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800 Burrard Street, Room 219
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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 Heavy Civil Equipment Constr. SVC	
Solicitation No. - N° de l'invitation F1571-155067/A	Amendment No. - N° modif. 002
Client Reference No. - N° de référence du client F1571-155067	Date 2015-12-16
GETS Reference No. - N° de référence de SEAG PW-\$PWY-004-7670	
File No. - N° de dossier PWY-5-38299 (004)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-01-05	
Time Zone Fuseau horaire Pacific Standard Time PST	
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: Mestry, Ruth (PWY)	Buyer Id - Id de l'acheteur pwy004
Telephone No. - N° de téléphone (604) 775-9385 ()	FAX No. - N° de FAX (604) 775-6633
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DFO - Steveston Small Craft Harbour - Richmond, 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

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

F1571-155067/A

pwy004

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

File No. - N° du dossier

CCC No./N° CCC - FMS No./N° VME

DELETE ORIGINAL ISSUED APPENDIX 1 – COMBINED PRICE FORM AND INSERT WITH THE ATTACHED REVISED APPENDIX 1 – COMBINED PRICE FORM.

APPENDIX 1 - COMBINED PRICE FORM (1 page) (REVISED)

- 1) The prices per unit shall govern in establishing the Total Extended Amount. Any arithmetical errors in this Appendix will be corrected by Canada.
- 2) Canada may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.

UNIT PRICE TABLE

The Unit Price Table designates Work to which a Unit Price Arrangement applies.

- (a) Work included in each item is as described in the referenced specification section.
 - (b) The Price per Unit shall not include any amounts for Work that is not included in that unit price Item
- Work will be performed in accordance with the contract schedules within the scope of work and unit price table:

Solicitation No. - N° de l'invitation

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

F1571-155067/A

pwy004

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

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CCC No./N° CCC - FMS No./N° VME

Item	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity (EQ)	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
1.0	Mobilization/Demobilization				
1	Mobilization/ Demobilization Trucking	HOUR	100	\$ _____	\$ _____
2.0	Equipment Supply				
.1	349 Cat Excavator or Eq.	HOURS	600	\$ _____	\$ _____
.2	320 Cat Excavator or Eq.	HOURS	300	\$ _____	\$ _____
.3	314 Cat Excavator or Eq.	HOURS	200	\$ _____	\$ _____
.4	D3K Cat Bulldozer or Eq.	HOURS	300	\$ _____	\$ _____
.5	D7E Cat Bulldozer or Eq.	HOURS	200	\$ _____	\$ _____
.6	910K Cat Wheel Loader or Eq.	HOURS	200	\$ _____	\$ _____
.7	938M Cat Wheel Loader or Eq.	HOURS	200	\$ _____	\$ _____
.8	416F Cat Backhoe Loader or Eq.	HOURS	400	\$ _____	\$ _____
.9	279D Compact Track Loader or Eq.	HOURS	500	\$ _____	\$ _____
.10	CS44 Vibratory Compactor	HOURS	160	\$ _____	\$ _____
.11	CS54B Vibratory Compactor	HOURS	160	\$ _____	\$ _____
.12	Tandem Dump Truck	HOURS	1000	\$ _____	\$ _____
.13	Volvo A35G Rock Truck or Eq.	HOURS	400	\$ _____	\$ _____
3.0	Crew Rental				
.1	Operational Crew incl. Foreman	Man Hours	2000	\$ _____	\$ _____
.2	Superintendent c/w Truck	Man Hours	1000	\$ _____	\$ _____
4.0	Material Supply				
.1	¾" Clear Crush Rock	MT	4000	\$ _____	\$ _____
.2	Grade A Road Base	MT	4000	\$ _____	\$ _____
.3	Washed Sand	MT	1000	\$ _____	\$ _____
.4	8" minus Quarry Tailings	MT	70,000	\$ _____	\$ _____
.5	Concrete Supply and Placement (35 MPa)	m ³	700		
5.0	OTHER				
.1	Material Disposal – Mark-up over tipping fees based on \$100,000 of fees (\$100,000 + % mark- up)	N/A	\$100,000	+ %	\$ _____
TOTAL ESTIMATED AMOUNT					\$ _____

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED

Addendum No. 1

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

- Q1 - It appears that some of the works are directly on the shoreline, while others appear to be purely in-water, accessible only from barge.
- A1 - All works will be in the upland area. There will be no requirement for works on the water.
- Q2 - What type of concrete finish is required for the floor slab.
- A2 - Steel trowel and machine finish
- Q3 - Is Public Works Canada able to release the exact dimensions of the new floor slab?
- A3 - The approximate dimension of the slab is 25m x 200m at a thickness of 300mm. There will also be a requirement for placement of concrete for small footings and pony walls. The volume of required concrete is estimated at 700 m3. For bidding purposed please use this volume.
- Q4 - Section 31 00 00 Clear Crush Rock specifies three sizes – 12.5 mm, 20 mm, 75mm. The Unit Price Table contemplates one unit price. Which one should we be including the Unit Price table?
- A3 - Please see amended specifications for updated description of requirement.
- Q5 - Section 31 00 00 Grade A Road base specifies three different product – 75 mm screened pit run, washed sand, “cove sand”). The Unit Price Table contemplates one unit price. Which one should we be including the Unit Price table?
- A4 - Please see amended specifications for updated description of requirement.
- Q5 - Section 31 00 00 Rip Rap specifies three sizes in subsections .2.1, .2.2, .2.3 The Unit Price Table contemplates one unit price. Which one should we be including the Unit Price table?
- A5 - Please see amended specifications for updated description of requirement.
- Q6 - Gravels are purchased by the metric tonne, can the unit price in the unit Price Table be changed accordingly?
- A6 - Please see amended unit price table for updated unit of measurement.

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F1571-155067/A

pw004

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CCC No./N° CCC - FMS No./N° VME

Q7 - My concrete placement/finishing subcontractors are asking me the following questions regarding Section 31 00 00 - Supply & Placement of Concrete:

- What is the surface finishing required for the concrete surface of the warehouse floor?
- Can we have the specifications for the thickness and area of the warehouse floor slab, so that we can arrive at the volume of concrete required for the slab?

A7 - Please refer to A2 and A3 respectively for finish and dimensions. The volume of required concrete is estimated at 700 m3. For bidding purposed please use this volume.

