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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 Upscheek Tashee Trail Construction	
Solicitation No. - N° de l'invitation 5P437-190013/B	Amendment No. - N° modif. 008
Client Reference No. - N° de référence du client 5P437-190013	Date 2019-04-12
GETS Reference No. - N° de référence de SEAG PW-\$PWY-019-8566	
File No. - N° de dossier PWY-8-41204 (019)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-04-25	
Time Zone Fuseau horaire Pacific Daylight Saving Time PDT	
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: Ngan, Ken (PWY)	Buyer Id - Id de l'acheteur pwy019
Telephone No. - N° de téléphone (604) 671-0219 ()	FAX No. - N° de FAX (604) 775-6633
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Parks Canada (PCA) - Upscheek Tashee Trail - Pacific Rim National Park - Ucluelet, 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
5P437-190013/B
Client Ref. No. - N° de réf. du client

Amd. No. - N° de la modif
008
File No. - N° du dossier
PWY-8-41204

Buyer ID - Id de l'acheteur
PWY019
CCC No./N° CCC - FMS No./N° VME

Les documents français seront disponibles sur demande.

This Solicitation Amendment 008 is raised to incorporate Addendum 6, and the associated revised Unit Price Table.

This Addendum 6 Unit Price Table supersedes any previous versions. Failure to complete and submit this revised Unit Price Table, along with the bid submission will rendered the bid submission NON-COMPLIANT and will be given NO further consideration.

All other terms and conditions remain unchanged.

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

1.0 SPECIFICATION 32 31 14, WOOD FENCES AND RAILINGS:

Delete Clause 2.1.3. due to a shortage of suitable reclaimed timber Parks Canada will not supply these logs. As indicated in the Unit Price Table, the Contractor will supply logs for items 125 and 126.

2.0 PAY ITEM 63A, NEW ITEM: CLEARING PREVIOUSLY FELLED TREES AND BRUSH FROM TRAIL ALIGNMENT:

Pay Item 63A is added to the Unit Price Table and shall be full compensation for all work necessary and incidental to remove the wood and brush debris remaining from a previous contract from the trail alignment and access points. Payment will be made at the Lump Sum Price tendered. A new Unit Price Table is included in this addendum.

3.0 CORRECTION TO ADDENDUM 5, ITEM 7.0, AMPHIBIAN FENCING.

Item 127 and Item 128 are corrected to read Item 128 and Item 129

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4.0 CORRECTION TO ADDENDUM 4, Question 7, SPAWNING GRAVEL.

The percentage of rounded cobble shall be approximately 15% not 5%.

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5.0 QUESTIONS RECEIVED FROM PROSPECTIVE BIDDERS:

1. Question: Are there any restrictions to hours of work / work days per week?

Answer: Hours of work within the park is dawn until dusk except within 500m of Green Point Campground when hours of work shall be limited to 8:00 am until 6:00 pm. Night work using lights is not permitted due to negative effects on wildlife. As per Specification 01 35 00, Clause 1.9.3, lane closures on roads are not permitted on long weekends between May and September. Weekend work is permitted. Additional restrictions on work timing and areas of restrictions are provided in Specification 01 35 43, Environmental Procedures, concerning fisheries windows, bird nesting and breeding windows, and amphibian windows.

2. Question: Please provide a drawing showing existing survey control points within the Park boundaries.

Answer: To provide guidance for bidding purposes the following information is provided. Base survey for the trail was done using lidar rather than a ground survey and no ground points were established. An independent topographic survey for each of the wall and bridge

sites was done using a local 3-dimensional coordinate system which was then converted to approximate NAD 83 Coordinates based on the Lidar at each location. Reference nails were established for each survey. The Contractor and surveyor will be provided with the AutoCAD survey and design drawings and plan of each site along with the reference points set in the field for layout and quantity purposes. The Highway 4 widening and Incinerator Rock parking lot were designed using a topo survey. One monument at the south end of the widening and several property pins towards the north end of the widening were used to tie in the survey. These surveys, and the design drawings in AutoCAD 2016, will be provided to the Contractor. For the remaining sections of trail (about 95% of the length) the trail will be approximately centered within the previous clearing and the surface elevation will generally be raised about 20 cm above the existing ground. The Departmental Representative (DR) will assist with setting a suitable alignment and profile for each segment of the work. Culverts will be placed at the watercourses and low points as shown on drawings and tables with final culvert locations confirmed by the DR and Owners Environmental Monitor (OEM) on site. Amphibian culverts will be located by the DR and OEM. Where survey is needed for quantities a local system can be established. It is expected that the Contractor will have field personnel familiar with surveying and suitable equipment to maintain an accurate record of earthwork and fill quantities for payment purposes and submit notes to the DR on a regular basis. For as-built information the trail alignment, profile, and culvert locations can be established by GPS. A precise detailed record survey will not be required.

3. Question: Regarding Pay Item 67. Section 31 24 13 Requires the contractor to include haul in the scope for Trail Embankment Used on site. However, there are no cross sections, C3D surfaces or other data made available for the contractor to determine where cut locations are in relation to fill locations over the 25km alignment. This makes it impossible to calculate distances / costs associated with this haul. Further, if cut / fill sections are not adjacent and cannot be completed simultaneously (without a haul) then the contractor will have to somehow stockpile this material on site and then load and haul later - once the trail construction has reached a fill location. Please provide estimated haul distance for bid purposes.

