



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works and Government
Services Canada/Réception des soumissions Travaux
publics et Services gouvernementaux Canada
800 Burrard Street, Room 219
800, rue Burrard, pièce 219
Vancouver
British Columbia
V6Z 0B9
Bid Fax: (604) 775-9381

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise
indicated, all other terms and conditions of the Solicitation
remain the same.

Ce document est par la présente révisé; sauf indication contraire,
les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

**Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution
Public Works and Government Services Canada - Pacific
Region
800 Burrard Street, Room 219
800, rue Burrard, pièce 219
Vancouver
British C
V6Z 0B9

Title - Sujet Keogh River Bridge Replacement	
Solicitation No. - N° de l'invitation EZ899-220114/A	Amendment No. - N° modif. 004
Client Reference No. - N° de référence du client	Date 2021-07-22
GETS Reference No. - N° de référence de SEAG PW-\$PWY-020-9011	
File No. - N° de dossier PWY-1-44030 (020)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Pacific Daylight Saving Time PDT on - le 2021-07-27 Heure Avancée du Pacifique HAP	
F.O.B. - F.A.B.	
Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Ly, Ronny(PWY)	Buyer Id - Id de l'acheteur pwy020
Telephone No. - N° de téléphone (604) 318-5750 ()	FAX No. - N° de FAX (604) 775-6633
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: PWGSC - Keogh River - Port Hardy, BC	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Solicitation No. - N° de l'invitation
EZ899-220114/A

Amd. No. - N° de la modif.
004

Buyer ID - Id de l'acheteur
pwy020

Client Ref. No. - N° de réf. du client

File No. - N° du dossier

CCC No./N° CCC - FMS No./N° VME

Les documents français seront disponibles sur demande

This Amendment 004 is raised to issue Addendum 004.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

PSPC

Bridge Replacement Keogh River Bridge
Port Hardy, British Columbia.
Project No. R.109401.001

ADDENDUM 004

Page 1 of 1

The following changes in the tender documents are effective immediately. This addendum will form part of the Contract documents.

Clarification to Bidders

- Delete in its entirety Specification Section 01 35 43 Environmental Procedures and replace with the revised Specification Section 01 35 43 Environmental Procedures attached to this amendment;

LIST OF REVISED SPECIFICATIONS

Section 01 35 43 Environmental Procedures

LIST OF REVISED DRAWINGS

Drawing Number	Drawing Title	Revision

LIST OF REVISED APPENDICES

Appendix F: Fish Habitat Assessment Report

Appendix G: Construction Environmental Management Plan

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDED

- .2 Related Sections
- .3 Definitions
- .4 Measurement Procedures
- .5 Regulatory Overview
- .6 Submittals
- .7 Site Access and Parking
- .8 Protection of Work Limits
- .9 Erosion Control
- .10 Pollution Control
- .11 Equipment Maintenance, Fueling and Operation
- .12 Invasive Plant Management
- .13 Fire Prevention and Control
- .14 Fish and Wildlife
- .15 Archaeological Resources
- .16 Waste Materials Storage and Removal
- .17 Wastewater Discharge Criteria
- .18 Surface Water Quality Management
- .19 Site Clearing and Vegetation Protection
- .20 Environmental Protection Supplies
- .21 Notification
- .22 Environmental Monitoring

1.2 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures
- .2 Section 02 61 33 - Hazardous Waste Materials
- .3 Section 31 00 99 - Earthworks for Minor Works

1.3 DEFINITIONS

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and prevention of habitat and/or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- .3 Environmental Protection Plan (EPP): is prepared by Contractor and describes in writing all the environmental protection and mitigation measures that will be applied throughout the life of the Project by the Contractor to avoid or

minimize the potential effects on the environment associated with the Project. The Environmental Protection Plan must be completed by a P.Bio or RPBio.

- .4 Construction Environmental Management Plan (CEMP): is provided by the Departmental Representative for the project and provides a comprehensive overview of environmental management objectives and requirements, inclusive of the protection of surface water, soil, wildlife, fish and other receptors as a result of construction activities. Moreover, the CEMP includes provisions for Erosion & Sediment Control (ESC), and spill prevention. The CEMP was prepared to provide guidance to the Contractor in preparation of the EPP.
- .5 Wetted Perimeter: area of stream where water is currently running or pooled.
- .6 In-stream Work: any work performed below the high-water mark, either within or above the Wetted Perimeter of any Fisheries Sensitive Zone.
- .7 Fisheries Sensitive Zone: in-stream aquatic habitats and out of stream habitat features such as side channels, wetlands, and riparian areas.
- .8 Invasive plants: are any alien plant species that have the potential to pose undesirable or detrimental impacts on humans, animals or ecosystems. Invasive plants have the capacity to establish quickly and easily on both disturbed and un-disturbed sites, and can cause widespread negative economic, social and environmental impacts.
- .9 Noxious weeds: are invasive plants that have been designated under the *BC Weed Control Act*. This legislation imposes a duty on all land occupiers to control a set list of identified invasive plants. See www.agf.gov.bc.ca/cropprot/noxious.htm.
- .10 Riparian area - for a stream, the 30m strip on both sides of the stream, measured from the high water mark, (b) for a ravine less than 60 m wide, a strip on both sides of the stream measured from the high water mark to a point that is 30 m beyond the top of the ravine bank, and for a ravine 60 m wide or greater, a strip on both sides of the stream measured from the high water mark to a point that is 10 m beyond the top of the ravine bank (Riparian Areas Regulation).
- .11 Species at risk: a species that has been defined as "at risk" [of extirpation] by either the federal or provincial government.
- .12 Timing windows: periods when human activities are least likely to cause damage to species and ecosystems.
- .13 Qualified Environmental Professional (QEP): The QEP must be acting under their professional association's code of ethics and subject to the organization's disciplinary action. QEPs may hold the following designations: Agrologist (P.Ag), Applied technologist or technician, Professional biologist (RPBio; P.Bio), Professional engineer (P.Eng), Professional forester (RPF), Professional geoscientist (P.Geo) or Registered forest technologist (RPT).