STEVESTON SMALL CRAFT HARBOUR – HEAVY CIVIL EQUIPMENT RENTAL

Solicitation No.: F1571-155067/A

FISHERIES AND OCEANS CANADA
SMALL CRAFT HARBOURS – PACIFIC REGION



**Pêches et Océans
Canada**

**Fisheries and Oceans
Canada**

Section 00 01 10 – Table of Contents

Section Number	Section Title	No. of Pages
Division 1 – General Requirements		
00 10 00	SCHEDULE OF QUANTITIES AND PRICES	1
01 11 00	SUMMARY OF WORK	10
01 13 00	GENERAL REQUIREMENTS	4
01 35 29.06	HEALTH AND SAFETY REQUIREMENTS	5
01 35 43	ENVIRONMENTAL PROCEDURES	3
01 45 00	QUALITY CONTROL	2
01 74 11	CLEANING	3
01 74 21	CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL	3
01 77 00	CLOSEOUT PROCEDURES	2
Division 11 - Equipment		
11 01 00	HEAVY EQUIPMENT RENTAL	6
Division 31 - Earthworks		
31 00 00	EARTHWORKS SHORT FORM	5
Drawing Number	Drawings Title	No. of Pages
DRAWINGS		
S-HER-001	SITE LOCATION	1



Section 01 11 00 – Summary of Work

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 00 10 00 - SCHEDULE OF QUANTITIES AND PRICES
- .2 01 11 00 - SUMMARY OF WORK
- .3 01 13 00 - GENERAL REQUIREMENTS
- .4 01 35 29.06 - HEALTH AND SAFETY REQUIREMENTS
- .5 01 35 43 - ENVIRONMENTAL PROCEDURES
- .6 01 45 00 - QUALITY CONTROL
- .7 01 74 11 - CLEANING
- .8 01 74 21 - CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL
- .9 01 77 00 - CLOSEOUT PROCEDURES
- .10 11 01 00 - HEAVY EQUIPMENT RENTAL
- .11 31 00 00 – EARTHWORK SHORT FORM

1.2 DEFINITIONS

- .1 Throughout contract documents, the words “Site,” “Owner,” “Contracting Authority,” “Harbour Authority,” “Contractor,” “Engineer,” or “Department,” shall be defined as follows:
 - .1 Site
“Site” referred to herein is Steveston Small Craft Harbour, 12740 Trites Road Richmond, BC, V7E 3R8, Canada.
 - .2 Contracting Authority
“Contracting Authority” referred to herein is Public Works and Government Services Canada – Pacific Region (PWGSC), 800 Burrard Street, 12th Floor, Vancouver, BC V6Z 2V8, Canada.
 - .3 Owner
“Owner” referred to herein is the Department of Fisheries and Oceans Canada – Small Craft Harbours, Suite 200-401 Burrard Street, Vancouver, BC V6C 3S4.
 - .4 Engineer/Departmental Representative
“Engineer/Departmental Representative” referred to herein is commonly an employee of the Owner assigned by the Owner as the Engineer and Technical Authority for the project. The Engineer may be a sub-contract Consultant for technical and inspection purposes and the Technical Authority must still be an employee of the Owner.



.5 Contractor
Contractor" referred to herein is the party accepted by the Owner, with whom a formal contract is signed, to complete the work of this project.

.4 Department
The Department of Fisheries and Oceans, Canada.

1.3 DRAWINGS

- .1
.1 Steveston Heavy Equipment – Site Locations

1.4 LOCATION

- .1 Steveston Small Craft Harbour is located in Richmond, British Columbia, along the Fraser River.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work covered in this section comprises of supplying heavy equipment complete with the operators and labourers to the Site. Work tasks as directed by Departmental Engineer
- .2 All work under this agreement covers the furnishings of all labour, materials, tools, supervision, transport and equipment necessary for the provision of heavy equipment supply complete with the operators for the Site as specified herein.
- .3 Work Description
- .1 Work under this contract consists of the procurement for operating hours for equipment, operators, labourers and the supply of materials to complete designated heavy marine construction. The Owner will identify each task in advance and provide drawings and specifications for each task. The contractor will provide a work plan and schedule for completion of each task.
- .4 The task work includes but is not limited to:
- .1 General Site Excavation
- .2 Ditching and Pipe Placement
- .3 Site Grading and Sloping
- .4 Demolition of In-Ground Structures.
- .5 Removal and Placement of Fill
- .6 Backfill and Compact Fill.
- .7 Material Delivery and Placement
- .8 Rip-Rap Placement



1.6 SCHEDULE OF QUANTITIES

- .1 The following are in reference to items as detailed in Section 00 10 00 – SCHEDULE OF QUANTITIES AND PRICES.

1.0 MOBILIZATION/DEMOBILIZATION

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Mobilization/ demobilization of all crew and equipment to Steveston Harbour.
- .2 Any overhead costs not covered in other items.
- .3 Site clean-up and disposal of all materials not being salvaged.

2.0 EQUIPMENT SUPPLY

.1 349 Cat Excavator or Equivalent

The daily cost of the 349 Cat Excavator Rental includes the following:

- .1 Supply a 349 Cat Excavator that conforms to technical specifications in Section 11 01 00.

.2 320 Cat Excavator or Equivalent

The daily cost of the 320 Cat Excavator A Rental includes the following:

- .1 Supply a 320 Cat Excavator A that conforms to technical specifications in Section 11 01 00.

.3 314 Cat Excavator or Equivalent

The daily cost of the 314 Cat Excavator Rental includes the following:

- .1 Supply a 314 Cat Excavator that conforms to technical specifications in Section 11 01 00.

.4 D3K Cat Bulldozer or Equivalent

The daily cost of the D3K Cat Bulldozer Rental includes the following:



- .1 Supply a D3K Cat Bulldozer that conforms to technical specifications in Section 11 01 00.

.5 D7E Cat Bulldozer or Equivalent

The daily cost of the D7E Cat Bulldozer Rental includes the following:

- .1 Supply a D7E Cat Bulldozer that conforms to technical specifications in Section 11 01 00.

.6 910K Cat Wheel Loader or Equivalent

The daily cost of the 910K Cat Wheel Loader Rental includes the following:

- .1 Supply a 910K Cat Wheel Loader that conforms to technical specifications in Section 11 01 00.