Answer: Item 67, "Trail Embankment", will typically require the Contractor to either (1) use good quality excavated material excavated for wall construction as fill within the same wall site or (2) use good quality trail excavation to fill low points that are within 20 metres. If the material needs to be loaded into a truck and transported the trucking costs will be paid as additional work to the contract. Item 69, "Highway Embankment", will mean material excavated and deposited within the Highway 4 widening location (approximately 800m long) and typically require the Contractor to move good quality excavated road-shoulder material to Wall 4 site located within this section of highway widening. If stockpiling excavated material to use at a later date is directed by the DR, the volume of material will be counted and paid twice for the double handling.

4. Question: Section 01 35 44 1.6.5 requires the contractor to make allowances for production delay while working in known CRS areas. Accrued delay must be tracked and if the average exceeds the defines allowance of 2 hours additional payment will be made. Section 01 35

43 1.9.5 required the contractor to make allowances for production delay while removing Stumps and LWD to accommodate amphibian survey / salvage. The document requires an allowance for average delay of 10 minutes per object (to be flagged in advance by the OEM) Please provide a quantity of objects / expected number of delays to ensure a level playing field among all bidders. If this is not possible to do at time of tender, please confirm that if the cumulative delay exceeds an average of 10 minutes then additional payment will be made to cover these unforeseeable costs.

Answer: For work within the Cultural Resource Sites (CRS) The Contractor should allow for bidding purposes that their equipment and personnel excavating the trail through the site will be shut down for 2 hours per day. At the end of each pay period the total number of hours working in CRS sites will be compared to the number of hours shut down at these sites. If the hours shut down exceeds 25% (2 hours out of 8) an additional payment will be made for lost time. The "10 minutes per object" is provided as information only to the Contractor to help in planning this work. For example, enough time for a quick rest break, not enough time for machine maintenance or relocate equipment to work elsewhere.

5. Question: The Envirogrid MSE wall vendor has advised us that based on their experience it is not possible to engineer their wall system with straps running into an EPS backfill. The mechanically stabilized earth wall must be built with an earthen (aggregate) backfill material to achieve an interlock / connection strength within the wall backfill to create internal stability. They do not have a design for a pin / plate system that will achieve this. Please confirm if the design specification will be revised to require a red vesicular basalt as light weigh MSE wall backfill.

Answer: On previous projects we successfully used galvanized 16-gauge gang nails (nail plates) about 75mm X 150mm, sandwiched between the layers of Styrofoam and on a staggered spacing of 1 plate every 0.5 square metres in a pattern that most webs running at 90 degrees to the wall were captured. Light weight basalt is an acceptable alternative to Styrofoam if portion of the granular backfill in the Envirogrid prism is filled with basalt so the overall weight of the wall and backfill is equivalent to the Styrofoam system.

6. Question: Section 32 32 34 Retaining Walls note .8 it gives a guide as to what type of geogrid is to be used in the MSE backfill. Please confirm that this is not intended for the Envirogrid walls as proprietary MSE wall designer will determine strength and type of geogrid to be used with their system.

Answer: The wall supplier shall determine the type of geogrid suitable for their wall system when signing off for the wall design.

7. Question: Section 31 14 13 indicated that excess excavated material contaminated with invasive species would be disposed of at a separate area to be agreed with the OEM at the designated Tofino Airport site. Addendum 1 puts responsibility for obtaining an off-site dump site this disposal on the contractor. Determination of whether material is contaminated or not is at the direction of the DR / OEM as per 31 14 13 1.1.11; 3.4.6 and 34 24 13 3.3.5. It is not possible to determine what the quantity of contaminated

materials for bidding purposes. If a separated owner supplied dump site at the airport is not available, then please define a tender quantity to level the playing field for all bidders.

Answer: All surplus organic materials in pay items 65 and will be disposed of at the Tofino Airport. If the Contractor is directed to dispose of this material elsewhere outside the Park, additional costs will be covered by change order.

8. Question: Section 31 05 16 provides a gradation for Pit Run (100mm;200mm;300mm). The only reference we can find to pit run material is in the wall drawings as backfill. Addendum 2 Q&A 4 States that item 99 will be used to pay for backfill. Please advise if / where Pit Run material is to be used on the project.

Answer: There are fill areas shown in the W series of drawings (W-2 and W-3) that do not have walls, only fill. Pit run will be used to build up the se areas.

9. Question: Wall drawing W-12.1 requires the relocation of a maintenance hydrant. Please advise on the scope of work involved in this relocation – ie. hot tap required or is this an extension off an existing tee on the main; existing materials; type of hydrant; requirements for taking out of service; locations and elevations.

Answer: This service hydrant is on the new HDPE water line constructed in 2016. It is expected that only a riser section will be needed to adjust this hydrant, but the final height of adjustment and brand was unknown at time of tender. This work will be covered by change order to eliminate this unknown from the tender process.

10. Question: Addendum 4 Q&A 4 did not completely resolve the question. The typical drawing W12.6 seems to indicate a transverse perf drain ONLY running from the inside of the wall backfill and daylighting outside the wall. Please advise if there is a requirement for a longitudinal perf drain running the length of the wall. Also – please provide a typical section for the drain rock surround.

Answer: The retaining wall sub-drain system shall consist of 100mm diam. Perforated PVC pipe running parallel to the wall for its full length, placed at the back of the fill material, with clean outs (capped 100mm PVC pipe and 45-degree bend) daylighting at the surface at both ends. A drain pipe, 90 degrees to the wall, shall be placed at the low end of the subdrain. Sub-drain pipes shall be wrapped in a sock meeting ASTM D6707 (Standard Specification for circular-knit geotextile for use in subsurface drainage applications.) Coarse drain rock (specification 31 05 16, Clause 2.1) 25mm max. diameter, shall surround the sub-drain pipes with a minimum of 150mm cover on the top and both sides and 50mm drain rock bedding. The sub-drain system shall be included in the price of the walls. Small walls such as stacked stone walls, headwalls for the box culverts, and walls under 0.9 m in height will not require a sub-drainage system.