QEPs can conduct assessments as individuals or together with other qualified environmental professionals. They must have an area of expertise that is recognized in the regulation as one that is acceptable for the purpose of providing all or part of an assessment report for the particular development proposal that is being assessed. They will only be considered a QEP for that portion of the assessment that is within their area of expertise, as identified in the regulation.

- .14 Environmental Monitor (EM): The Environmental Monitor shall be retained by the Contractor and must be a QEP and work under the direct supervision of the RPBio, or PBio who completes the Environmental Protection Plan (EPP). The EM shall be on-site for any works occurring below the top-of-bank for the Keogh River or other aquatic features.
- .15 Ancestral Remains: A term used to describe Indigenous human remains, whether intact burials, disarticulated skeletal elements, or fragmentary remains.
- .16 Archaeological Monitor (AM): an individual retained by the Departmental Representative to assess and monitor for the presence/absence of archaeological resources, and recommend and implement mitigations if Chance Finds are encountered.
- .17 Archaeology Awareness Briefing: A site-specific introduction to the archaeological resources of a proposed development area to establish familiarity with the types of archaeologically and historically significant materials that can be expected to be uncovered. This briefing may be accompanied by a review of Chance Find Procedures and other relevant heritage protocols or requirements.
- .18 Archaeology Feature: Non-portable archaeological or historic remains such as a fire hearth, cache pit, or house post.
- .19 Archaeology Materials - Artifacts, features (e.g., hearths) and associated remains that can be studied by archaeological methods of investigation, including site survey, excavation, and archaeological analytical techniques.
- .20 Archaeology Monitoring: Supervision of ground disturbing activities by an archaeologist to identify, document and generally manage archaeological remains that may be encountered during land alteration activities.
- .21 Organic native sediments: the original surface soils that existed prior to past land disturbing activities.
- .22 Artifact: An object that was manufactured or used by humans in the past.
- .23 Chance Find: Archaeological objects (e.g., stone tools, bones), features or sites that are encountered unexpectedly during a land alteration activity.
- .24 Chance Find Procedure: A process to be followed when suspected archaeological materials are discovered during land alteration activities when an archaeologist is not present. This document will include response procedures and a communication protocol to be developed by the AM and in consultation with the Kwakiutl Nation.

- .25 Culturally Modified Tree (CMT) - A tree that has been altered by Indigenous peoples as part of traditional forest practices. Common examples in coastal regions include bark-stripped trees, felled trees or stumps, and trees with planks removed.

1.4 MEASUREMENT PROCEDURES

- .1 Preparation and implementation of the Environmental Protection Plan (EPP) in accordance with this Section 01 35 43 - Environmental Protection will not be measured separately for payment and will be considered incidental to work.

1.5 REGULATORY OVERVIEW

- .1 Comply with all applicable environmental laws, regulations and requirements of Federal, Provincial, and other regional authorities, and acquire and comply with such permits, approvals and authorizations:
- .2 Comply with and be subject to those permits and approvals obtained from the Departmental Representative to conduct the Work.
- .3 Specific legislation, policies, guidelines include but are not limited to:
- *Impact Assessment Act*
 - *Fisheries Act*
 - *Species at Risk Act*
 - *DFO interim code of practice for temporary stream crossings.*
 - *Regional Terms & Conditions & Timing Windows - Vancouver Island Terms and Conditions and Timing Window*
 - *Migratory Birds Convention Act*
 - BC ENV guidelines in Standards and Best Practices for Instream Works
 - ENV Develop with Care (2014)
 - Best Management Practices for Raptor Conservation during Urban and Rural Land Development in British Columbia (2013)
 - Best Management Practices for Amphibian and Reptile Salvages in BC (2016)
 - Beaver Management Guidelines in BC
 - Interim Code of Practice for Beaver Dam Removal (DFO)
 - Canadian Wildlife Service Songbird Nesting Survey Protocol
 - Best Management Practices for Pile Driving and Related Operations - BC Marine and Pile Driving Contractors Association 2003.
- .4 Where in-water work is conducted, adhere to the most current version of the BC Water Quality Guidelines.
- .5 Comply with the BC *Heritage Conservation Act* and the Archaeological Impact Assessment Guidelines, BC Archaeology Branch.
- .6 Where suspected contaminated soil is identified, adhere to applicable guidelines set forth in the Canadian Council of Ministers of the Environment (CCME) and the Contaminated Site Regulations (CSR).