.7 938M Cat Wheel Loader or Equivalent

The daily cost of the 938M Cat Wheel Loader Rental includes the following:

- .1 Supply a 938M Cat Wheel Loader that conforms to technical specifications in Section 11 01 00.

.8 416F Cat Backhoe Loader or Equivalent

The daily cost of the 416F Cat Backhoe Loader Rental includes the following:

- .1 Supply a 416F Cat Backhoe Loader that conforms to technical specifications in Section 11 01 00.

.9 279D Compact Track Loader or Equivalent

The daily cost of the 279D Compact Track Loader Rental includes the following:

- .1 Supply a 279D Compact Track Loader that conforms to technical specifications in Section 11 01 00.

.10 CS44 Vibratory Compactor or Equivalent

The daily cost of the CS44 Vibratory Compactor Rental includes the following:

- .1 Supply a CS44 Vibratory Compactor that conforms to technical specifications in Section 11 01 00.



.11 CS54B Vibratory Compactor or Equivalent

The daily cost of the CS54B Vibratory Compactor Rental includes the following:

- .1 Supply a CS54B Vibratory Compactor that conforms to technical specifications in Section 11 01 00.

.12 Tandem Dump Truck

The daily cost of the Tandem Dump Truck Rental includes the following:

- .1 Supply a Tandem Dump Truck that conforms to technical specifications in Section 11 01 00.

.13 Volvo A35G Rock Truck or Equivalent

The daily cost of the Rock Truck Rental includes the following:

- .1 Supply a Rock Truck that conforms to technical specifications in Section 11 01 00.

3.0 CREW RENTAL

.1 Operational Crew

The man hour cost of the Operational Crew includes the following:

- .1 Supply minimum four (4) man crew, which includes a foreman for the coordination and safety of the crew.
- .2 Man hours are calculated as the summation of hours that each crew member worked.
- .3 The crew shall be professional, self-sufficient and capable of completing standard heavy civil construction work in accordance to construction drawings, without the direct supervision of the Owner.
- .4 This crew shall be responsible for coordinating all equipment rented on site.

.2 Misc. Labour Crew



The man hour cost of the Misc. Labour Crew includes the following:

- .1 Supply minimum four (4) man crew, which includes a foreman for the coordination and safety of the crew.
- .2 Man hours are calculated as the summation of hours that each crew member worked.
- .3 The crew shall be professional, self-sufficient and capable of completing standard heavy civil construction work in accordance to construction drawings, without the direct supervision of the Owner.
- .4 This crew shall be responsible for completed general additional labour on site.

4.0 MATERIAL SUPPLY

.1 Clear Crush Rock

The cubic meter cost of Supply of Clear Crush includes the following:

- .1 Supply of Clear Crush Gravel as outlined in Section 31 00 00 – Earthworks Short Form. Material will be priced delivered onsite per cubic meter.
- .2 Material spec sheet will be submitted and approved by the Departmental Representative before delivery.

.2 Grade A Road Base

The cubic meter cost of Supply Road Base includes the following:

- .1 Supply of Road Base as outlined in Section 31 00 00 – Earthworks Short Form. Material will be priced delivered onsite per cubic meter.
- .2 Material spec sheet will be submitted and approved by the Departmental Representative before delivery.

.3 Washed River Sand

The cubic meter cost of Supply Sand includes the following:



- .1 Supply of Sand as outlined in Section 31 00 00 – Earthworks Short Form. Material will be priced delivered onsite per cubic meter.
- .2 Material spec sheet will be submitted and approved by the Departmental Representative before delivery.

.4 12-24" Rip-Rap Rock

The cubic meter cost of Supply Rip-Rap includes the following:

- .1 Supply of Road Base as outlined in Section 31 00 00 – Earthworks Short Form. Material will be priced delivered onsite per cubic meter.
- .2 Material spec sheet and sizing will be submitted and approved by the Departmental Representative before delivery.

.5 Concrete Supply and Placement

The cubic meter cost of Supply and Placement of Concrete includes the following:

- .1 Supply of concrete as outlined in Section 31 00 00 – Earthworks Short Form. Payment will be priced delivered and placed onsite per cubic meter.
- .2 Material spec sheet and type will be submitted and approved by the Departmental Representative before delivery.

1.7 WORK SEQUENCE AND OWNER OCCUPANCY

- .1 There is an expectation of estimated requirement for mobilization at the following dates:

December 29th, 2015 – Equipment Requirement and task will be identified to the contractor by December 5th, 2015

February 1st, 2016 - Equipment Requirement and tasks will be identified to the contractor by January 1st, 2016

July 1st, 2016 - Equipment Requirement and tasks will be identified to the contractor by June 1st, 2016



- .2 For each task project, the Contractor shall only mobilize/demobilize equipment items (from Section 01 11 00) approved by the Owner.
- .3 All projects including clean-up and final demobilization must be completed by November 30th, 2016.
- .4 Co-ordinate Project Schedule with Owner and Harbour Authority.
 - .1 Steveston Harbour must remain operational at all times during construction.
- .5 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.8 CONTRACTOR USE OF PREMISES

- .1 Co-ordinate use of premises under direction of Owner.
- .2 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .3 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Engineer.
- .4 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

1.9 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings, Specifications and any Addenda.
 - .2 Change Orders and other Modifications to Contract.
 - .3 Copy of Approved Work Schedule.
 - .4 Health and Safety Plan and Other Safety Related Documents.
 - .5 All regulatory permits required for the work
 - .6 Associated Best Management Practices documentation.

Part 2 Products

2.1 NOT USED



**Pêches et Océans
Canada**

**Fisheries and Oceans
Canada**

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION



Section 01 13 00 – General Requirements

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 01 11 00 - SUMMARY OF WORK
- .2 01 35 29.06 - HEALTH AND SAFETY REQUIREMENTS

1.2 INSPECTION OF SITE

- .1 It is the responsibility of each bidder to obtain all necessary information pertaining to local site conditions and existing works, beyond the information provided in this Specification and accompanying drawing(s).

1.3 PERMITS, CERTIFICATES, LAWS AND ORDINANCES

- .1 The Contractor must, at his own expense, procure all permits, certificates and licenses required of him by law for the execution of his work under this contract. He shall comply with all Federal, Provincial or Municipal laws, ordinances or rules and regulations relating to the performance of his work and in force during the duration of this contract.
- .2 The Contractor is required to give all required notices, comply with all local, municipal, provincial, and federal laws, ordinances, codes, by-laws, rules and regulations relating to the work.
- .3 All work to be done in accordance with Work Safe BC regulations.
- .4 The Contractor shall comply with Federal and Provincial laws, orders and regulations concerning the control and abatement of water and air pollution.
- .5 The Contractor shall comply with the requirements of any local or other Noise By Laws.