11. Question: We count 21 permanent access roads depicted on the Trail drawings. In the Specifications 01-11-00 General Instructions, 1.12.4.1 (page 6 of 20) states: "Thirteen of the temporary access points required by the Contractor shall be permanent and shall be

left in place". Can the number of permanent access points be confirmed, and a list of locations be provided?

Answer: On the trail paralleling Highway 4 there are 12 permanent access roads to be built to the details shown on Sheet D-10 and located as follows:

- 1 H20+270 (Bomber Trail)
- 2 H14+341 (South end Long Beach parking lot)
- 3 H13+215 (Bottom of escarpment, mid point of Long Beach)
- 4 H11+650 (Opposite Park Administration Building)
- 5 H10+200 (Near High Point water reservoir)
- 6 H8+891 (Old Combers Beach Road)
- 7 H6+820 (600 m south of road to landfill)
- 8 H5+880 (1100 m north of road to lagoon)
- 9 H2+560 (Old Goldmine Trail road)
- 10 H2+100 (450 m south of Old Goldmine road)
- 11 H1+530 (North side of Lost Shoe Creek)
- 12 H 0+670 (670 m north of park boundary)

There are many other access points along Highway 4 where the trail intersects with an existing road and will be permanent but are built as part of the trail and use bike baffles rather than a 5 m steel gate for vehicle access control.

On Wick Road there are no access points built to the details shown on Sheet D-10. All the access points that will remain after construction is where the trail crosses a road, or a side trail is constructed. Pay item 53 (5 m wide access gate) provides for 13 gates. This one spare gate will be used to allow for another access point to be added during construction or turned over to Parks as a "spare".

12. Question: Could you confirm that the below listed Lock+Load system (with STAINLESS steel connection) could be used as alternative system to the Lock Block wall, Allan Block wall and the Envirogrid Wall please?

Answer: The Lock+Load wall system is an acceptable alternative to both Lock Block and Allan block walls. Parks Canada prefers a wall that will support vegetation growth on the face where the Envirogrid walls are proposed.

13. Question: Please advise who the successful tenderer is for the environmental monitoring aspect of the Upsheek Trail construction.

Answer: The tender for the Owner's environmental monitor is currently in the evaluation stage. Contract award is expected by the end of April and the results will be posted on buyandsell.

14. Question: Please confirm that the contractor is required to complete additional geotechnical drilling and soil logs at Bridge #3 and Bridge #20 as per construction note 10.4 on drawing S1.2. Which pay item should these costs be carried in?

Answer: This additional testing is required to ensure adequate foundation support at these two bridge locations. The cost for this work shall be included in Pay Item 34 for bridge 3 and Pay Item 36 for bridge 20 which are lump sum items related to the bridge piling.

15. Question: Section 31 11 00 Clearing and Grubbing, section 1.2.5 states "Clearing of felled trees, timber, brush and other organics left on the trail alignment by the clearing contractor shall be included in the cost of the trail work soil stripping." Please confirm which pay item number these costs are expected to be carried in.

Answer: The costs associated with the above shall be included in new pay item 63A. This lump sum price shall include costs related to clearing felled trees, timber, and brush remaining on the trail alignment cleared under the previous contract. Also see 2.0 of this addendum.

16. Question: Please advise how or what the designer based their volume calculations on. Without a CAD or design file, how are bidders expected to verify volume calculations for this project?

Answer: To minimize impacts to the Park environment the final trail alignment within the clearing and the final trail profile will be adjusted during construction based on organic soil thicknesses, subgrade condition, large root elevations, chance encounters with archeological finds and similar conditions. To reduce over-compaction of the subgrade, damage tree roots, and impact existing sub-surface drainage it is desirable to minimize the number of truck loads of construction and excavation materials hauled on the trail alignment the final profile will be field adjusted to minimize impacts while providing sufficient strength to support construction equipment. Due to this, accurate cross sections for quantity purposes are not producible. Earthwork quantities and organic materials were calculated using the total trail length (26 km) X trail width (5.2 for grubbing, 4.0 for excavations and fills) X depth (various depending upon wetlands, clay areas, and silty sand areas). Approximately 7.5 % of the material was designated for Cultural Resource Site handling and a percentage designated for re-use.

17. Question: Pay Item #65 – Please confirm that all excavated fill to be disposed at Tofino Airport?

Answer: Confirmed.

18. Question: Pay Item #66 - Please confirm that all excavated fill to be disposed at contractor supplied dump site.

Answer: Confirmed.

19. Question: Pay Item #67 – Please confirm that this item is to include excavation, hauling and replacing fill. Please confirm where material (how far) is being hauled. Or is this for immediate reuse (little to no hauling)?

Answer: See answer to question 3 of this addendum. This material will be used in the immediate area of excavation.

20. Question: Pay Item #68 - Please confirm that all excavated fill to be disposed at contractor supplied dump site.

Answer: Confirmed.

21. Question: Pay Item #69 – Please confirm that this item is to include excavation, hauling and replacing fill. Please confirm where material (how far) is being hauled. Or is this for immediate reuse (little to no hauling)?

Answer: See answer to question 3 of this addendum. Highway embankment will be placed within a few hundred metres of its excavation.

