirmed that the SHAR is the route being constructed and provided the Wetland Functions Construction Preparation Report for the SHAR as Attachment 1 to the response, see Appendices 3 and 7. Five sites from this section of the Project are included in the listing of sites provided by the Certificate Holder on May 4, 2020 (Appendix 13) that were assessed using inferred methodology.</p> <p><u>Conclusion:</u></p> <p>The use of inferred data for wetland construction preparation surveys is not consistent with the survey methodology in the approved Wetlands Management Plan, as the plan requires field surveys for all ecologically and socio-economically important wetlands before construction and does not provide the opportunity for a Qualified Professional (QP) to vary the requirements. These findings indicate non-compliance with the Wetlands Management Plan. The Certificate Holder has identified all sites assessed with the alternate methodology and has currently ceased construction in the affected areas.</p>
<p>Compliance Determination</p>	<p>Out - Order - Refer to Enforcement Summary</p>

<p>Requirement 3</p>	<p>Condition 6 of EAC E14-03 Schedule B, Table of Conditions Wetlands Management Plan</p> <p>Section 2.2.1 Construction Preparation Surveys Wetland Functions Assessment, Habitat Function</p> <p>Habitat function for mammals will focus on beaver, muskrat and moose. Features that indicate suitable habitat for these species include food sources (deciduous trees and shrubs such as red-osier dogwood) and a mix of vegetation and open water (Null et al. 2000). Signs of beaver and muskrat include dams, dens, lodges, trails/tracks and browsed-trees or shrubs. Signs of moose include browse and game trails.</p>
<p>Findings</p>	<p>As required by Condition 6, the Wetlands Management Plan (Appendix 5) details the requirements for construction preparation surveys which must be undertaken to establish the existing condition of ecologically and socio-economically important wetlands that may be affected by the Project. On March 4, 2020, the Certificate Holder provided EAO C&E with a copy of the Wetland Functions Construction Preparation Report (Appendix 6). As stated in Section 1.2 of the report, the Wetland Functions Construction Preparation Report “provides results of construction preparation surveys completed in accordance with the Wetlands Management Plan”. On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, the Certificate Holder provided the Wetland Functions Construction Preparation Report for the SHAR (Appendix 7), which appears to have employed the same survey methodology.</p> <p>Section 2.2 of the Wetland Functions Construction Preparation Reports notes that wetlands were surveyed for their potential to provide wildlife suitability for:</p> <ul style="list-style-type: none"> • Amphibian breeding, foraging and dispersal • Waterfowl breeding • Shorebird breeding • [Songbird breeding] - SHAR report only • Grizzly bear (<i>Ursus arctos</i>) foraging • Beaver (<i>Castor canadensis</i>), mink (<i>Neovision vison</i>), and river otter (<i>Lontra canadensis</i>) denning • Beaver, mink and river otter foraging • Moose (<i>Alces amercanus</i>) foraging <p>Muskrat does not appear on the list above, nor does it appear elsewhere in the reports.</p> <p>On April 15, 2020, as part of the Opportunity to Respond to this inspection record, Stantec noted the following as part of the technical response to the inspection record (Attachment 1 to the response, see Appendix 12):</p> <p>“For the purposes of the assessment of habitat functions for mammals, it is the professional opinion of the QP that all results shown in the 2019 Condition 6 Wetland Functions Construction Preparation Report that relate</p>