1.4 MINIMUM STANDARDS

- .1 In the absence of other standards specified in the Contract Documents, all work is to conform to, or exceed, the minimum standards of the Canadian Government Specifications Boards, the Canadian Standards Association, the American Society for Testing of Materials, or the National Building Code of Canada, whichever is applicable.
- .2 All work to be done in accordance with Work Safe BC regulations.

1.5 INTERFERENCE WITH OPERATION



- .1 The Contractor shall obey all navigation regulations and conduct operations so as to interfere as little as possible with the use of berthing spaces, fairways and passages. Install and maintain any and all protection to navigation as may be required by any properly constituted authority or by the Owner. During the course of construction and clean-up, do not dispose of surplus, waste or demolished materials in navigable waters.
- .2 The Contractor shall upon instruction of the Owner or Engineer, promptly remove any of the Contractor's equipment located outside the specified work area and obstructing any harbour operation.

1.6 COMPLIANCE WITH STANDARD SPECIFICATIONS CODES AND REGULATIONS

- .1 Unless expressly stated to the contrary, all materials, equipment and articles furnished by the Contractor shall comply with the applicable provisions of the standards of the Canadian Standards Association (CSA) or the Canadian Government Specification Board (CGSB) with the applicable provisions of the American Society for Testing Materials (ASTM), National Dredging Association (NFPA), American Concrete Institute (ACI) and the American Water Works Association (AWWA).
- .2 The Contractor shall follow all regulations in accordance with the Fisheries Act. Care shall be taken not to release any deleterious materials to fish habitat, into the water.
- .3 All work to be done in accordance with Work Safe BC regulations.

1.7 CONTRACTOR'S PERSONNEL

- .1 The Contractor's representative on site shall be completely familiar with the method of work to be employed. Such personnel shall remain on site for the duration of the work.

1.8 RESPONSIBILITY TO PERSONNEL

- .1 The Contractor shall have full responsibility for the board, lodging and transportation of his personnel and subcontractors. The cost for this shall be incorporated into his unit prices. He shall comply with all labor requirements, and Worker's Compensation regulations.

1.9 BARRIERS, LIGHTS AND WATCHING

- .1 The Contractor shall provide all requisite barriers, fences, warning signs, lights and watching for the protection of persons and property on or adjacent to the Site.

1.10 PROGRESS REPORT

- .1 The Contractor shall keep a daily record of progress of the work available for inspection by the Engineer.



- .2 The daily record shall include particulars of weather conditions, number of men working, plant and equipment working and work performed.

1.11 ENGINEER'S ACCESS

- .1 The Contractor shall provide access to the work for the Engineer's inspectors and surveyors as required.

1.12 PERMITS AND ROYALTIES

- .1 Permits and licenses required for the Contractors work are the responsibility of the Contractor and shall be for the Contractor's account. The Contractor shall have the appropriate business license.

1.13 PROTECTION OF EXISTING STRUCTURES

- .1 Existing structures, adjacent marine facilities, roads, services, piping or equipment within the work area which are not to be replaced shall be properly protected from any injury or damage, direct or indirect. Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractor's expense to the satisfaction of the Engineer.

1.14 WEATHER

- .1 Time lost by the Contractor due to stoppage on account of adverse weather conditions may be allowed, at the discretion of the Engineer, as an extension of time for the completion of the work over and above the date of completion specified in the contract agreement. However, no work can be extended past March 31.

1.15 SOIL DATA AND EXISTING TOPOGRAPHY

- .1 The Contractor shall notify the Engineer of any subsurface conditions at the place of the work that may differ materially from those indicated in the Contract Documents.

1.16 UTILITIES AND SERVICES

- .1 The Contractor shall be responsible for any damage to overhead, underwater and/or underground utilities and/or services caused by the Contractor's operations and shall repair and make good the repairs at the Contractor's own expense.
- .2 The Contractor shall be responsible, unless otherwise agreed to by the Engineer, for all temporary or construction services and utilities, and first aid facilities.

1.17 MATERIAL HANDLING AND STORAGE



- .1 Any materials damaged by the Contractor during handling, transportation and storage shall be replaced at the Contractor's expense.

1.18 MATERIALS AND EQUIPMENT SUPPLIED BY THE CONTRACTOR

- .1 The Contractor shall supply all labor, hand tools, power tools, generators, equipment and all other materials required to complete this Contract.

1.19 CONSTRUCTION WORK SCHEDULE

- .1 The Contractor shall work whatever shifts required in order to ensure the work meets regulatory windows and is completed as outlined in the agreed work plan.
- .2 The Contractor shall normally perform all work within the hours of daylight except in instances where the Contractor has requested and received approval for shift changes from the Owner.
- .3 Within 7 days of award the Contractor is to supply a week by week schedule of proposed activities related to the contract.
- .4 The Contractor must notify the Owner immediately whenever a variation from the construction schedule is expected to occur or when the submission of the submittals will be delayed.

1.20 SETTING OUT OF WORK

- .1 The Contractor is expected to familiarize themselves with the Site, facilities and amenities within.
- .2 The Contractor shall not enter on nor occupy with men, tools, equipment or material, any ground outside the property of the Harbour Authority without the written consent of the party owning such ground. Other Contractors or employees or representatives of the Department may, for all necessary purposes, enter upon the work and premises used by the Contractor, and the Contractor shall conduct his work so as not to impede unnecessarily any work being done by others nor adjacent to the Site.

1.21 AS-BUILT DRAWINGS

- .1 The Contractor shall mark up one set of plans with any changes or amendments implemented during the Contract. These plans shall be submitted to the engineer before the Final Certificate of completion is issued.

1.22 SITE SECURITY



- .1 The Contractor is responsible for all materials and equipment either supplied by the Contractor, the Client Department, or the Owner. The Contractor is responsible for the repair and replacement of stolen or damaged items.

1.23 CO-OPERATION WITH HARBOUR AUTHORITY

- .1 The Contractor will give the Harbour Authority a minimum 24 hours notice for work that may interrupt access to the harbour.
- .2 The site shall be left in a safe condition at the completion of each work day.