22. Question: The unit price table indicates the log rails are supplied and installed by the contractor. Specification section 32 31 14 Part 2.1.3 indicates that 210 pieces will be supplied by PCA. Drawing T-49.1, Note 4 states “TIMBER TO BE MILLED BY PARKS CANADA FROM WESTERN RED CEDAR LOGS SALVAGED IN PACIFIC RIM NATIONAL PARK” As per note 4, the wood is to be salvaged and milled from wood in a national park, that considered, is it the intent that PCA will provide all wood necessary for the construction of the 600mm and 900mm Log Rail Fence? Please clarify the contractor’s scope of supply?

Answer: Due to a shortage of correct size materials the Parks is unable to supply the 210 pieces of this material, the Contractor will supply wood for Pay Items 125, 126, 128, and 129.

23. Question: We request that the tender closing date be extended to April 25, 2019.

Answer: Parks Canada extends the Closing date to April 25, 2019.

24. Question: We request the following geotextile products be accepted as “or equal” materials.

- Texel 060C equal to Nilex 4551 or Geotex 601
- Texel 045C equal to Nilex 4550 or Geotex 401
- TBX2500 and Secugrid 2020 equal to Tensar Bx1200
- Naue Combigrd 20/20 equal to Tensar Bx1200
- C32BD equal to Layfield EB-2C (NN)
- Hydraflex H40B Black and Envirogrid 1mm HDPE Root Barrier equal to 40mil Black root barrier
- Huesker Fortrac 80T equal to Stratagrid SG350

Answer: The above products are all acceptable alternatives.

25. Question: The Q&A #4 in Addendum 5 did not answer correctly. We asked 680x1800mm rail on W-beam, NOT 680x2400mm rail on barrier.

Answer: No, these rails will not require provisions for sign posts.

- 26. Question:** Under clearing and grubbing, what is the intent with the cleared and grubbed material at the disposal site at the Tofino Airport. Can the contractor leave this in stockpile or what disposal measures are expected?
- Answer:** The truck dump piles of clearing and grubbing waste should be dumped tightly together and leveled with a bull dozer upon completion. Similar treatment is required for the waste organic material at Tofino Airport.
- 27. Question:** Please describe the extent of the work on line item 183 F-7, as it appears there are only box culverts to install...which are paid for elsewhere?
- Answer:** As these 2 box culverts are situated in a wetland area which is often filled with surface water (many other wetlands areas have sub-surface water in the summer) this provides the Contractor an item to place the additional costs of dealing with this surface water without blending the cost into the remaining culverts in the contract. You are correct that this drawing does not show any additional work for fisheries related items.
- 28. Question:** Is there a pay item for highway topsoil stripping?
- Answer:** This volume was included in Item 68, Highway off site excavation. The unit price table will be adjusted to add item 65A, Highway organic excavation and the quantity of material will be removed from Item 68. This material will be disposed of at the Tofino Airport location.
- 29. Question:** Can you confirm the curbs used on the box culverts (incidental to box culverts) as compared to the precast parking curbs. (item 42) We notice they have the same dimensions but the typical on the box culvert curbs shows a rectangular shape and there is no typical for the parking curb. Please clarify.
- Answer:** The parking curbs used in both the parking lots and on the box culverts can be the same as dimensioned in Specification 03 48 00, clause 2.2.1 to simplify product delivery. The dimensions provided are approximate and curbs with a small variation in these are acceptable.
- 30. Question:** Under clearing and grubbing, section 3.2.2 Preparation This section speaks about danger trees within 1.5 x tree lengths to be reviewed and possibly special measures taken. Are these to be assessed by a certified danger tree assessor? Will there be a pay item to address these danger trees? I do not see anywhere in measurements and payments where these are addressed? There can be so many significant trees along that trail that will require attention.
- Answer:** The Owners Environmental Monitor will identify, or arrange to have identified, danger trees requiring falling. When the right of way for the trail was cleared the Clearing Contractor removed all trees they considered to be a hazard to their crews and as directed by the OEM. Lump Sum Item 60A is added to the Unit Price Table for this work. These trees will remain on the forest floor after falling.
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- 31. Question:** In regards to SI 10 - Revision of Proposal, if a change were to be made would the entire proposal need to be resubmitted or could just the area of change be submitted? As an example, if a line item of pricing changed could just the Schedule of Values be resubmitted or would the entire RFP response be needed?
- Answer:** For the REVISED ENVELOPE 1- INDIGENOUS BENEFITS PLAN (IBP) PROPOSAL the RFP does not distinguish if an entirely new proposal should be submitted for each revision. However, SRE 3 of the RFP states that Bidders MUST provide details of the Indigenous Benefit for Training, Labour, and Goods and Services by Indigenous Firms (including Subcontracting) in each respective TABLE in Appendix 4 to a maximum of 5 pages and Bidders must ensure their IBP documentation demonstrates sufficient evidence to assess the compliance of their bid against the criteria listed herein. The bidder may choose to provide the revised and updated information as a new version of the entire document or provide only the portion that has changed. If providing only the revision the bidder must clearly identify what information is deleted from the previous version, what is replaced and to be considered for evaluation purposes.
- As per SI13 RESPONSIVE PROPOSALS to be considered responsive, a bid must meet all of the mandatory requirements set out in the RFP. No further consideration in the selection procedure will be given to a bidder submitting a non-responsive bid. Timely and correct delivery of bids to the office designated for receipt of proposals is the sole responsibility of the bidder. Canada will not assume or have transferred to it those responsibilities. All risks and consequences of incorrect delivery of bids are the responsibility of the bidder.
- Due to the nature of this solicitation, a complete revised IBP should be considered in order to be practical for the evaluation.
- 32. Question:** We are looking for some clarification with the 2 Envelopes. Could you please advise what envelope Appendix 2, 5 and 6 go in to as well as the Bid Acceptance Form?
- Answer:** Appendix 2, 5 and 6 should be part of the Price Proposal / Bid and Acceptance Form envelope, which also contains Appendix 1.
- 33. Question:** Please advise the hierarchy of documents for the Upsheek Trail Project that the tenderer needs to follow, or advise where in the contract documents this information can be found.
- Answer:** Please refer to SI03 – Proposal Documents, of the Request for Proposal document.
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Ups-cheek Ta-shee
Pacific Rim National Park Reserve, British Columbia
Public Works and Government Services Canada
Project Number: R .081570.001

