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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**

<b>Title - Sujet</b> EGD Waterlot Remediation PH2 SJetty	
<b>Solicitation No. - N° de l'invitation</b> EZ899-151108/B	<b>Amendment No. - N° modif.</b> 005
<b>Client Reference No. - N° de référence du client</b>	<b>Date</b> 2015-05-01
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWY-026-7485	
<b>File No. - N° de dossier</b> PWY-4-37180 (026)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-05-12</b>	<b>Time Zone</b> Fuseau horaire Pacific Standard Time PST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Liu (PWY), Patty	<b>Buyer Id - Id de l'acheteur</b> pwy026
<b>Telephone No. - N° de téléphone</b> (604) 775-6227 ( )	<b>FAX No. - N° de FAX</b> (604) 775-6633
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> PWGSC - Esquimalt Graving Dock - Victoria, BC	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

Solicitation No. - N° de l'invitation

EZ899-151108/B

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

Amd. No. - N° de la modif.

005

File No. - N° du dossier

PWY-4-37180

Buyer ID - Id de l'acheteur

pw026

CCC No./N° CCC - FMS No/ N° VME

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Amendment 005 / Addendum 004 attached.

**All other terms and conditions remain unchanged.**

## **AMENDMENT 005**

Amendment 005 has been raised to provide answers to questions received.

### **Questions received:**

1. Can PWGSC provide the pile driving records for the Phase 1A work and any previous piling construction for which piling records are available?

**Canada's Response:**

*Note that that a response to this question was provided as answer to question 6 in Amendment 004. Pile driving records were not provided as part of that response. This response supersedes the previous one. Pile driving records for the Phase 1A South Jetty Under-Pier Erosion Protection Wall (i.e. sheet pile perimeter wall installation) are attached. There are three sets of pile driving records: Segment 1, Segment 2 and Segment 3 (the location of each segment is shown on the Phase 1A record drawing S1 in Appendix D of the Phase 2 South Jetty Under-Pier Sediment Remediation Specification). No other pile driving records from previous construction projects will be provided. Canada notes that in Phase 2 the sheet-pile wall will be re-driven deeper than the original Phase 1A installation. Geotechnical data reports for the Phase 2 project are provided in Appendix E of the Specification.*

2. EGD Operations and Contractor Coordination: General Instructions 01 11 55 – Section 1.1.4 – “Contractor...to coordinate its work at the EGD Work Site around use of the EGD Facility”. General Instructions 01 55 11 – Esquimalt Graving Dock Operations - Section 1.8.5 – “Contractor shall make allowance in its construction schedule for delays or interruptions due to vessel movement in the EGD Waterlot...”. Please confirm the amount of time to allow per interruption and the number of interruptions expected for the duration of the project.

**Canada's Response:**

*Clause 1.1.4 of Section 01 11 55 - General Instructions refers to the EGD vessel booking list which will be provided to the successful bidder upon notice of Award. Clause 1.8.1 of Section 01 11 55 - General Instructions provides examples of resource information regarding vessel calls at the EGD facility. Canada will not provide the amount of time to allow for interruption due to EGD Facility operations to the Bidders as part of the tender process. Bidders shall use the resource information provided in the Specifications as a guide for anticipated coordination effort required with the EGD facility; however, the resource information provided in the Specification shall not be used as basis for Tender or as basis for any claim under the Contract.*

3. Can the pipe, timber, and sheet piles underneath the steel piled concrete deck structure slated for “removal” be cut off at the final dredge elevation?

**Canada's Response:**

*The cut-off timber piles, the high mast light foundation timber piles, and the collapsed steel sheet pile wall (underneath the steel-piled concrete deck structure) are all to be removed as described in the Specification and as indicated on the Drawings. Section 02 41 16.01 - Structure Demolition requires demolition, controlled extraction, cleaning, removal and off-site disposal of these timber piles and the collapsed steel sheet pile wall. The Specification stipulates acceptance requirements for extraction of these timber piles. The Specification does not allow cut off of the collapsed sheet pile wall at the excavated grade. The work does not include removal of any steel*

*pipe piles under the steel-piled concrete deck structure (one open-top steel pipe pile is identified on Drawings C14 and D6 as a safety risk, but is to remain).*

4. Is the removal or cut off of pile stubs encountered while dredging that are not identified on the drawings considered an obstruction and therefore paid as extra work?