1.24 CONDITION OF STRUCTURE

- .1 Existing structures, adjacent marine facilities, roads, and all other structures, services, piping or equipment within the work area shall be properly protected from any injury or damage, direct or indirect. Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractors expense to the satisfaction of the Owner.

1.25 INSPECTION OF STRUCTURE

- .1 The Owner or inspector, shall inspect the completed works. The Contractor shall be responsible for the costs of any re-inspections that may be required due to errors or omissions of the Contractor.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 SITE ACCESS

- .1 The Contractor shall provide access to the work for the Owner's inspectors and surveyors as required.
- .2 General site access shall be coordinated with the Owner.
- .3 The Contractor shall maintain routes of travel, with the Owner being the sole judge as to what may be deemed reasonable.



- .4 The Contractor shall erect and maintain barriers, fences, lights, warning devices, and other protective devices as may be required for prevention of theft or damage of goods and protection of the public and workmen, or if so ordered by the Owner.

3.2 CONSTRUCTION AREA

- .1 The Contractor shall regulate construction traffic on public areas and comply with all local ordinances in connection therewith, including load limitation and removal of debris.
- .2 The Contractor shall confine his operations on the Site to those areas actually required for the work including routes and regulations approved by the Owner for haulage of materials.

3.3 NIGHT WORK

- .1 The Contractor shall keep proper lights each night between the hours of sunset and sunrise upon all floating plants, false-work and other obstructions where necessary, and upon all buoys of such size and in such locations as required by a governing authority. When work is done at night, maintain from sunset to sunrise such lights on or about the work and plant as necessary for the proper observation of the work and the efficient prosecution thereof.

3.4 CLEAN-UP

- .1 At all times the Contractor shall keep the Site free from accumulation of waste material and debris and leave the Site clean and tidy on completion.

3.5 TEMPORARY SERVICES

- .1 On site the Contractor shall make his own arrangements for supply of water and electricity.
- .2 The Contractor shall supply for his own use; sanitary, first aid, and all other temporary services and facilities required for the work.

3.6 CARE OF FINISHED WORK

- .1 The Contractor shall protect all finished work from injury, defacement, unauthorized entry, or trespass until such time as the work described in the Contract Documents is substantially complete.

3.7 DISPOSAL

- .1 All material designated to be replaced or removed will become the property of the Contractor and will be disposed of in an environmentally acceptable manner so that



they neither become a menace to marine navigation nor a nuisance to the public on adjacent or any other property.

- .2 All replaced items, cut-offs and waste material shall be disposed by the Contractor in strict accordance with provincial, local, and municipal regulations and Part 8 of the National Building Code and with the Canadian Construction Safety Code.
- .3 Conduct clean-up and disposal operations to comply with local ordinances and antipollution laws.

3.8 SITEWORK

- .1 All work shall be completed as per direction of on-site Owner or representative.
- .2 All heavy construction equipment shall be free of leaks and cleaned prior to construction.
- .3 The Contractor shall have absorbent pads on site in case of any oil leaks or contaminants entering the water.

END OF SECTION



Section 01 33 00 – Submittal Procedures

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 01 13 00 - GENERAL REQUIREMENTS
- .2 01 35 29.06 - HEALTH AND SAFETY REQUIREMENTS
- .3 01 35 43 - ENVIRONMENTAL PROCEDURES
- .4 01 45 00 - QUALITY CONTROL
- .5 01 74 21 - CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL
- .6 01 77 00 - CLOSEOUT PROCEDURES

1.2 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.



1.4 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit shop drawings bearing stamp and signature of qualified professional Engineer registered or licensed in British Columbia Canada.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow 10 days for Owner's review of each submission.
- .5 Adjustments made on shop drawings by Owner are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Owner prior to proceeding with Work.
- .6 Make changes in shop drawings as Owner may require, consistent with Contract Documents. When resubmitting, notify Owner in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.



- .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .9 After Owner's review, distribute copies.
- .10 Submit one electronic copy of shop drawings for each requirement requested in specification Sections and as Owner may reasonably request.
- .11 Submit one electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Owner where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit one electronic copy of test reports for requirements requested in specification Sections and as requested by Owner.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
- .13 Submit one electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Owner.
 - .1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .14 Supplement standard information to provide details applicable to project.
- .15 If upon review by Owner, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .16 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.



- .1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
- .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.8 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION



Section 01 35 29.06 – Health and Safety Requirements

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 11 00 – SUMMARY OF WORK
- .2 Section 01 35 43 – ENVIRONMENTAL PROCEDURES

1.2 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .4 Province of British Columbia
 - .1 Workers Compensation Act, RSBC 1996 - Updated 2012.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must

include:

- .1 Results of site specific safety hazard assessment.
- .2 Results of safety and health risk or hazard analysis for site tasks and operations.
- .3 Submit 3 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit WHMIS MSDS - Material Safety Data Sheets.
- .7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan



as appropriate and resubmit plan to Departmental Representative 5 days after receipt of comments from Departmental Representative.

- .8 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .9 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.4 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 3 weeks of contract award. Contractor to submit written acknowledgement to CSST along with Ouverture de Chantier Notice.
- .3 Work zone locations include:
 - .1 Steveston Small Craft Harbour.
- .4 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.5 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.

1.6 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.7 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with:
 - .1 Steveston Small Craft Harbour Authority

1.8 GENERAL REQUIREMENTS



- to
- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
 - .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.9 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.10 COMPLIANCE REQUIREMENTS

- .1 Comply with Workers Compensation Act, B.C. Reg.
- .2 Comply with R.S.Q., c. S-2.1, an Act respecting Health and Safety, and c. S-2.1, r.4 Safety Code for the Construction Industry.
- .3 Comply with Occupational Health and Safety Regulations, 1996.
- .4 Comply with Occupational Health and Safety Act, General Safety Regulations, O.I.C.
- .5 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.11 UNFORSEEN HAZARDS

- in
- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of the Province having jurisdiction and advise Departmental Representative verbally and in writing.
 - .2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise the Health and Safety co-ordinator and follow procedures in accordance with Acts and Regulations of the Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.12 HEALTH AND SAFETY CO-ORDINATOR



- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have site-related working experience specific to activities associated with.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

1.13 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of the Province having jurisdiction, and in consultation with Departmental Representative.