Unit Price Table
Addendum 6
(All revisions from original Table are shown in red)

Trail, Road, and Bridge Works
South Park Boundary to North Park Boundary

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
Division 1 General Requirements						
1	01 25 20	Mobilization and Demobilization	Lump Sum	1		
2	01 35 00	Special Procedures for Traffic Control	Lump Sum	1		
3	01 45 00	Quality Control	Lump Sum	1		
Environmental Procedures - Supply, Install, & Remove - above that required for incidental environmental work						
4	01 35 43	Light Duty Silt Fence Barrier (SI&R)	Lin.m	2,000		
5	01 35 43	Heavy Duty Silt Fence Barrier (SI&R)	Lin.m	500		
6	01 35 43	Erosion Control Blanket (SI&R)	sq.m	5,000		
7	01 35 43	Poly or Nylon Sand Bags (SI&R)	Each	1,000		
8	01 35 43	Poly Sheeting (6 mm) (SI&R)	sq.m	1,000		
9	01 35 43	Rock Check Dam (SI&R)	Each	100		
10	01 35 43	1.4 m high orange safety fence (SI&R)	Lin.m	200		
11	01 35 43	2.29 m X 2.29 m Small Wetland Filter Bag (SI&R)	Each	20		
12	01 35 43	4.57 m X 4.57 m Large Wetland Filter Bag (SI&R)	Each	20		
13	01 35 43	50mm trash pump + 61 m discharge hose	Daily	300		
14	01 35 43	75mm trash pump + 61 m discharge hose	Daily	150		
Environmental Procedures - Standby Equipment and Materials						
15	01 35 43	50mm trash pump + 61 m discharge hose	Lump Sum	2		
16	01 35 43	75mm trash pump + 61 m discharge hose	Lump Sum	2		
17	01 35 43	Standby Materials (Quantities in Table 2 - light and heavy duty silt barrier, stakes, erosion control blanket, sandbags, poly sheeting, crushed rock, pea gravel, safety fencing, filter bags, Sorbent booms)	Lump Sum	1		
18	01 35 43	Large Spill Kits (110% of equipment fluids)	Lump Sum	2		
Subtotal General Requirements						
Bridge and Elevated Trail Work						
Concrete Reinforced Precast Concrete Components						
19	03 41 00	Bridge 19 girders (30.6 m long)	L.S.	1		
20	03 41 00	Bridge 20 girders (30.6 m long)	L.S.	1		
Concrete Reinforced Cast in Place Concrete Components						
21	03 30 00	Bridge 3 - Abutments, wingwalls, approach slabs	L.S.	1		

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
22	03 30 00	Bridge 19 Abutments, wingwalls, approach slabs, deck, curbs	L.S.	1		
23	03 30 00	Bridge 20 Abutments, wingwalls, approach slabs, deck, curbs	L.S.	1		
		Site Preperation, Delivery, Bearings, Installation, Wood Deck, Miscellaneous				
24	03 41 01	Bridge 3 - 20 m Steel & Timber Bridge	Each Bridge	1		
25	03 41 01	Bridge 19 - 30 m Precast Concrete Girder Bridge	Each Bridge	1		
26	03 41 01	Bridge 20 - 30 m Precast Concrete Girder Bridge	Each Bridge	1		
27	03 41 01	Elevated trail - Install and Finish	Lin.m	370		
		Subtotal Bridge and Elevated Trail Concrete				
Division 05	Metal Work	Structural Steel Bridge Components				
28	05 12 33	Bridge 3 - 20 metre Supply and Fabricate Steel	Lump Sum	1		
		Railings - Metal and Wood				
29	32 31 14	20 metre Span Bridge Steel (50.5m of Wood Railing)	Lump Sum	1		
30	05 51 00	30 metre Span Bridge Steel (82.4 m of Metal Railing)	Lump Sum	2		
31	32 31 14	Elevated trail - Wood Railings	Lin.m	150		
		Subtotal Metal Work				
Division 31	Earthworks (Piling)					
32	31 66 13	Helical Piles - 114mm dia, 6.0m Long 8.6mm WT screw piles for elevated trail sections (Drawing S-2.5 - Type A)	Each	280		
33	31 66 13	Helical Piles - 114mm dia, 9.0m Long 8.6mm WT screw piles for elevated trail sections (Drawing S-2.5 - Type B)	Each	46		
34	31 62 16	Mobilize and demobilize for bridge piling 20 m span Bridge 3	Lump Sum	1		
35	31 62 16	Mobilize and demobilize for bridge piling 30 m span Bridge 19 Sandhill Creek on Wick Road	Lump Sum	1		
36	31 62 16	Mobilize and demobilize for bridge piling 30 m span Bridge 20 Lost Shoe Creek Bridge 20 on Highway 4	Lump Sum	1		
37	31 62 16	Piling -610mm dia 16mm WT driven steel piles for bridge # 3 structure	Lin.m	50.4		
38	31 62 16	Piling -610mm dia 19mm WT driven steel piles for bridge# 19 structure	Lin.m	94		
39	31 62 16	Piling -762mm dia 19mm WT driven steel piles for bridge# 20 structure	Lin.m	147.6		
40	31 62 16	Piling - Concrete fill and reinforcing steel in 610mm dia steel piles for bridge structures	Each	16		
		Subtotal Bridge and Elevated Trail Piling				
At Grade Trail Work						
Division 03	Concrete					
41	03 30 20	Concrete Wall Curb, 300 high (Cast in Place)	Lin.m	150		
42	03 48 00	280 X 150 X 2130 parking curb (Precast)	Each	205		
43	03 48 00	2.13 m high concrete fence (Precast)	Lin.m	166		
		Roadside Precast Concrete Barriers				
44	03 48 00	460 high bull-nose 1.2 m Long (Precast)	Each	17		
45	03 48 00	460 high concrete barrier 3.0 m Long (Precast)	Each	6		
46	03 48 00	690 high concrete barrier 2.5 m Long (Precast)	Each	163		
47	03 48 00	460 to 690 high transition barrier 2.5 m Long (Precast)	Each	29		
48	03 48 00	690 high drainage barrier 2.5 m Long (Precast)	Each	212		
49	03 48 00	Relocate 690 high conc. barrier 2.5 m Long	Each	22		
50	03 48 00	Install 2.5m L 690 conc. barrier Supplied by PCA	Each	95		
		Subtotal Concrete				