	<p>to beaver, mink, otter denning or foraging should be understood to apply to species such as muskrat as well. The structural habitat attributes that support muskrat denning and foraging coincide with those of the beaver. Both muskrat and beaver are semi-aquatic members of the rodentia order and their habitats are so similar that the two have even been documented to cohabitate in the same lodge.</p> <p>... A specific assessment for each species, including muskrat, is not necessary to understand the wetland function nor was it envisioned in development of the WMP.”</p> <p>On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, EAO C&E was provided additional information which identified complete overlap in wetland function indicators for muskrat with other species.</p> <p>On April 15, 2020, as part of the Opportunity to Respond to this inspection record, the Certificate Holder proposed that, based on the clarification provided by the Project’s QP, the Wetland Functions Construction Preparation Report could be updated “by adding ‘muskrat’ to the illustrative list of example mammals whose functional habitat features were encompassed within the faunal studies”. See Appendix 2 for the full response.</p> <p>Given that the Wetlands Management Plan specifically lists muskrat as a focus of habitat function assessments, the lack of acknowledgement of this species in the Wetland Functions Construction Preparation Report is not consistent with the methodology in the approved Wetlands Management Plan. As there is functionally unlikely to be an impact based on this non-compliance, and the Certificate Holder has identified that Wetland Functions Construction Preparation Report will be updated to bring the Project back in compliance, the enforcement response to this non-compliance is a Warning.</p>
Compliance Determination	Out - Warning - Refer to Enforcement Summary

Requirement 4	<p>Condition 6 of EAC E14-03 Schedule B, Table of Conditions Wetlands Management Plan Section 2.2.1 Construction Preparation Surveys</p> <p>Once field crews have delineated and classified the wetlands within the study area and conducted the functions assessment, appropriate mitigation will be selected and recommended for each occurrence in the field. Mitigation will be based on the extent and location of the wetland occurrence relative to the Project footprint, as well as its conservation rank or functions. Mitigation identified in the EAC Application and the EMP will be provided to each crew and any site-specific mitigation opportunities for each site will be noted in the field.</p> <p>Section 3.0 Mitigation</p> <p>A mitigation checklist will be provided to vegetation ecologists in the field so that site-specific mitigation can be identified for each ecologically or socio-economically important wetland.</p>
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<p>Findings</p>	<p>As required by Condition 6, the Wetlands Management Plan (Appendix 5) details the requirements for construction preparation surveys which must be undertaken to establish the existing condition of ecologically and socio-economically important wetlands that may be affected by the Project. Section 6.1 of the Wetlands Management Plan requires a construction preparation report which will include “mitigation or any site-specific concerns before the start of construction.” On March 4, 2020, the Certificate Holder provided EAO C&E with a copy of the Wetland Functions Construction Preparation Report (Appendix 6). As stated in Section 1.2 of the report, the Wetland Functions Construction Preparation Report “provides results of construction preparation surveys completed in accordance with the Wetlands Management Plan”. On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, the Certificate Holder provided the Wetland Functions Construction Preparation Report for the SHAR (Appendix 7).</p> <p>Note that Requirement 2 above evaluates whether the pre-construction surveys for ecologically and socio-economically important wetlands have been completed, whereas this requirement pertains to the identification of site-specific mitigations during those surveys.</p> <p>Section 4.0 of both Wetland Functions Construction Preparation Reports notes: “The Environmental Management Plan (EMP) for the Project outlines the mitigation measure that will be implemented during various stages and types of construction (Coastal GasLink 2016b). The mitigation measures that apply to wetlands are summarized in section 3.0 of the Wetlands Management Plan (Appendix D.12 of the EMP).”</p> <p>This section also notes that “mitigation measures are also present in the OGC Permit Conditions” and lists permits details which “include mitigation measures that pertain to wetlands”.</p> <p>Section 3.0 of the Wetlands Management Plan contains several pages of bulleted general mitigation measures that pertain to wetlands. The mitigations are not site-specific, nor are they based on conservation rank or function.</p> <p>On March 26, 2020, EAO C&E requested documentation identifying the site-specific wetland mitigations for the ecologically and socio-economically important wetlands within the MRTA, as well as the mitigation checklists completed by vegetation ecologists in the field during surveys of the ecologically and socio-economically important wetlands in the same area.</p> <p>On April 15, 2020, as part of the Opportunity to Respond to this inspection record, the Certificate Holder noted that construction has only commenced in the Section 8 portion of the MRTA (KP 583+200 to 593+300), and provided the following information with respect to site-specific mitigations and mitigation checklists for that portion of the MRTA (see Appendix 2 for the full response):</p> <p>“In accordance with the WMP, mitigation checklists were initially developed by the QP to guide identification of site-specific mitigation during field surveys. However, during the collection of field data, the QPs determined that the use of the checklists was unnecessary as the mitigation in Section 3.0 of the WMP was comprehensive and no additional site-specific</p>
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	<p>mitigation was required. As such, while a checklist was developed by the author of the WMP and used initially by ecologists in the field, it was not found to be helpful and therefore use was discontinued.”</p> <p>The Wetlands Management Plan requires the use of mitigation checklists for the identification of site-specific mitigations for ecologically or socio-economically important wetlands. These mitigations are to be “based on extent and location of the wetland occurrence relative to the Project footprint, as well as its conservation rank or functions”.</p> <p>No site-specific mitigations for ecologically or socio-economically important wetlands have been identified for the Project. Discontinuing the use of mitigation checklists during pre-construction field surveys of ecologically or socio-economically important wetlands is also not consistent with the approved Wetlands Management Plan. The absence of documented mitigations within the map books of the Construction Preparation Reports is further discussed in Requirement 6 below.</p>
Compliance Determination	Out - Order - Refer to Enforcement Summary