1.14 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.15 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED



.1 Not used.

END OF SECTION



Section 01 35 43 – Environmental Procedures

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 01 11 00 - SUMMARY OF WORK
- .2 01 45 00 - QUALITY CONTROL
- .3 01 74 11 - CLEANING
- .4 11 01 00 - HEAVY EQUIPMENT RENTAL

1.2 REFERENCES

- .1 Definitions:
 - .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
 - .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 FIRES

- .1 Fires and burning of rubbish on site is not permitted

1.5 DRAINAGE

- .1 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.6 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated.



- .2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of [2] m minimum.
- .3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage.
 - .1 Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .4 Minimize stripping of topsoil and vegetation.
- .5 Restrict tree removal to areas designated by Departmental Representative.

1.7 WORK ADJACENT TO WATERWAYS

- .1 Construction equipment to be operated on land only.
- .2 Use waterway beds for borrow material only after written receipt of approval from Departmental Representative.
- .3 Waterways to be kept free of excavated fill, waste material and debris.

1.8 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.9 HISTORICAL/ARCHAEOLOGICAL CONTROL

- .1 Not Used

1.10 NOTIFICATION

- .1 Owner will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.



- .2 Contractor: after receipt of such notice, inform Owner of proposed corrective action and take such action for approval by Owner.
- .3 Owner 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.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 CLEANING

- .1 Leave work area clean at end of each day.
- .2 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.
- .3 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment to the approval of the Owner.

END OF SECTION



Section 01 45 00 – Quality Control

Part 1 General

1.1 RELATED SECTIONS

- .1 Not Used.

1.2 REFERENCES

- .1 Construction General Conditions

1.3 INSPECTION

- .1 Refer to Construction General Conditions for stipulated interpretation.
- .2 Allow Owner access to Work. If part of Work is in preparation at locations other than
- .3 Place of Work; allow access to such Work whenever it is in progress.
- .4 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals.
- .5 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .6 Owner will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.4 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.5 PROCEDURES

- .1 Notify appropriate agency in advance of requirement for tests, in order that attendance arrangements can be made.



- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.6 REJECTED WORK

- .1 Refer to Construction General Conditions for stipulated interpretation.
- .2 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .3 Make good other Contractor's work damaged by such removals or replacements promptly.
- .4 If in opinion of Owner it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by The Engineer.

1.7 REPORTS

- .1 Submit 4 copies of inspection and test reports to Owner.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION



Section 01 74 11 - Cleaning

Part 1 General

1.1 REFERENCES

- .1 Refer to Construction General Conditions for stipulated interpretation.

1.2 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Owner.
- .3 Clear snow and ice from access to building, bank/pile snow in designated areas only.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on site bin containers for collection of waste materials and debris.
- .6 Dispose of waste materials and debris off site.
- .7 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .8 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .9 Provide adequate ventilation during use of volatile or noxious substances.
- .10 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .11 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.3 FINAL CLEANING

- .1 Refer to Construction General Conditions for stipulated interpretation.
- .2 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.



- .3 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .4 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .5 Remove waste products and debris.
- .6 Remove waste materials from site at regularly scheduled times or dispose of as directed by Owner. Do not burn waste materials on site.
- .7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .8 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .9 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, and floors.
- .10 Clean lighting reflectors, lenses, and other lighting surfaces.
- .11 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .12 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
- .13 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .14 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .15 Remove dirt and other disfiguration from exterior surfaces.
- .16 Clean and sweep roofs, gutters, areaways, and sunken wells.
- .17 Sweep and wash clean paved areas.
- .18 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.
- .19 Clean roofs, downspouts, and drainage systems.



.20 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

.21 Remove snow and ice from access to building.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 NOT USED

.1 Not Used

Part 3 Execution

3.1 NOT USED

.1 Not Used

END OF SECTION



Section 01 74 21 – Construction Demolition and Waste Management and Disposal

Part 1 General

1.1 WASTE MANAGEMENT GOALS

- .1 Prior to start of Work conduct meeting with Owner to review and discuss PWGSC's Waste Management Plan and Goals.
- .2 Accomplish maximum control of solid construction waste.
- .3 Preserve environment and prevent pollution and environment damage.

1.2 DEFINITIONS

- .1 Class III: non-hazardous waste - construction renovation and demolition waste.
- .2 Recyclable: ability of product or material to be recovered at end of its life cycle and re manufactured into new product for reuse.
- .3 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .4 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .5 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .6 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .7 Separate Condition: refers to waste sorted into individual types.



- .8 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.

1.3 STORAGE, HANDLING AND PROTECTION

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Owner.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non salvageable materials from salvaged items. Transport and deliver non salvageable items to licensed disposal facility.
- .5 Protect structural components not removed for demolition from movement or damage.
- .6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Owner.
- .7 Protect surface drainage, mechanical and electrical from damage and blockage.
- .8 Separate and store materials produced during dismantling of structures in designated areas.
- .9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On site source separation is recommended.
 - .2 Remove co mingled materials to off site processing facility for separation.
 - .3 Provide waybills for separated materials.

1.4 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste into waterways, storm, or sanitary sewers.
- .3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.

1.5 USE OF SITE AND FACILITIES



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- .1 Execute work with least possible interference or disturbance to normal use of premises.

1.6 SCHEDULING

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

Part 2 Products

2.1 NOT USED

- .1 Not Used

Part 3 Execution

3.1 CLEANING

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

3.2 CANADIAN GOVERNMENTAL DEPARTMENTS CHIEF RESPONSIBILITY FOR THE ENVIRONMENT

- .1 Schedule E Government Chief Responsibility for the Environment of British Columbia:

Address	General Inquires	Fax
Ministry of Environment #200-10470 152nd Street Surrey B.C. V3R 0Y3	604-582-5200	604-930-7119
Waste Reduction Commission Soils and Hazardous Waste 770 South Pacific Blvd, Suite 303 Vancouver BC V6B 5E7	604-660 9550	604-660 9596

END OF SECTION



Section 01 77 00 – Closeout Procedures

Part 1 General

1.1 REFERENCES

- .1 Refer to Construction General Conditions for stipulated interpretation.