**Canada's Response:**

*The removal of pile stubs encountered while dredging that are not identified in the Tender documents are not considered an obstruction and will not be paid for as extra work. The definition of Dredge Debris, as provided in Clause 1.3.22 of Section 01 11 55 (General Instructions), will be revised to include "pile stubs" (see Addendum 004 attached). Clause 1.2.11 of Section 35 20 23 (Dredging, Barge Dewatering and In-Water Transportation) stipulates that "All costs associated with removal, handling and disposal of Dredge Debris shall be considered incidental to the work and shall be included in the tender price for Required Dredging".*

5. The perimeter sheet pile wall top, when re-driven to EL 0.0m chart datum, may not provide sufficient clearances to safely move large marine equipment back and forth over the top of the wall except in the case of extreme tides. Would lowering the top of SPW to -1.0m locally to allow additional safe clearance by marine traffic be acceptable?

**Canada's Response:**

*Canada recognizes that marine derricks and barges are of various draft. With reference to Drawings CSM3 & CSM4, for the portion of the perimeter sheet pile wall from bay line N1 to the northwest corner of the timber crib (approx. 104 metre run length along the northwest face), Canada will not allow the sheet pile perimeter wall to be re-driven deeper than EL 0.0m chart datum as shown on the Drawings. For the remainder of the perimeter (approx. 326 metre run length along the west and south faces), Canada will allow the sheet pile wall to be re-driven down to no deeper than EL -1.0m chart datum in Contractor-selected locations, at Contractor's option to suit his means and methods. The Contractor-selected locations for this deeper re-drive shall not exceed 30% of the 326 metre remaining run length (i.e. approx. 98 metre aggregate run length) measured at any time during the work (see Addendum 004 attached for changes to the Specifications). All other requirements in the Specification remain unchanged. There is no change to Contractor's specified responsibilities regarding the TRB system, pile-driving and pile extraction requirements, and no change to measurement and payment regardless whether the sheet pile wall is re-driven to EL 0.0m, or portion(s) re-driven to EL -1.0m chart datum.*

6. We understand the risk of re-contamination on the outside of the sheet wall structure. During previous works on site it was noted that external influences on the south side of the harbour brought materials into the existing EGD WaterLot. We would expect that this material may be already contaminated and may migrate into the southern edges of the EGD WaterLot through no wrong doing by the contractor. How would we protect ourselves from this occurrence, or is there a proposed distance from the sheet pile wall that would be evaluated from re-contamination?

**Canada's Response:**

*Note that a response to a related question was provided as answer to question 2 in Amendment 004. This response provides additional clarification and supersedes the previous response.*

*Several lines of evidence will be used by the Departmental Representative to evaluate whether there is loss of contaminated sediment (i.e., recontamination) outside of the TRBCA. Testing of the surface seabed outside of and along the perimeter of the TRBCA and near any temporary openings in the TRBCA will be conducted prior to construction and after dredging and capping activities are completed within the TRBCA. Testing will include hydrographic surveys to assess bathymetry; sediment grab samples to assess chemical concentrations, and sediment stratigraphy; and dive inspections to assess visual indications of loss of contaminated sediment. Sediment samples will be located around the perimeter of the TRBCA and near any TRBCA openings. Results will be compared both point-by-point and as an average of groups of similar samples. Testing will include typical QA procedures, including field duplicates, to assess precision of test results.*