1.6 SUBMITTALS

.1 The Contractor is required to prepare an Environmental Protection Plan (EPP) in accordance with Section 01 33 00 - Submittal Procedures. The EPP shall include all relevant environmental impacts/issues at the site as indicated by the completion of the EPP Checklist. Prior to commencing construction activities or delivery of materials to site, submit the EPP (See Appendices for Checklist) for review and approval by the Departmental Representative. The EPP will require the Contractor to carefully think through the entire project, including identifying what activities as works will be occurring, both generally and at specific sites, and by what methods. The Environmental Protection Plan shall be completed by a RPBio or P.Bio, and shall, at a minimum include the following:

1. The specifics of a detailed environmental monitoring program as a component of the EPP. This includes details and rationale concerning water quality sampling locations, timing, duration, and methods, and identification of the person(s) who will be carrying out the monitoring program.
2. The process and protocol for ensuring that supervisors and individual staff employed by the Contractor are very clear on which environmental standards need to be achieved, how they will be achieved, and establishing how the Contractor will ensure that this is successfully occurring.
3. Erosion, drainage, and sediment control plan which identifies type and location of erosion and sediment controls to be provided to ensure that control measures are in compliance with the requirements of the applicable regulatory requirements and all other applicable regulations including the requirements of these specifications.
4. Drawings shall show locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, lay down area(s), structures, sanitary facilities, and stockpiles of any excess or spoil materials including methods to control runoff and to contain materials on-site.
5. Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.
6. Spill Control Plan: including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
7. Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
8. Outline the avoidance and mitigation measures which the Contractor will undertake and implement to ensure compliance with the environmental

regulations applicable to the project, inclusive of project-specific regulatory requirements and these contract specifications.

9. The procedures for stopping the work and implementing changes to the construction methods shall the Contractor not be achieving the environmental requirements as outlined in these specifications.

10. The procedures for stopping work shall the Contractor encounter archaeological materials or ancestral remains based on Chance Find Procedure prepared by Archeological Monitor retained by the Departmental Representative.

- .2 All submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.7 SITE ACCESS AND PARKING

- . 1 The Contractor shall review both short and long-term access requirements with the Departmental Representative, both at the start-up and on an on-going basis. Given the limited work area and vehicle parking constraints in proximity to the site, the Contractor shall, in consultation with the Departmental Representative, formulate an agreement for worker transportation to and from the work site and where workers shall park their private vehicles. Generally, personal vehicles shall be parked at least 15 meters distance from any watercourse.
- .2 The Contractor shall ensure that the environment beyond the work limits is not negatively impacted or damaged by workers' vehicles or construction machinery and shall instruct workers so that the "footprint" of the project is kept within defined boundaries.

1.8 PROTECTION OF WORK LIMITS

- .1 The Contractor shall include in the Environmental Protection Plan (EPP) details on the work limits, how these shall be demarcated and what procedures will be implemented to ensure trespass outside these limits does not occur, to the satisfaction of the Departmental Representative. Wildlife exclusion measures may be required, contingent on discussions with the Departmental Representative, to prevent sensitive wildlife from actively entering the work area. Prior to the onset of work in the laydown area and at the bridge site, the Contractor's EM must conduct pre-work sweeps for wildlife and wildlife salvages until the work areas have been cleared of vegetation and prepared for construction. Refer to Section 1.14.4 for additional salvage-related details.

1.9 EROSION CONTROL

- .1 Erosion control measures that prevent sediment from entering any drainage feature, water body or wetland in the vicinity of the bridge construction site and laydown area are a critical element of the project and shall be implemented by the Contractor.
- .2 All applicable on-site sediment control measures shall be constructed and functional prior to initiating construction-related activities. The Contractor's RPBio or PBio shall prepare an Erosion & Sediment Control Plan

(ESC), to be part of the EPP, to the satisfaction of the Departmental Representative (as per section 1.18.4).

- .3 The regular maintenance of all erosion control measures shall be the responsibility of the Contractor. The Contractor's EM is responsible for ESC monitoring and recommendations. The Departmental Representative will provide Environmental Monitoring oversight and liaise with the Contractor's EM. ESC recommendations are to be promptly followed to ensure no potential adverse impacts to any drainage features, water bodies or wetlands. If the design of the control measures is not functioning effectively they are to be replaced. The Departmental Representative will monitor the Contractor's erosion control performance.
- .4 Erosion control measures must be in compliance with both Federal and Provincial legislation and applicable Best Management Practices (BMPs).