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
Division 05	Metal Work					
51	05 51 00	Swing Bike Baffles	Each Pair	37		
52	05 51 00	8 m Wide Parking Lot Gate	Each	2		
53	05 51 00	5 m Wide Access Gate	Each	13		
54	05 51 00	Relocate and repaint existing forestry gate. Complete sets	Each set	2		
55	05 51 00	680 mm X 2400 mm galvanized rails on roadside concrete barriers	Each	440		
56	05 51 00	680 mm X 2400 mm galvanized rails on roadside concrete barriers with sign post	Each	20		
57	05 51 00	680 mm X 1800 mm galvanized rails on W-beam Guardrails	Each	212		
58	05 51 00	100 mm dia. Steel removable bollards	Each	6		
		Subtotal Metal Work				
Division 31	Earthworks					
		Clearing and Grubbing				
59	31 11 00	Tree and brush clearing and removal East side of Esowista Curve (Sta 15+400 to 15+880)	Hectare	0.30		
60	31 11 00	Tree and brush clearing for Trail	Hectare	1.40		
60A	31 11 00	Danger Tree Topping and Falling within 1 1/2 tree heights of trail	Lump Sum	1.00		
61	31 11 00	Grubbing	Hectare	15		
62	31 11 00	Stump Grinding	Cu. m	500		
		Topsoil, Organic Soil, and Wood Chips				
63	31 14 13	Organic soil side casting and respreading for shoulder dressing	Lin. m	47,000		
63A	Add. 6	Remove previously felled trees and brush from the trail alignment	Lump Sum	1		
64	31 14 13	Supply and dress trail shoulders with wood chips on paved trail	Lin.m (Each side)	1,130		
65	31 14 13	Trail off site waste excavation - Organic Material	Cu. m	20,700		
65A	31 14 13	Highway Organic Stripping	Cu. m	1,500		
		Mineral Soils Excavations and Fills				
66	31 24 13	Trail waste excavation - Non-organic material	Cu. m	14,100		
67	31 24 13	Trail embankment (Used on site)	Cu. m	2,800		
68	31 24 13	Highway off site waste excavation	Cu. m	6,000		
69	31 24 13	Highway embankment (Used on site)	Cu. m	1,000		
		Archaeological Site Excavations and Fills				
70	01 35 44	Organic Soils excavation and spreading in Archaeological site	Cu. m	10,400		
71	01 35 44	Organic Soils excavation - storage and recording at Grice Bay Parking Lot	Cu. m	1,900		
72	01 35 44	Mineral Soil excavation and fill in Archaeological Sites	Cu. m	2,600		
73	01 35 44	Mineral Soil excavation in Archaeological Sites - storage and recording at Grice Bay Parking Lot	Cu. m	3,000		
74	01 35 44	Mineral Soil excavation in Archaeological Sites - disposal at Tofino Airport	Cu. m	2,350		
		Geotextiles, Geogrids, Erosion Control Blankets				
75	31 32 19	Geotextiles - Woven high survivability	Sq. m	21,000		
76	31 32 19	Geotextiles - Install only -Woven Mirafi HP570 (71 rolls)	Sq. m	29,700		
77	31 32 19	Geogrid plus nonwoven or composite geotextile	Sq. m	53,400		
78	31 32 19	Erosion Control Blanket (Biodegradable)	Sq. m	62,000		
79	31 32 19	Erosion Control Blanket Install Only NAG C125BN (57 rolls)	Sq. m	4,200		
80	31 32 19	40 mil Root Barrier	Lin. m	40,000		