*Additionally, Canada will conduct inspection and environmental monitoring of the construction activities to document if significant releases of sediment have occurred, based on Contractor means and methods for completion of the work, including releases from work activities performed within the TRBCA, and during dredge scow loading and/or transport of sediment and debris from the EGD Work Site to the Contractor Off-Site Offloading Facility.*

*Additional relevant information (i.e., evaluation of background conditions in the EGD Waterlot and or Esquimalt Harbour) will also be considered as part of this evaluation and inspection effort to determine if recontamination may be occurring from other potential sources such as migration of contaminated materials from outside the EGD Work Site boundary into the project area.*

7. Further to Canada's response to question 20 in Amendment 004 regarding the deadline for submitting tender questions: *The deadline for questions will be 2:00pm Pacific Standard Time, on May 7, 2015.*

8. Per Clause 1.8.1 of Section 03 30 00 (Cast-in-Place Concrete), the requirement for a 5 cubic metre trial batch seems excessive for a project that only requires 23 m3 of concrete. Can this requirement be relaxed?

**Canada's Response:**

*This requirement will not be changed. Canada notes that Clause 1.8.4 of Section 03 30 00 (Cast-in-Place Concrete) does allow relaxation of this requirement under the stated conditions, and it is anticipated that the Contractor may utilize this relaxation during implementation of the work.*

9. Per Clause 1.8.4 of Section 03 30 00 (Cast-in-Place Concrete), what will be considered acceptable evidence of adequate performance of concrete from previous comparable mix designs with the required concrete properties and evidence of adequate long-term performance in order to ensure compliance with the Design Service Life?

**Canada's Response:**

*Acceptable evidence would include prior test results for hardened concrete properties (from previous comparable mix designs) such as compressive strength and chloride ion penetrability requirements.*

10. Per Clause 3.5.1 of Section 03 30 00 (Cast-in-Place Concrete), the requirement for two batch mixers seems overly restrictive for a project that only requires 23 m3 of concrete. Can this requirement be relaxed?

**Canada's Response:**

*This requirement provides redundancy in case of equipment failure during concrete batching, and will not be changed.*

11. Per Clause 3.5.4 of Section 03 30 00 (Cast-in-Place Concrete), given the importance of timely concrete delivery and in light of the small volume, can the contractor have the concrete delivered by truck directly to the EGD site by road rather than bringing the trucks to the site by barge?

**Canada's Response:**

*A revision to Clause 1.7.5.3 of Section 01 51 00 (Temporary Facilities), allowing landside delivery of ready-mix concrete, grout, hot-mix asphalt and miscellaneous items such as metal fabrications and utility hardware, was included in Addendum 002.*

12. Under the definition of a disposal facility described in section 01 11 55, what is the definition of a territory?

**Canada's Response:**

*A "Territory" (or "territory") is defined as one of; Nunavut, Northwest Territories, or Yukon. A "Province" (or "province") is defined as one of Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Prince Edward Island, Quebec, or Saskatchewan.*

13. Can any materials (dredge, or debris) go to First Nation Lands or Territory?

**Canada's Response:**

*All disposal, treatment, management, recycling and re-use of waste and other materials must be in accordance with the Specifications. All Disposal Facilities, Treatment Facilities, Hazardous Waste Management Facilities, and Recycling/Re-Use Facilities must meet the requirements of the Specifications. Specification revisions will be issued as part of a pending Addendum 005, that will further clarify these requirements, but the requirements will not be changed.*

14. (a) We have engineered a turbidity curtain to work in a major river. The river was subject to rise and fall due to intermittent releases by a hydro dam. There was also significant flow to manage. Though the qualifications clearly states "marine tidal conditions" would this experience be considered relevant and acceptable for tendering purposes?

(b) Allowance of marine could include fresh water applications such as dam reservoirs, lakes, rivers etc it would be more relevant.