1.10 POLLUTION CONTROL

- .1 The Contractor shall prevent any deleterious and objectionable materials from entering streams, rivers, wetlands, water bodies or watercourses that would result in damage to aquatic and riparian habitat. Hazardous or toxic products shall be stored no closer than 100 meters to any surface water and be situated in flat areas graded away from sensitive habitats.
- .2 A Spill Response Plan will be prepared as part of the EPP and shall detail the containment and storage, security, handling, use and disposal of empty containers, surplus product or waste generated in the application of these products, to the satisfaction of the Departmental Representative, and in accordance with all applicable federal and provincial legislation. The EPP shall include a list of products and materials to be used or brought to the construction site that are considered or defined as hazardous or toxic to the environment. Such products include, but are not limited to, waterproofing agents, grout, cement, concrete finishing agents, hot poured rubber membrane materials, asphalt cement and sand blasting agents.
- .3 The containment, storage, security, handling, use, unique spill response requirements and disposal of empty containers, surplus product or waste generated in the use of any hazardous or toxic products shall be in accordance with all applicable federal and provincial legislation. Hazardous products shall be stored no closer than 30 meters from any surface water, graded away from sensitive habitats in a lockable container to avoid vandalism or theft.
- .4 Secondary containment or an impervious berm shall be utilized for storage of any fuel and/or oil products as well as any materials included in the Schedule of the BC Spill Reporting Regulation B.C. Reg. 187/2017. Storage volume shall be capable of holding 110% of stored material volume and shall be to the satisfaction of the Departmental Representative. Measures such as collection/drip trays and berms lined with occlusive material such as plastic and a layer of sand, and double lined fuel tanks can prevent spills into the environment.
- .5 The Contractor shall prevent blowing dust and debris by covering and/or providing dust control for temporary roads and on-site work such as rock

drilling and blasting by methods that are approved by the Departmental Representative.

- .6 The Contractor shall provide spill kits, inclusive of oil booms, spill pads (oil) and spill pads (general - inclusive of coolant), to the satisfaction of the Departmental Representative, at re-fuelling, lubrication and repair locations that will be capable of dealing with 110% of the largest potential spill and shall be maintained in good working order on the construction site. The Contractor and site staff shall be informed of the location of the spill response kit(s) and be trained in its use.
- .7 Timely and effective actions shall be taken to stop, contain and clean-up all spills as long as the site is safe to enter. The Departmental Representative shall be notified immediately of any spill as well as the provincial authorities. Basic instructions and phone numbers shall be part of the Contractor's EPP.
- .8 In the event of a major spill, the Contractor shall prioritize the cleanup and all other work shall be stopped, where appropriate, and personnel devoted to spill containment and clean up.
- .9 Any incident and associated remediation (control, clean up, disposal of contaminants, and site remediation to pre-spill conditions), shall be the responsibility of the Contractor. The site will be inspected to ensure completion to the pre-spill condition to the satisfaction of the Departmental Representative and all relevant inspection agencies (ENV/DFO authorities).

1.11 EQUIPMENT MAINTENANCE, FUELING AND OPERATION

- .1 The Contractor shall ensure that equipment delivered to the site is free of all soil, seeds and any debris (e.g. power washing, wheel wash etc.) prior to delivery to the work site.
- .2 Equipment fuelling sites shall be identified in the EPP. Except for chain saws, any fuelling closer than 30 meters to any surface water (streams, wetlands, water bodies or watercourses) shall be approved by the Departmental Representative.
- .3 Diesel and gasoline delivery vehicles, including bulk tankers shall be parked more than 30 meters from any surface water. Gravity fed fuel systems are not allowed. Manual or electric pump delivery systems shall be used. Fuelling personnel shall maintain a presence during all fueling with immediate attention to the fuelling operations.
- .4 Mobile fuel containers (e.g. slip tanks, small fuel carboys) shall remain in the service vehicle at all times. Protection and containment of approved fuel storage sites is addressed in 1.10.4 of Pollution Control.
- .5 Equipment use on the project shall be fuelled with E10, and low sulphur diesel fuels where available, and shall conform to local emission requirements. The Contractor shall ensure that unnecessary idling of the vehicles is avoided.
- .6 Oil changes, lubricant changes, greasing and machinery repairs shall be performed at designated lay-down / maintenance locations satisfactory to the Departmental Representative. Waste lubrication product (e.g. oil filters, used containers, used oil, etc.) shall be secured in spill-proof containers and

properly recycled or disposed of at an approved facility, No waste petroleum, lubricant products or related materials are to be discarded, buried or disposed of in borrow pits, turnouts, picnic areas, viewpoints, etc. or anywhere within the work area.