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
81	31 32 19	Buried Check Dam with LLPDE liner	Each	20		
82	31 37 00	Riprap Class 10 kg (350 mm thick)	Sq. m	3,000		
83	31 37 00	Riprap Class 25 kg (450 mm thick)	Sq. m	750		
84	31 37 00	Riprap Class 500 kg	Cu. m	340		
		Subtotal Earthworks				
Division 32 Road and Site Improvements						
85	32 01 11	Removal of pavement markings on Highway 4 at Esowista Curve	Lump Sum	1		
86	32 01 16.7	200 mm wide - edge cold milling	Lin. m	900		
87	32 01 16.9	200 mm wide - asphalt saw cut and removal	Lin. m	900		
88	32 01 16.9	Asphalt pavement removal	Sq. m	3,050		
		Aggregates for Highways and Roads (Free of invasive species)				
89	32 11 10	Select Granular Sub-grade fill (75 mm minus)	Cu.m.	600		
90	32 11 16	Crushed Granular Sub-base (450 mm thick Esowista Curve)	Sq. m	3,600		
91	32 11 16	Crushed Granular Sub-base (300 mm thick Roadside Barrier Widening)	Sq. m	4,000		
92	32 11 23	Granular Base (150 mm thick)	Sq. m	3,400		
93	32 11 23	Granular Base (100 mm thick)	Sq. m	4,000		
94	32 11 23	Granular base shoulder dressing	Lin. m	1,000		
		Aggregates for Parking Lots (Free of invasive species)				
95	32 11 16	Crushed Granular Sub-base at Incinerator Rock Parking Lot (600 mm thick)	Sq. m	1,000		
96	32 11 23	Granular Base at Incinerator Rock Parking Lot (100 mm thick)	Sq. m	3,050		
97	32 11 23	Granular Base at Radar Hill Road Parking Lot (100 mm thick) and preparation of existing surface	Sq. m	5,600		
98	32 11 23	Gran. base shoulder 0.5 wide at Incinerator Rk P.L.	Lin. m	160		
		Aggregates for Trail (Free of invasive species)				
99	32 11 10	Select Granular Sub-grade fill (75mm minus)	Cu.m.	25,000		
100	32 11 16	Crushed Granular Sub-base (300 mm thick - 75mm minus)	Sq. m	45,800		
101	32 11 16	Open Graded Subbase (600 mm thick - 150 mm or 75mm minus)	Sq.m.	53,500		
102	32 11 16	Open Graded Sub-base (450 mm thick - 75 mm minus open graded crush)	Sq.m.	8,700		
103	32 11 16	Open Graded Subbase (150 mm or 75 mm minus for strengthening areas)	Cu. m	5,000		
104	32 11 23	Granular Base (100 mm thick)	Sq. m	84,500		
		Fill Existing Cisterns				
105	32 11 23	Fill existing cisterns with granular base	Each	4.00		
		Temporary Access				
106	32 11 24	Temporary Access Roads	Lump Sum	1.00		
107		Delete. Item not used				
		Asphalt Pavement				
108	32 12 13.16	Asphalt tack coat	Sq.m	7,150		
109	32 12 16	Incinerator Rock Parking Lot (50 mm thick)	Sq. m	2,900		
110	32 12 16	Trail Paving (50 mm thick X 3.2 m Wide)	Sq. m	2,950		
		Esowista Curve Paving				
111	32 12 16	Highway widening lower course (75 mm thick)	Sq. m	3,000		
112	32 12 16	Highway widening upper course (50 mm thick)	Sq. m	3,100		
		Painted Pavement Markings				
113	32 17 23	Highway 4 Widening 75+380 to 76+035	Lump Sum	1		
114	32 17 23	Long Beach Parking Lot	Lump Sum	1		
115	32 17 23	Incinerator Rock Parking Lot	Lump Sum	1		
		Traffic and Project Signs				

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
116	32 17 25	Temporary static project signs, 1220 X 2440 on timber posts, supply, install, maintain, and remove	Each	6		
117	32 17 25	Changeable message signs ,supply, install, maintain, and remove	Month	48		
118	32 17 25	Trail signs mounted on curved steel post and precast concrete base	Each	130		
119	32 17 25	Traffic signs mounted on W-channel steel post	Each	65		
120	32 17 25	Traffic signs mounted on concrete roadside barriers (sign face and mounting brackets)	Each	20		
121	32 17 25	Relocate existing signs at Highway 4 Widening 75+380 to 76+035	Lump sum	1		
122	32 17 25	Relocate existing sign at Highway 4 and south Park Boundary	Lump sum	1		
		Install Wood Fencing, Wood Railings, and Amphibian Fencing				
123	32 31 14	Wood safety railings conc. foundation, 1400 mm high (Timber supplied by PCA.)	Lin.m	1,210		
124	32 31 14	Wood safety railings, installed on Lockblock wall, 1400 mm high (Timber supplied by PCA.)	Lin.m	190		
125	32 31 14	Supply and Install Wood Log rails, 600 mm high	Lin.m	1,700		
126	32 31 14	Supply and Install Wood Log rails, 900 mm high	Lin.m	750		
127	32 31 14	Wood Fence - Solid plank, 1.83 mm high (Timber supplied by PCA.)	Lin.m	150		
128	32 31 15	Supply, Install, and remove Amphibian Fencing - Animex & Hilsperger's poly and framework	Lin.m	55		
129	32 31 15	Supply and Install Amphibian Fencing - Animex & Hilsperger's poly with plastic wood framework	Lin.m	350		
		Retaining Walls c/w sub-drains				
130	32 32 34	Envirogrid or equal retaining walls 1.2 Max. Height	Sq. m	400		
131	32 32 34	Envirogrid or equal retaining walls over 1.2 m Height with uniaxle geogrid reinforcement	Sq. m	1,900		
132	32 32 34	Concrete segmental block retaining walls	Sq. m	100		
133	32 32 34	Lock Block Wall - Standard Block	Block	121		
134	32 32 34	Lock Block Wall -Bench Block	Block	121		
135	32 32 34	Aluminum Amphibian Barrier Strip on Lock Blocks	Lin.m	190		
136	32 32 34	Dry stack rock walls	Sq. m	300		
137	31 32 19	Geogrid Uni-axial for MSE walls	Sq. m	9,500		
138	32 32 34	Light weight fill - Styrofoam SP 29	Cu.m.	1,300		
		Invasive Species Control Program				
139	31 93 02	Invasive Species Control Program	Lump Sum	1.00		
		Subtotal Road and Site Improvements				
Division 33	Utilities					
		Pipe Culverts				
140	33 42 13	200 mm dia HDPE	Lin. m	55		
141	33 42 13	250 mm dia HDPE	Lin. m	100		
142	33 42 13	300 mm dia HDPE	Lin. m	8		
143	33 42 13	400 mm dia HDPE	Lin. m	15		
144	33 42 13	450 mm dia HDPE	Lin. m	200		
145	33 42 13	600 mm dia HDPE	Lin. m	320		
146	33 42 13	600 mm dia HDPE 45 degree bend	Each	1		
		Pipe Culverts c/w 300mm Fisheries Gravel or Native Organics				
147	33 42 13	600 mm dia, 8 m long HDPE, complete	Each	87		
148	33 42 13	600 mm dia, 12 m long HDPE, complete	Each	8		
149	33 42 13	750 mm dia, 8 m long HDPE, complete	Each	15		
150	33 42 13	900 mm dia, 8 m long HDPE, complete	Each	7		
151	33 42 13	1200 mm dia, 8 m long HDPE, complete	Each	1		