Requirement 5	<p>Condition 6 of EAC E14-03 Schedule B, Table of Conditions Wetlands Management Plan Section 2.3 Schedule</p> <p>Construction preparation surveys will occur in the summer before starting construction. Construction will be executed in eight different construction sections with total construction times slightly different for each section. Post-construction surveys will occur the field season immediately after the end of construction, and will occur at approximately the same time each year and in accordance with provincial standards (where RISC standards are applied). Depending on the length of time for each construction section, there may be up to four years between the construction preparation surveys and initiation of post-construction survey period.</p>
Findings	<p>As required by Condition 6, the Wetlands Management Plan (Appendix 5) details the requirements for construction preparation surveys which must be undertaken to establish the existing condition of ecologically and socio-economically important wetlands that may be affected by the Project. On March 4, 2020, the Certificate Holder provided EAO C&E with a copy of the Wetland Functions Construction Preparation Report (Appendix 6). As stated in Section 1.2 of the report, the Wetland Functions Construction Preparation Report “provides results of construction preparation surveys completed in accordance with the Wetlands Management Plan”. On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, the Certificate Holder provided the Wetland Functions Construction Preparation Report for the SHAR (Appendix 7).</p> <p>Section 3.0 of the Wetland Functions Construction Preparation Report notes: “Field surveys conducted in 2015, 2016, and 2018 assessed ecological functions within the wetlands subject to Condition #6. Wetland functions surveys took place between June 2 and September 27, 2016; July 19 and August 16, 2016; and July 8 and September 7, 2018.”</p>