- .7 The Contractor shall ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good working condition. Equipment left on-Site overnight shall be equipped with a drip tray
- .8 Fuel containers and lubricant products shall be stored only in secure locations to the satisfaction of the Departmental Representative. Fuel tanks or other potential deleterious substance containers shall be secured to ensure they are tamperproof and cannot be drained by vandals when left overnight. Alternatively, the Contractor may hire a security person employed to prevent vandalism
- .9 For equipment working at or within 10 m of the top-of-bank of a drainage feature, waterbody, or wetland, hydraulic oil is to be an environmentally friendly hydraulic oil, or Departmental Representative approved alternative, given the sensitivity of the work area and potential for impact as a result of a hydraulic line break.
- .10 Equipment movements shall be restricted to the approved, designated "footprint" of the active construction area. The work limits shall be identified per the methods outlined in Section 1.9 to the satisfaction of the Departmental Representative. No machinery will enter, work in or cross over drainage features, rivers, wetlands, water bodies or watercourses, nor damage aquatic and riparian habitat or trees and plant communities. Where construction activities require working close to surface water, the Contractor is required to describe measures to be employed to ensure fugitive materials (e.g. rocks, soil, branches) and especially deleterious substances (e.g. chemicals) does not enter any surface water areas.
- .11 No pushing, placement, raveling, storage or stockpiling of any materials (e.g. slash, rock, fill or top soils) in the trees bordering the right-of-way or into surface water.
- .12 When, in the opinion of the Departmental Representative has identified negligence on the part of the Contractor resulting in damage or destruction of vegetation, or other environmental or aesthetic features beyond the designated work area, the Contractor shall be responsible, for complete restoration including the replacement of trees, shrubs, topsoil, grass, etc. to the satisfaction of the Departmental Representative.
- .13 Restrict vehicle movements to the established work limits.
- .14 Workers vehicles are to remain within the designated work limits.

1.12 Invasive Plant Management

- .1 Keep equipment clean and avoid parking, turning around or staging equipment in known invasive species infested areas.
- .2 Wash equipment prior to mobilization to site.

- .3 Minimize unnecessary disturbance of roadside aggregates or soil, and retain desirable roadside vegetation whenever possible.
- .4 Use only clean fill material from an "invasive plant free" source approved by the Departmental Representative.
- .5 Disturbed areas and prospective restoration areas are to be re-vegetated with culturally and regionally appropriate native vegetation as approved by the Departmental Representative. Restoration will include placement of soil into the interstitial voids/spaces of the rip-rapped areas on each side of the bridge coupled with pocket planting at an averaging spacing of 1 plant per 1 m².

1.13 FIRE PREVENTION AND CONTROL

- .1 A fire extinguisher shall be carried and available for use on each machine and at locations within the project footprint in the event of fire. Appropriate firefighting equipment to the satisfaction of the Departmental Representative shall be maintained at the construction site at a location known and easily accessible to all Contractors' staff. Contactor's staff shall receive basic training in early response to wildfire events during the "environmental briefing".
- .2 Construction equipment shall be operated in a manner and with all original manufacturers' safety devices to prevent ignition of flammable materials in the area.
- .3 Care shall be taken while smoking on the construction site to ensure that the accidental ignition of any flammable material is prevented. An area, sufficiently away from any flammable materials, shall be designated as the smoking area.
- .4 In case of fire, the Contractor or worker shall take immediate action to extinguish the fire provided it is safe to do so. The Departmental Representative shall be notified of any fire immediately as well as the applicable Provincial Authorities. Basic instruction and phone numbers will be provided on-site by the Contractor and will be discussed in the project start-up meeting.
- .5 Fires or burning of waste materials is not permitted.
- .6 Where fires or burning is permitted, prevent staining or smoke damage to structures, materials or vegetation which is to be preserved. Restore, clean and return to new condition stained or damaged Work.
- .7 Provide supervision, attendance and fire protection measures as directed. Obtain all required permits from the province

1.14 FISH AND WILDLIFE

- .1 The reduced risk window for Vancouver Island, inclusive of the site, is June 15th to September 15th. Instream / in-water works may occur outside of this window contingent on Departmental Representative approval. Supplementary mitigation measures for all instream works will be required, such as, additional isolation of the active work areas, regular checks for fish within the active work area, and supplementary salvages, as well as strict adherence to turbidity criteria(per Section 1.18).