2.2 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Owner in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .2 Request Consultant's inspection.
 - .2 Consultant's Inspection:
 - .1 Consultant and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
 - .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Equipment and systems: tested, and fully operational.
 - .4 Certificates required submitted.
 - .5 Operation of systems: demonstrated to Owner's personnel.
 - .6 Work: complete and ready for final inspection.
 - .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Consultant, and Contractor.
 - .2 When Work incomplete according to Consultant, complete outstanding items and request re-inspection.



- .5 Declaration of Substantial Performance: when Consultant considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
- .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
- .7 Final Payment:
 - .1 When Consultant considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .2 Refer to CONSTRUCTION GENERAL CONDITIONS 2: when Work deemed incomplete by Consultant, complete outstanding items and request re-inspection.
- .8 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.3 FINAL CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.

Part 2 Products

2.1 NOT USED

- .1 Not Used

Part 3 Execution

3.1 NOT USED

- .1 Not Used

END OF SECTION



Section 11 01 00 – Heavy Equipment Rental

Part 1 General

1.1 DESCRIPTION

- .1 This section provides minimum technical specifications for equipment supplied by the Contractor.

1.2 MEASURE OF PAYMENT

- .1 Payment for each equipment will be measured using the unit from the SCHEDULE OF QUANTITIES AND PRICES.
- .2 Hourly/daily rates shall include all operator costs.
- .3 Travel costs shall be included in mobilization/demobilization items.

Part 2 Products

1.1 EQUIPMENT

- .1 No claim, demand or legal proceeding is to be brought against the Crown in respect to damage of equipment caused by negligence of the operator.

- .2 The following equipment or equivalent equipment is required for this Agreement:

- .1 349 Cat Excavator or Equivalent

- .1 Minimum Technical Specifications
 - .1 Bucket capacity range (heaped) from 0.4 to 1.5 cubic meters
 - .2 Standard, Ditching, and Cleanup bucket required with hydraulic thumb
 - .3 Operating weight approximately 53,000 kilograms
 - .2 Quantity - 1 (one)

- .2 320 Cat Excavator or Equivalent – A

- .1 Minimum Technical Specifications
 - .1 Bucket capacity range (heaped) from 0.4 to 1.5 cubic meters



- .2 Standard, Ditching, and Cleanup bucket required with hydraulic thumb
- .3 Operating weight approximately 21,000 kilograms

- .2 Quantity - 2 (two)

.3 314 Cat Excavator or Equivalent

- .1 Minimum Technical Specifications
 - .1 Bucket capacity range (heaped) from 0.4 to 0.8 cubic meters
 - .2 Standard, Ditching, and Cleanup bucket required.
 - .3 Blade attachment required
 - .3 Operating weight approximately 14,800 kilograms

- .2 Quantity - 2 (two)

.4 D3K Cat Bulldozer or Equivalent

- .1 Minimum Technical Specifications
 - .1 Flywheel power equal to 80 horsepower
 - .2 equipped with power angle and 6 way tilt blades.
 - .3 Operating weight approximately 7,900 kilograms

- .2 Quantity - 1 (one)

.5 D7E Cat Bulldozer or Equivalent

- .1 Minimum Technical Specifications
 - .1 Flywheel power equal to 230 horsepower
 - .2 equipped with ripper attachment.
 - .3 equipped with power angle and 6 way tilt blades
 - .4 Operating weight approximately 26,000 kilograms

- .2 Quantity - 1 (one)

.6 910K Cat Wheel Loader or Equivalent

- .1 Minimum Technical Specifications
 - .1 Flywheel power equal to 93 horsepower
 - .2 Operating weight approximately 7,100 kilograms



.2 Quantity - 1 (one)

.7 938M Cat Wheel Loader or Equivalent

.1 Minimum Technical Specifications

.1 Flywheel power equal to 180 horsepower

.2 Operating weight approximately 16,000 kilograms

.2 Quantity - 1 (one)

.8 416F Cat Backhoe Loader or Equivalent

.1 Minimum Technical Specifications

.1 Flywheel power equal to 87 horsepower

.2 Operating weight approximately 11,000 kilograms

.2 Quantity - 2 (two)

.9 279D Compact Track Loader or Equivalent

.1 Minimum Technical Specifications

.1 Flywheel power equal to 72.9 horsepower

.2 50% Tipping Load 1,300 kilograms.

.2 Quantity - 2 (two)

.10 CS44 Vibratory Compactor or Equivalent

.1 Minimum Technical Specifications

.1 Flywheel power equal to 100 horsepower

.2 66in wide steel drum

.3 Operating Weight 7,200 kilograms.

.2 Quantity - 1 (one)

.11 CS54B Vibratory Compactor or Equivalent

.1 Minimum Technical Specifications

.1 Flywheel power equal to 131 horsepower

.2 84in wide steel drum

.3 Operating Weight 10,500 kilograms.

.2 Quantity - 1 (one)



.12 Tandem Dump Truck

.1 Minimum Technical Specifications

Minimum truck capacity of the unit being bid shall be 13 cubic meters without sideboards or 18 cubic meters with sideboards.

.2 Quantity - 2 (two)

.13 Volvo A35G Rock Truck or Equivalent

.1 Minimum Technical Specifications

.1 Minimum truck capacity of the unit being bid shall be 15 cubic meters.

.2 Flywheel power equal to 263 horsepower

.2 Quantity - 2 (two)

- .3 License and inspected in accordance with provincial regulations.
- .4 To be equipped with standard night working lights.
- .5 Equipped with back-up beeper and horn.
- .6 Repair any damage to equipment expeditiously.
- .7 Maintain equipment in good running order for duration of the contract.
- .8 Lubrication and fluid level checks will be carried out by the Contractor. All minor on site repairs and maintenance will be carried out by the Contractor at their expense. The Contractor shall be responsible for supplying proper fluids, lubricants, filters and tools for carrying out all on site maintenance. The Contractor shall also be responsible, at their expense, for the proper disposal of waste oils, filters and containers.
- .9 Contractor's equipment operators will be fully licensed in accordance with provincial requirements and workmanship to be performed to an industry standard.
- .10 Contractor to supply, at no extra charge to SCH, all POL necessary for the duration of the contract.



Part 3 Execution

3.1 IDENTIFICATION OF WORK

- .1 The Owner will identify projects requiring heavy equipment rental and provide a schedule for completion of each project.
- .2 Equipment Operators
 - .1 Operators for all heavy equipment rentals that perform services under this agreement shall be licensed for road travel as required and must be experienced/qualified for equipment to the satisfaction of the Owner.