	<p>Section 3.0 of the Wetland Functions Construction Preparation Report for the SHAR notes:</p> <p>“Field surveys conducted in 2016 and 2019 assessed ecological functions within the wetlands subject to Condition 6. Wetland functions surveys took place between July 19 and August 16, 2016 and September 6 and September 17, 2019.”</p> <p>Construction on the Project formally commenced in January 2019. In order to be compliant with the Condition 6 requirement for wetland construction surveys to “occur in the summer before starting construction”, construction preparation surveys for construction works having the potential to affect ecologically or socio-economically important wetlands that were initiated January 1 to September 22, 2019 require wetland preparation surveys to have been carried out in the summer of 2018. Similarly, any construction works initiated from September 23, 2019 to present require wetland preparation surveys to have been carried out in the summer of 2019.</p> <p>On March 26, 2020, EAO C&E requested documentation of appropriately timed wetland preparation surveys for construction works initiated since January 1, 2019 that have the potential to affect ecologically or socio-economically important wetlands.</p> <p>On April 15, 2020, as part of the Opportunity to Respond to this inspection record (see Appendix 2), the Certificate Holder indicated:</p> <p>“With regards to the language in the WMP regarding the timing of the construction preparation surveys, please see Attachment 1 for a discussion by the QP and author of the WMP regarding their intent that surveys were intended to be completed in the appropriate growing season prior to the commencement of construction. Consistent with the language of Condition 6, the WMP was not intended to convey or be interpreted to mean that surveys must occur the summer immediately prior to the commencement of construction.”</p> <p>On April 15, 2020, as part of the Opportunity to Respond to this inspection record, Stantec noted the following as part of the technical response to the inspection record (Attachment 1 to the response, see Appendix 12):</p> <p>“It is the professional opinion of the QEP of record that if preconstruction surveys were conducted one to three years prior to construction, their characterization of the wetlands’ potential to provide certain ecological functions is not apt to differ from an assessment of these wetland functions conducted the summer before construction, barring some major physical disturbance.”</p> <p>Condition 6 directs the Wetlands Management Plan to describe the pre-construction wetland surveys, and Section 2.3 of the Wetlands Management Plan indicates that “Construction preparation surveys will occur in the summer before starting construction.” This section of the plan further notes “there may be up to four years between the construction preparation surveys and initiation of post-construction survey period”. Construction formally commenced on the Project in January 2019, yet some of the construction preparation field survey work was</p>
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	<p>completed four years prior (in 2015). These findings are not consistent with the approved Wetlands Management Plan.</p> <p>Areas of the Project that have yet to commence construction, such as the reduced MRTA, will be assessed a later date with respect to appropriately timed construction preparation surveys.</p>
Compliance Determination	Out - Order - Refer to Enforcement Summary

Requirement 6	<p>Condition 6 of EAC E14-03 Schedule B, Table of Conditions Wetlands Management Plan Section 6.1 Annual Reports, Construction Preparation Report</p> <p>The construction preparation report will include three parts. The first part will be a document outlining the results of the wetlands functions assessment. It will include the total number of wetlands sampled, document construction preparation conditions, and provide mitigation or any site-specific concerns before the start of construction.</p> <p>The second component of the construction preparation report will consist of a geodatabase containing wetlands delineated through the large-scale mapping, plus any updates that may occur through field delineation, if necessary. This geodatabase will also include the BC OGC EPMR wetland classification and indication of riparian management areas.</p> <p>Finally, a map book showing the locations of ecologically or socio-economically important wetlands and proposed mitigations will be produced.</p>
Findings	<p>As required by Condition 6, the Wetlands Management Plan (Appendix 5) details the requirements for construction preparation surveys which must be undertaken to establish the existing condition of ecologically and socio-economically important wetlands that may be affected by the Project. On March 4, 2020, the Certificate Holder provided EAO C&E with a copy of the Wetland Functions Construction Preparation Report (Appendix 6). As stated in Section 1.2 of the report, the Wetland Functions Construction Preparation Report “provides results of construction preparation surveys completed in accordance with the Wetlands Management Plan”. On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, the Certificate Holder provided the Wetland Functions Construction Preparation Report for the SHAR (Appendix 7).</p> <p>The Wetland Functions Construction Preparation Reports provide summaries of the results of the wetlands functions assessments, including the total number of wetlands sampled, documenting construction preparation conditions and providing general mitigations.</p> <p>Neither of the Wetland Functions Construction Preparation Reports make reference to the geodatabase required as the second component of the construction preparation report. On March 26, 2020, EAO C&E requested evidence of the required geodatabase.</p>

On April 15, 2020, as part of the Opportunity to Respond to this inspection record, Stantec provided the following information with respect to the geodatabase as part of the technical response to the inspection record (Attachment 1 to the response, see Appendix 12):

“...there is no mention of the geodatabase in the 2019 Condition 6 Wetland Functions Construction Preparation Report; however, the metrics and maps included in this report are all derived from the geodatabase. Stantec delivered the geodatabase to Coastal GasLink on January 24, 2019 for the Condition 6 Construction Preparation Report and now Coastal GasLink maintains the wetland spatial geodatabase that continues to be used to guide construction management.”