- .2 Any instream / in-water work and works at or below the top-of-bank of watercourse / drainage feature are to be monitored full-time by the contractor's EM. The area is to be isolated via a method deemed suitable by the contractor and approved by the Departmental Representative. Prior to the onset of instream / in-water works, the Contractor's EM will coordinate and conduct timing for a fish salvage in consultation with the Departmental Representative. The salvage shall be conducted by the Contractor's EM and is to be undertaken with a minimum of two methods implemented - hand netting, seining, minnow/gee-trapping, and electrofishing.
- .3 Any vegetation clearing within nesting zone A1 (01 April to 15 August) will require a bird nest survey(s) by the Contractor's EM prior to the onset of works to ensure no impacts to nesting birds.
- .4 Any vegetation clearing within 15 m of a watercourse will require a wildlife salvage. The wildlife salvage will be conducted (contingent on site-specific conditions, work schedule and discussions with the Departmental Representative) prior to vegetation clearing and rip-rap placement in the laydown area and work areas between the high water mark and top-of-bank given the noted amphibian and/or reptile presence in the vicinity of the works.
- .5 Avoid or terminate activities on site that attract or disturb wildlife and vacate the area and stay away from bears, cougars, wolves, deer or elk, that display aggressive behavior or persistent intrusion.
- .6 Controls are to be implemented and maintained to prevent attraction of wildlife to the work area. All garbage / refuse must be placed in appropriate containers and closed when not in use with wildlife tamper-proof lids. Left-over food is not to be left out at any time over the duration of construction.
- .7 Notify the Departmental Representative immediately about dens, litters, nests. Carcasses (road kills), bear activity or encounters on or around the site or crew accommodations. Other wildlife related encounters are to be reported within 24 hours to the Departmental Representative.
- .8 Effectively manage Beaver activity within the vicinity of the work area and develop a strategy, as required, to minimize impact to this species;
- .9 Follow appropriate practices for beaver management including the DFO Interim Code of Practice for Beaver Dam Removal and coordinate with agencies in consultation with Transport Canada and PSPC for beaver trapping / relocation, if required;
- .10 During pile driving works, visual and hydrophone monitoring of the impact on fish by soundwaves emitted will be required initially to ensure that the sound pressure threshold of 30 kPa is not exceeded. If sound pressures over 30 kPa is measured, the contractor will introduce effective means of reducing the level of the shock waves including timing, frequency, duration, completing works when fish are not present in the active work area, or other mitigation measures such as bubble curtains.

1.15 ARCHAEOLOGICAL RESOURCES

- .1 Archaeological Protection

.1 Archaeological sites in B.C. are investigated and protected for their historical, cultural, scientific and educational value to the general public, local communities and Indigenous groups.

.2 Ensuring adequate management of archaeological resources consists of preventing, reducing or mitigating impacts to archeological sites and materials.

.3 All historical or archaeological artifacts found on the Project site are protected under Federal and Provincial Acts and regulations. The Contractor and workers shall protect any archaeological materials found and request direction from the Departmental Representative (DR) and Archaeological Monitor(s)(AM).

.4 Due to the sensitivity of the archaeological resources, information regarding archaeological sites, materials, artifacts, and locations is confidential. No photographs or information about archaeological sites and/or materials will be made public or shared on social media platforms by the contractor or sub-contractors.

.2 General

.1 A cultural resource protection section is to be included in the Contractor's EPP.

.2 For all persons working for the contractor and subcontractors, cultural resource awareness training shall be a component of the initial contractor orientations and of the daily tailgate meetings. This will include training on the Chance Find Procedures.

.3 The Departmental Representative's Archaeological Monitor will have the authority to stop work in regards to archaeological requirements.

.4 Contractor will provide timely scheduling information to the Departmental Representative (5 working days minimum notice) to enable monitoring coordination.

.5 The Contractor and workers shall stop work and protect any artifacts and/or features found by chance and request immediate direction from the Departmental Representative and Archaeological Monitor before proceeding with their work. No archaeological or historical artifacts shall be intentionally moved.

.3 Archaeological Monitoring

.1 The Archaeological Monitor must be present during any construction activities that disturb or remove organic native sediments to record and collect any observed archaeological materials. This includes any earthworks, such as excavation, removal of abutments, density testing, test-pitting / exploratory work, and pile driving / sheet piling.

.2 The Departmental Representative and Archaeological Monitor will conduct a walk-through of the project area ahead of any ground disturbance

with the successful contractor to discuss the best approach for construction. Archaeological concerns will be identified.

.3 Method of excavation shall be coordinated with the Departmental Representative.

.4 All excavated organic native sediments shall be handled as per the direction of the Archaeological Monitor. The training program includes a review of this procedure.

.5 Excavation will be conducted under the direction of the Archaeological Monitor. Prior to ground disturbance, the ground surface will be inspected by the Archaeological Monitor for cultural deposits or features. The ground alteration activities will be inspected while in progress. If sediments with potential for archaeological deposits are to be excavated, then a sample of those sediments will be visually examined for cultural deposits. The size of the sample of sediments to be inspected through raking and/or screening will be determined in the field by the Archaeological Monitor. The Archaeological Monitor may request excavation in 10 cm lifts where cultural materials are anticipated.

.6 Archaeological deposits identified during monitoring will be documented, photographed, and georeferenced in the field by the Archaeological Monitor.

.7 Contractor shall coordinate and permit the Archaeological Monitor time to monitor the excavated material.