END OF SECTION



Section 31 00 00 – Earthwork Short Form

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 01 11 00 - SUMMARY OF WORK
- .2 11 01 00 - HEAVY EQUIPMENT RENTAL

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM D698-[07e1], Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400ft-lbf/ft³) (600kN-m/m³).

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Co-ordination: arrange with authority having jurisdiction for relocation of buried services that interfere with execution of work.
 - .1 Pay costs of relocating services.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Site Quality Control Submittals: submit in accordance with Section 01 45 00 - Quality Control.

Part 2 Products

2.1 MATERIALS

- .1 Clear Crush Rock
 - .1 A uniformly graded crushed product used in the production of asphalt, pre-cast concrete, drainage, landscaping, rail ballast and slab preparations.
 - .2 12.5mm, 20mm and 75mm grades.
- .2 Grade A Road Base
 - .1 Sand, gravels, and large rock, and is good for general infill. Varies from pit to pit.
 - .2 75mm Screened Pit Run



.3 Sand

- .1 Washed sand used as backfill, trenchfill and as a pipe bedding.
- .2 "Cove Sand"

.4 Rip-Rap

- .1 Large shore angular rip-rap
- .2 Sizing Chart:
 - .1 525mm x 1800mm – 4000kg
 - .2 400mm x 1275mm – 2000kg
 - .3 250mm x 800mm – 500kg

.5 Concrete Supply and Placement

GENERAL

- .1 All work shall be carried out in conformance with CSA Standard CAN3.A23.1-M.

MATERIALS

- .1 Cement shall be type GU.
- .2 Fine aggregate shall conform to Clause 5.3 CSA Standard CAN3.A23.1-M.
- .3 Coarse aggregate shall conform to Clause 5.4 CSA Standard CAN3.A23.1-M group 1.
- .4 Water shall be clean and free from injurious amounts of oil, alkali, organic matter and deleterious materials.

CONCRETE MIXES

- .1 All concrete shall develop a 28 day compressive strength of 35 MPa minimum, unless noted otherwise on the drawings.
- .2 Minimum cement content shall be 300 kg per cubic metre.
- .3 Maximum water cement ratio shall be 0.40.
- .4 Air content shall be between 5% and 8%.
- .5 Set retarding admixtures shall not be used unless approved by the Engineer.



- .6 The concrete mix design shall be submitted to the Engineer for approval prior to placing concrete. The mix design including admixtures shall not be changed without prior approval of the Engineer.
- .7 Exposure class of concrete shall be C-1 as per CAN/CSA A23.1-M.

PLACING, FINISHING AND CURING CONCRETE

- .1 All concrete shall be placed in accordance with the requirements of Clause 19 CSA Standard CAN3.A23.1-M and as indicated on the drawings.
- .2 All concrete shall be placed continuously between start of placement and a control joint. Control joint locations shall be proposed by the contractor and are subject to prior approval by the Engineer. Joint surfaces of cured concrete shall be roughened and thoroughly cleaned.
- .3 Accurate records shall be maintained for all cast-in-place concrete including date of placement, location, quantity, temperature and test samples taken.
- .4 The Engineer shall be notified prior to commencement of concrete placement as specified in Clause 5.0.
- .5 All defective concrete shall be removed and replaced as directed by the Engineer.
- .6 Concrete shall be vibrated adequately by means of mechanical vibrators. Rock pockets and honeycombing shall not be accepted.

Part 3 Execution

3.1 EXAMINATION

- .1 Before commencing work verify locations of buried services on and adjacent to site.

3.2 PREPARATION

- .1 Temporary erosion and sedimentation control:
 - .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
 - .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.



- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- .2 Protection of in-place conditions:
 - .1 Protect excavations from freezing.
 - .2 Keep excavations clean, free of standing water, and loose soil.
 - .3 Where soil is subject to significant volume change due to change in moisture content, cover and protect to Departmental Representative's approval.
 - .4 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
 - .5 Protect buried services that are required to remain undisturbed.
- .3 Removal:
 - .1 Remove trees, stumps, logs, brush, shrubs, bushes, vines, undergrowth, rotten wood, dead plant material, exposed boulders and debris within areas designated on drawings.
 - .2 Remove stumps and tree roots below footings, slabs, and paving, and to 600 mm below finished grade elsewhere.
 - .3 Remove obsolete buried services within 2 m of foundations: cap cut-offs.

3.3 EXCAVATION

- .1 Shore and brace excavations, protect slopes and banks and perform work in accordance with Provincial and Municipal regulations whichever is more stringent.
- .2 Strip topsoil over areas to be covered by new construction, over areas where grade changes are required, and so that excavated material may be stockpiled without covering topsoil.
 - .1 Stockpile topsoil on site for later use.
- .3 Excavate as required to carry out work.
 - .1 Do not disturb soil or rock below bearing surfaces.
 - .2 Notify Departmental Representative when excavations are complete.



3.4 BACKFILLING

- .1 Remove snow, ice, construction debris, organic soil and standing water from spaces to be filled.
- .2 Lateral support: maintain even levels of backfill around structures as work progresses, to equalize earth pressures.
- .3 Compaction of subgrade: compact existing subgrade under walks, paving, and slabs on grade, to same compaction as fill.
 - .1 Fill excavated areas with gravel and sand compacted as specified for fill.
- .4 Placing:
 - .1 Place backfill, fill and base course material in 150 mm lifts: add water as required to achieve specified density.
- .5 Compaction: compact each layer of material to following densities for material to [ASTM D698]:
 - .1 To underside of base courses: 95%.
 - .2 Base courses: 100%.
 - .3 Elsewhere: 90%.
- .6 In trenches:
 - .1 Up to 300 mm above pipe or conduit: sand placed by hand.
 - .2 Over 300 mm above pipe or conduit: native material approved by Departmental Representative.
- .7 Under seeded and sodded areas: use site excavated material to bottom of topsoil except in trenches and within 600 mm of foundations.

3.5 GRADING

- .1 Grade so that water will drain away from buildings, walls and paved areas, to catch basins and other disposal areas approved by Departmental Representative.

3.6 CLEANING

- .1 Progress Cleaning: clean in accordance with Section [01 74 11 - Cleaning].



- .1 Leave Work area clean at end of each day.
- .2 Dispose of cleared and grubbed material off site daily.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 11 - Cleaning].

END OF SECTION