The technical response also included screenshots of the geodatabase spatial and attribute data as evidence. Both the required BC OGC EPMR wetland classification and riparian management area are included fields in the geodatabase.

Appendix B of both Wetland Functions Construction Preparation Reports are map books showing the locations of ecologically or socio-economically important wetlands. The map books do not include any mitigations.

On April 15, 2020, as part of the Opportunity to Respond to this inspection record, Stantec provided the following information with respect to the map book as part of the technical response to the inspection record (Attachment 1 to the response, see Appendix 12):

“Although the WMP indicates that the Condition 6 Wetland Functions Construction Preparation Report would include site specific mitigation measures within the mapbook appended to that report, it was determined that the more-appropriate location to spatially present mitigation measures pertinent to wetlands is within the EWS [Environmental Worksheets] for the Project (see EWS mapbook and accompanying Tables indicating wetland locations and associated mitigation measures). Both Appendix B of the 2019 Condition 6 Wetland Functions Construction Preparation Report and the EWS for the Project are developed using the wetlands geodatabase.”

On April 15, 2020, as part of the Opportunity to Respond to this inspection record, the Certificate Holder provided the Section 8 Environmental Worksheets (EWS) and the Environmental Site Information Sheets (ESIS) for approximately KP 588 to KP 594 in Section 8 of the MRTA, noting:

“The EWS and ESIS are controlled mapbooks which details the standard and site-specific mitigation to be implemented at each location along the Project (including wetlands).”

The Environmental Worksheets provided for Section 8 includes a listing of wetland crossings as Table 1, see Appendix 14. Table 1 includes reference to OGC construction permit information and notes where clearing and site preparation must not occur. The Environmental Worksheets do not identify which wetlands are ecologically or socio-economically important. The Environmental Site Information Sheets reference the Environmental Management Plan and Wetlands Management Plan where wetland mitigation information may be found, but no actual mitigation

	<p>information is included. The Environmental Site Information Sheets provided are attached here as Appendix 15.</p> <p>The map book included in the Wetland Functions Construction Preparation Report does not contain the mitigations required by the Wetlands Management Plan. The report does not make reference to the Environmental Worksheets or Site Information Sheets where the information is reported to be functionally stored and accessed, and the Environmental Worksheets provided contain only references to where general mitigation information may be found. These findings are not consistent with the content requirements of the construction preparation report map book required by the approved Wetlands Management Plan.</p>
Compliance Determination	Out - Order - Refer to Enforcement Summary

Requirement 7	<p>Condition 17 of EAC E14-03 Schedule B, Table of Conditions</p> <p>The Holder must, prior to Construction, for any red- and blue-listed plants and ecological communities identified by the BC Conservation Data Centre, conduct site habitat assessment surveys for all locations within the Certified Pipeline Corridor and propose mitigation to address adverse effects to those plants and ecological communities. The Holder must consult with EC, FLNR and OGC in the development of surveys and mitigation.</p> <p>The Holder must include the survey results and mitigation in relevant permit applications where available at the time of application or as soon as practicable thereafter.</p>
Findings	<p>On January 31, 2019, the Certificate Holder self-reported a non-compliance to the EAO with respect to 15 incomplete habitat site assessments in the Certified Project Corridor required by Condition 17, see Appendix 16. Non-compliance with the requirement was determined in EAO inspection record FY18/19-57, and it was also identified in that inspection record that none of the sites were in the MRTA, see Appendix 17. On February 20, 2019, the EAO issued an enforcement order under Section 53 of the <i>Environmental Assessment Act</i> in response to the non-compliance, see Appendix 18.</p> <p>In accordance with Condition 1, on November 19, 2019 the Certificate Holder submitted the Condition 1 Report 2, prepared to complete the remainder of all outstanding baseline field data collection in the reduced MRTA (Appendix 9). Appendix C to the report is the Vegetation Technical Data Report #2 (Vegetation TDR #2), which notes in Section 3.2.2 that one red-listed and four blue-listed ecological communities at risk were identified in the reduced MRTA.</p> <p>The 2019 compliance determination with respect to Condition 17 did not include the red- and blue-listed ecological communities in the reduced MRTA identified in the Vegetation TDR #2, as the Vegetation TDR #2 report was prepared nine months after the enforcement order was issued.</p> <p>On March 26, 2020, EAO C&E requested documentation of all habitat site assessment surveys completed within the reduced MRTA. On April 15, 2020 as part of the Opportunity to Respond to this inspection record, Stantec provided a</p>