.8 The most common chance finds site types which may be encountered are:

1. Pre-Contact Archaeological Sites - These sites can include artifact scatters, shell middens, shell-less middens, rock art, culturally modified trees (CMTs), organic materials;
2. Found or suspected human remains;
3. Historical Sites - These sites can include historical artifacts and structures, and historical refuse such as crockery, metal and glassware indicating presence of historical camp sites, cabins, temporary shelters, or sites associated with early logging and mining

.4 Chance Find Procedures

.1 If potential cultural deposits, artifacts, human remains or suspected human remains, or features are identified while the Archaeological Monitor is not present, the following procedures should be immediately implemented:

1. STOP ground disturbance WORK immediately that could cause additional damage to cultural deposits and retain potentially cultural sediments on-site so it may be inspected by the Archaeological Monitor;
2. Immediately inform Departmental Representative and Archaeological Monitor;
3. Record location of the find:
 - a. Date (when the find was encountered);

- b. Observer (name of the person recording information about the find);
 - c. Location of Find (Labelled flagging so that it may be relocated, GPS coordinates if possible);
 - d. Type of find (e.g., archaeological, historical, suspected human remains);
 - e. Description of the obvious disturbance to the find (by equipment, work, erosion etc.); and
 - f. Photograph of find, with scale in photograph if possible. In the case of suspected human remains photographs are only be permitted to be taken by the Archaeological Monitor or Departmental Representative for the purpose of confirming if the remains are human, and document and maintain chain of custody.
- .2 Be prepared to initiate work at another location under direction of the Departmental Representative while archaeological testing and/or mitigation is conducted. Work may only continue in the location of the Chance Find under the direction of the Departmental Representative.
- .3 In the event that a chance find is confirmed to be of found human remains, local law enforcement police will be informed by the Departmental Representative. The human remains must be accorded full dignity and respect by prohibiting public access and photography. A cover will be placed over any exposed bones with plastic sheeting, blanket, or other clean covering (not back fill). If the affected location is busy or has high public visibility, a delegate of the contractor will be assigned to stand watch and secure the location until the Departmental Representative is able to have a representative of the Owner relieve the contractor employee. The secured watch will continue until the Archaeological Monitor and local policing authorities are on site.

1.16 WASTE MATERIALS STORAGE AND REMOVAL

- .1 The Contractor and workers shall manage, handle, store, and dispose of hazardous wastes in conformance with the applicable federal and provincial regulations and shall be part of the EPP.
- .2 Sampling and analysis of the existing bridge paint have confirmed the presence of lead at an average concentration of 33,000 mg/kg (dry weight). Appropriate management and disposal of the lead paint is required. No sandblasting or removal of paint from the existing bridge is permitted on-site. Contractor is to ensure no material enters the watercourse during the bridge deconstruction and removal. Management and disposal conditions are to be accepted and verified by the Departmental Representative.
- .3 All wastes originating from construction, trade, hazardous and domestic sources, shall not be mixed, but will be kept separate.

- .4 Construction, trade, hazardous waste and domestic waste materials shall not be burned, buried, or discarded at the construction site. These wastes shall be contained and removed in a timely and approved manner by the Contractor and workers, and disposed of at an appropriate waste landfill site located outside the work area.
- .5 A concerted effort shall be made by the Contractor and workers to reduce, reuse and recycle materials where possible.
- .6 Sanitary facilities, such as portable container toilets, shall be provided by the Contractor and maintained in a clean condition, situated at least 30 m from any natural or man-made water feature, including but not limited to drainage swales, ditches, watercourses, ponds and wetlands.

1.17 WASTEWATER DISCHARGE CRITERIA

- .1 Any waste water discharged to the ground will conform to the discharge requirements set out in Section 1.18 and any regulatory documentation obtained for this Project. No turbid water is to be discharged to swales, ditches, wetlands, ponds or watercourses without confirmation that turbidity meets the applicable BC Water Quality guidelines prior to discharge under supervision of the contractor's EM with input from the Departmental Representative. Any suspect contaminated wastewater or groundwater shall be contained and tested for potential contaminants to determine appropriate measures of discharge or removal.
- .2 Contractor must obtain approval from the provincial *Water Sustainability Act* Officer prior to discharging any treated wastewater or arrange for appropriate off-site disposal.

1.18 SURFACE WATER QUALITY MANAGEMENT

- .1 Do not pump water containing suspended materials into waterways or drainage systems.
- .2 The EM shall conduct water quality (pH & turbidity) monitoring upstream and downstream of the work zone during all instream activities prior to works and during the initial stage of work to ensure water quality conditions, applicable letter/permit(s), if any, and conditions are met. Water quality will also be sampled during routine monitoring events over the duration of works. Active construction-related works will be temporarily halted if the thresholds listed below are exceeded to allow water to clear or until contingency measures are implemented, as follows:
 - 1. Turbidity related water quality change, associated with a Project, in discharge watercourse/waterbody can be no more than 8 Nephelometric Turbidity Units (NTU) above background at any one time for a duration of 24 h in all waters during clear flows or in clear waters.
 - 2. Turbidity related water quality change, associated with a Project, in discharge watercourse/waterbody can be no more than 2 NTUs above background at any one time for a duration of 30 days in all waters during clear flows or in clear waters.
 - 3. Turbidity related water quality change, associated with a Project, in discharge watercourse/waterbody can be no more than 5 NTUs at any

time when background is 8 - 50 NTUs during high flows or in turbid waters.