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
152	33 42 13	600 mm dia HDPE additional length to above	Lin. m	100		
		Temporary Pipe Culverts at Temporary Access Points				
153	33 42 13	450 mm diameter 8 m long	Each	51		
154	33 42 13	600 mm diameter 8 m long	Each	12		
		Concrete Box Culverts For Water Passage				
155	33 42 13	1800mm X 900 mm X 5 m long water passage culvert, complete	Each	3		
156	33 42 13	1800mm X 1200 mm X 5 m long water passage culvert, complete	Each	11		
157	33 42 13	Delete. Item not used				
158	33 42 13	2100mm X 1200 mm X 5 m long water passage culvert, complete	Each	3		
159	33 42 13	2400mm X 1200 mm X 5 m long water passage culvert, complete	Each	4		
		Concrete Box Culverts for Amphibians				
160	33 42 13	1800mm X 900 mm X 3.75 m long Amphibian underpass culvert, complete	Each	60		
161	33 42 13	1800mm X 900 mm X 17.5 m long Amphibian underpass culvert, complete with Pavement rehab	Each	3		
		Extend Existing Pipe Culverts				
162	33 42 13	H20+737 - 800 mm CSP, 1.5 m long extension	Lump Sum	1		
163	33 42 13	H18+221 - 1200 mm CSP, 2 m long extension	Lump Sum	1		
164	33 42 13	H17+929 - 800 mm CSP, 4.5 m long extension	Lump Sum	1		
165	33 42 13	H16+067 - 1200 mm HDPE 3 m long extension	Lump Sum	1		
166	33 42 13	H15+262 2X600 mm HDPE 5 m long extension	Lump Sum	1		
167	33 42 13	H15+097 600 mm CSP 5 m long extension	Lump Sum	1		
168	33 42 13	H9+110 -500 mm CSP 5 m long extension	Lump Sum	1		
169	33 42 13	H7+631 - 1200 mm HDPE, 2 m long extension	Lump Sum	1		
170	33 42 13	H0+119 - 600 mm CSP, 5 m long extension	Lump Sum	1		
171	33 42 13	H0+201 - 600 mm CSP, 5 m long extension	Lump Sum	1		
172	33 42 13	500 mm dia CSP additional length to above	Lin. m	5		
173	33 42 13	600 mm dia CSP additional length to above	Lin. m	5		
174	33 42 13	800 mm dia CSP additional length to above	Lin. m	10		
175	33 42 13	600 mm dia HDPE additional length to above	Lin. m	10		
176	33 42 13	1200 mm dia HDPE additional length to above	Lin. m	5		
177	31 23 33	Over excavation, backfill, and bedding	Cu.m	400		
		Fisheries Work				
178	33 42 15	Fisheries enhancement work detailed on sheet F-2	Lump Sum	1		
179	33 42 15	Fisheries enhancement work detailed on sheet F-3	Lump Sum	1		
180	33 42 15	Fisheries enhancement work detailed on sheet F-4	Lump Sum	1		
181	33 42 15	Fisheries enhancement work detailed on sheet F-5	Lump Sum	1		
182	33 42 15	Fisheries enhancement work detailed on sheet F-6	Lump Sum	1		
183	33 42 15	Fisheries enhancement work detailed on sheet F-7	Lump Sum	1		
184	33 42 15	Fisheries enhancement work detailed on sheet F-9	Lump Sum	1		
185	33 42 15	Fisheries enhancement work detailed on sheet F-10	Lump Sum	1		
186	33 42 15	Fisheries enhancement work detailed on sheet F-12	Lump Sum	1		
187	33 42 15	Fisheries enhancement work detailed on sheet F-13	Lump Sum	1		
188	33 42 15	Fisheries enhancement work detailed on sheet F-14	Lump Sum	1		
189	33 42 15	Fisheries enhancement work detailed on sheet F-15	Lump Sum	1		
		Manholes and Grates				
190	33 44 01	Man Hole Frame & Grates at 3 Amphibian Crossings	Each	6		
191	33 44 01	Adjust Existing Man Holes	Each	3		
192	33 44 01	300mm diam. Lawn basin grate inlet	Each	8		
		Subtotal Utilities				
Division 34	Transportation					
		Traffic Barriers				

Addendum

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
193	34 71 13	Supply and Install Posts and W- beam guard rail	Lin. m	587		
194	34 71 13	Wood plank on guard rail (Timber supplied by PCA.)	Lin. m	587		
195	34 71 13	FLEAT 350 Barrier Terminal (or equal)	Each	6		
		Subtotal Transportation				
					TOTAL =	