	<p>technical response to the inspection record (Attachment 1 to the response, see Appendix 12) with respect to the surveys required by Condition 17.</p> <p>The technical response noted that on April 18, 2019 Coastal GasLink issued the Condition 17 Red- and Blue-listed Plants and Communities Survey Report, attached here as Appendix 19, which includes records within the MRTA. The technical response further noted the differing objectives, spatial boundaries, and data sources for the Vegetation TDR #2 and Condition 17 Red- and Blue-listed Plants and Communities Survey Report resulted in differences with results to specific results reported. Table 4 of the technical response provides itemized explanations for why four red- or blue-listed communities were cited in the Vegetation TDR #2 report but not the Condition 17 Red- and Blue-listed Plants and Communities Survey Report. The rationale included the determination that certain polygons were not, in fact, the listed communities and that site associations fell outside the Certified Pipeline Corridor.</p> <p>On May 15, 2018, Amendment 1 to E14-03 was approved, see Appendix 10. Amendment 1 added the South of Houston Alternate Route (SHAR) to the existing Certified Pipeline Corridor. The SHAR diverges south of the original corridor from approximately KP 465 to KP 505 and has a unique KP format preceded by an “S”, with the SHAR route running from KP S_0+000 to KP S_41+941 per Appendix 11.</p> <p>The Condition 17 Red- and Blue-listed Plants and Communities Survey Report does not include data along the SHAR, rather, the habitat site assessment data presented between approximately KP 465 and KP 505 corresponds to the original Certified Pipeline Corridor.</p> <p>On May 19, 2020, EAO C&E requested confirmation that the SHAR was route being constructed as well as evidence of all habitat site assessment surveys completed within the SHAR. On May 27, 2020, as part of the second Opportunity to Respond to this inspection record, the Certificate Holder confirmed that the SHAR is the route being constructed and provided the Condition 17 Red- and Blue-listed Plants and Communities Survey Report for SHAR as Attachment 3 to the response, attached here as Appendix 20.</p> <p>These findings are consistent with the requirements of Condition 17.</p>
Compliance Determination	In

Actions Required by Certificate Holder & Additional Comments
Enforcement Summary
<p>COASTAL GASLINK PIPELINE LIMITED IS WARNED THAT THE PROJECT IS NOT COMPLIANT WITH CONDITION 6 OF EAC# E14-03 WITH RESPECT TO THE REQUIREMENT FOR WETLAND FUNCTION ASSESSMENTS FOR ECOLOGICALLY OR SOCIO-ECONOMICALLY IMPORTANT WETLANDS TO INCLUDE HABITAT FUNCTION ASSESSMENTS FOR MUSKRAT.</p>
<p>COASTAL GASLINK PIPELINE LIMITED IS NOT COMPLIANT WITH CONDITION 6 OF EAC# E14-03 WITH RESPECT TO THE COMPLETION OF CONSTRUCTION PREPARATION SURVEYS FOR ECOLOGICALLY OR SOCIO-ECONOMICALLY</p>

IMPORTANT WETLANDS IN ACCORDANCE WITH THE METHODOLOGY SPECIFIED IN THE WETLAND MANAGEMENT PLAN, WITH RESPECT TO THE DEVELOPMENT OF SITE-SPECIFIC MITIGATIONS FOR ECOLOGICALLY OR SOCIO-ECONOMICALLY IMPORTANT WETLANDS AND THE INCLUSION OF THOSE MITIGATIONS IN THE CONSTRUCTION PREPARATION REPORT MAP BOOK, AND WITH RESPECT TO THE TIMING OF PRE-CONSTRUCTION SURVEYS FOR ECOLOGICALLY OR SOCIO-ECONOMICALLY IMPORTANT WETLANDS. SEE APPENDIX 21 FOR AN ORDER ISSUED UNDER SECTION 53 OF THE ENVIRONMENTAL ASSESSMENT ACT.