4. Turbidity related quality change, associated with a Project, in discharge watercourse/waterbody can be no more than 10% when background is >50 NTUs at any time during high flows or in turbid waters.
5. All water must meet applicable water quality guidelines (pH 6.5 to 9.0) prior to discharge to vegetation or watercourses.
- .3 Any in-water / instream work areas shall be isolated via a turbidity barrier serving to maintain turbidity levels outside the isolated active work area within acceptable limits per item 1.18.2. A section detailing site-specific isolation measures is to be included in the EPP.
- .4 Submit an Erosion, Sediment and Drainage Control Plan to Departmental Representative as part of the Environmental Protection Plan. The ESC Plan is to incorporate any work in fisheries sensitive areas or in areas that may affect fisheries sensitive areas and specifically address the protection of water bodies, water courses, and the following:
 - .1 Details of grading Work to prevent surface drainage into or out of Work areas.
 - .2 Details of erosion control works and materials to be used, including the deployment of silt fencing, floating silt curtains and containment booms (if required) during construction and excavation activities.
 - .3 Work Schedule including the sequence and duration of all related Work activities.
 - .4 The treatment of site runoff to prevent siltation of watercourses.
 - .5 Dewatering procedures for excavated materials including silt removal procedures prior to discharge.
 - .6 Stabilizing procedures during excavation.
 - .7 Maintenance of filters and sedimentation traps.
- .5 Any dewatering activities will be released onto the ground at a location that is a minimum of 30 meters from natural drainage courses and 100 meters from fish bearing waters.
- .6 Have on hand sufficient pumping equipment, machinery, and tankage in good working condition for ordinary emergencies, including power outage, and competent workers for operation of pumping equipment.

1.19 SITE CLEARING AND VEGETATION PROTECTION

- .1 Verify trees to be protected during construction and install tree protection fencing around designated Root Protection Zones (RPZs).

- .2 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Restrict tree removal to areas indicated or designated by Departmental Representative.
- .5 Vegetation clearing shall be conducted outside of the least-risk timing window for nesting birds, as per federal Nesting Zone A1. If vegetation clearing occurs within this window (01 April to 15 August), a bird nest survey is to be conducted prior to any clearing works by the Contractor's EM.
- .6 The Contractor shall be aware that BC has culturally modified trees (CMTs) that are protected under the Heritage Act. If a CMT is encountered, stop work immediately and contact the Departmental Representative.

1.20 ENVIRONMENTAL PROTECTION SUPPLIES

- .1 Comply with federal and provincial fisheries and environmental protection legislation, including preventing the loss or destruction of fish habitat, and minimizing the impact of sedimentation, siltation or otherwise causing a degradation in water quality.
- .2 Provide a minimum of 100 m of polypropylene silt fence (typical height of 0.9 m) and prevent sediment transport into water bodies.
- .3 Provide a minimum of 50 spill pads (general spill pads and oil pads), as well as 50 lineal meters or more and as required of 200 mm diameter hydrophobic, sorbent booms. This will be used as necessary to prevent the migration of hydrocarbons.
- .4 Supply, transport, install and maintain erosion, sediment and drainage controls necessary to complete the Work in accordance with the requirements of Departmental Representative.
- .5 At the completion of construction, dispose of used silt fence off-site as non-Hazardous Waste. Dispose of used absorbent boom in accordance with Section 02 61 33 - Hazardous Waste Material.
- .6 Provide inventory of environmental protection supplies prior to mobilization

1.21 NOTIFICATION

- .1 Departmental Representative will notify Contractor in writing of observed non-compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, etc.
- .2 Contractor: after receipt of such notice, shall inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.

- .3 Departmental Representative will issue stop order of Work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.
- .5 Any environmental incidents or non-compliances observed by the contractor's EM or identified by the contractor will be reported to the Departmental Representative immediately.

1.22 ENVIRONMENTAL MONITORING

- .1 The environmental monitor shall be retained by the contractor and shall meet the definition of a QEP per Section 1.3.13 and as detailed in Section 1.3.14. It will be the responsibility of the contractor's EM to keep the Departmental Representative apprised of the work schedule, activities, incidents, and any deviations or changes in the EPP or mitigation strategies.
- .2 The monitoring program must be anticipatory and responsive to construction practices or environmental changes, reflecting the site-specific conditions, level of sensitivity of the receiving environment, potential adverse effects, and level of environmental risk. The EPP shall clearly identify how the contractor's environmental monitoring program will adhere to this approach.
- .3 The environmental monitoring program shall satisfy all regulatory requirements and terms of these specifications. The onus is on the Contractor to monitor and ensure compliance, to identify arising problems, and to subsequently take responsibility and all necessary measures in response to potential environmental incidents and non-compliances.
- .4 The environmental monitor shall attend the site for full-time monitoring during active construction works for all instream works (defined as any works below the top-of-bank of any watercourse or drainage feature or aquatic habitat), and shall attend the site at a minimum of once per week for all other construction activities, scheduled to coincide with those activities with the highest potential for environmental risk.

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not used.

PART 3 - EXECUTION

3.1 Not Used

- .1 Not used.

END OF SECTION

PSPC

ENVIRONMENTAL PROCEDURES

SECTION 01 35 43

KEOGH RIVER BRIDGE

PAGE 19

PROJECT NO. R.109401.001

2021-07-20