COASTAL GASLINK PIPELINE LIMITED IS NOT COMPLIANT WITH CONDITION 6 OF EAC# E14-03 WITH RESPECT TO UNDERTAKING CONSTRUCTION ACTIVITIES WITHIN THE BOUNDARY OF ECOLOGICALLY OR SOCIO-ECONOMICALLY IMPORTANT WETLANDS WITHOUT PRIOR COMPLETION OF FIELD-BASED CONSTRUCTION PREPARATION SURVEYS. ENFORCEMENT UNDER THE ENVIRONMENTAL ASSESSMENT ACT FOR THIS NON-COMPLIANCE IS PENDING.

EAO C&E MAY INSPECT TO DETERMINE IF THE COASTAL GASLINK PROJECT HAS BEEN BROUGHT BACK INTO COMPLIANCE WITH THESE REQUIREMENTS. CONTINUED NON-COMPLIANCE WITH THESE REQUIREMENTS MAY RESULT IN ADDITIONAL ENFORCEMENT UNDER THE ENVIRONMENTAL ASSESSMENT ACT.

Regulatory Considerations

None at this time.

Inspection Conducted by

 Christie Lombardi Compliance & Enforcement Specialist	Date Sent to Certificate Holder for Opportunity to Respond 2020-03-26 and 2020-05-19
	Date Finalized 2020-06-16

Appendices

- Appendix 1: EA Certificate E14-03 with Schedules A and B
- Appendix 2: CGL Response to OTR 2020-04-15
- Appendix 3: CGL Response to OTR2 2020-05-27
- Appendix 4: EAO Management Plan Acceptance Letter 2016-04-29
- Appendix 5: Wetlands Management Plan Rev2 2018-12-14
- Appendix 6: Wetland Functions Construction Preparation Report 2019-01-25
- Appendix 7: CGL Response to OTR2 2020-05-27 Attachment 1 - Wetland Functions Construction Preparation Report for SHAR
- Appendix 8: Condition 1 Report 1 Appendix C - Wetlands TDR 2015-10-30
- Appendix 9: Condition 1 Report 2 – 2019-11-19
- Appendix 10: EA Certificate E14-04 Amendment 1 2018-05-15
- Appendix 11: SHAR Concordance Table 2019-12-10
- Appendix 12: CGL Response to OTR 2020-04-15 Attachment 1- Technical Response
- Appendix 13: Notification of Alternate Wetland Management Plan Methods 2020-05-04
- Appendix 14: CGL Response to OTR 2020-04-15 Attachment 2 - MRTA Construction Section 8 Environmental Worksheets 2020-04-15
- Appendix 15: CGL Response to OTR 2020-04-15 Attachment 3 - MRTA Construction Section 8 Environmental Site Information Sheets
- Appendix 16: Letter from Coastal GasLink to EAO Identifying Missed Condition 17 Surveys 2019-01-31
- Appendix 17: EAO Inspection Record FY18/19-57 - 2019-01-29

Appendix 18: Section 34 Order Endangered Plants and Ecosystems - 2019-02-20
Appendix 19: Condition 17 Red- and Blue-listed Plants and Communities Survey Report 2019-04-18
Appendix 20: CGL Response to OTR2 2020-05-27 Condition 17 Red- and Blue-listed Plants and Communities Survey Report for SHAR
Appendix 21: Section 53 Order - 2020-06-16 - Pre-Construction Wetland Surveys EN2020-005

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