**Canada's Response:**

*There will be no change to Appendix 6 Qualification Form Section 2.0 Item 5 to allow for freshwater project experience to be used. Project experience must be for directly preparing an engineered design for fixed or anchored silt curtains in a marine environment to control suspended sediments.*

15. There are several references in Specification Section 01 35 13.43 (Special Procedures for Contaminated Sites) that require a third party "Professional Engineer" to be responsible for and

stamp the design / shop drawings for the Temporary Re-suspension Barrier (TRB) system. Please clarify whether this third party "Professional Engineer" must be registered or licensed in the Province of British Columbia, or if registration / licensing in other jurisdictions will be acceptable (e.g. USA or international).

**Canada's Response:**

*For the third party "Professional Engineer" requirement in Specification Section 01 35 13.43 (Special Procedures for Contaminated Sites) regarding design / shop drawings for the Temporary Re-suspension Barrier (TRB) system, registration / licensing of this third party "Professional Engineer" in other jurisdictions will be acceptable (e.g. USA or international). This does not alter the requirement for a professional engineer registered or licensed in the Province of British Columbia wherever that requirement is indicated elsewhere in the Specification.*

Canada's response to question 9 issued in Amendment 002 is hereby retracted and replaced with: *"The required Bidder's Team Experience, described in Item 5 of Section 2.0 of the Appendix 6 Qualification Form, is for the Temporary Resuspension Barrier (TRB) System Third Party Design Engineer (identified in Section 1.0) to have directly prepared the engineered design for fixed or anchored silt curtains in a marine tidal environment to control suspended sediments."* This is consistent with Canada's subsequent response to related question 12, issued in Amendment 004.

**ATTACHMENT LIST AMENDMENT 005**

- a) ADDENDUM 004
- b) Phase 1A Pile Driving Records

**All other terms and conditions remain unchanged.**

## **ADDENDUM 004**

This Addendum 004 is issued to provide notice of the following changes to the Specifications:

1. Within Section 01 11 55 - General Instructions, replace Clause 1.3.22 with: *“Dredge Debris: Any solid waste materials other than sediment excavated as part of the dredging operations such as pile stubs (including pile stubs encountered during dredging that are not identified in the Tender documents, and which are to be removed), logs, wire, cable, steel bands, anchors, lumber, trash, concrete, etc. Dredge Debris excludes Demolition Debris. All costs associated with removal and disposal of Dredge Debris will be included within the unit rates for Required Dredging or Contingency Re-Dredging, as appropriate to the circumstance.”*
2. Within Section 31 62 17 (Steel Sheet Piling), replace clause 1.1.1 with: *“This Section covers re-driving of the sheet pile perimeter wall, survey monitoring thereof, and extraction and disposal (at completion of under-pier sediment remediation works) of the sheet pile perimeter wall, all as described on the Drawings (or as allowed otherwise by Clause 3.3.16.2 of this Section of the Specification).”*
3. Within Section 31 62 17 (Steel Sheet Piling), replace clause 3.3.16 with: *“Drive each sheet pile and temporary pile continuously to final tip elevation as indicated on the Drawings (except as allowed otherwise in Clause 3.3.16.2 of this Section of the Specification).”*
4. Within Section 31 62 17 (Steel Sheet Piling), insert new clause 3.3.16.1 as follows: *“For the portion of the perimeter sheet pile wall from bay line N1 (location noted on Drawings CSM3 and CSM4) to the northwest corner of the timber crib (approx. 104 metre run length along the northwest face), the sheet pile perimeter wall shall not be re-driven deeper than EL 0.0m chart datum as shown on the Drawings.”*
5. Within Section 31 62 17 (Steel Sheet Piling), insert new clause 3.3.16.2 as follows: *“For the remainder of the perimeter (approx. 326 metre run length along the west and south faces), the sheet pile wall may be re-driven down to no deeper than EL -1.0m chart datum in Contractor-selected locations, at Contractor’s option to suit his means and methods. The Contractor-selected locations for this deeper re-drive shall not exceed 30% of the 326 metre remaining run length (i.e. approx. 98 metre aggregate run length) measured at any time during the work. All other requirements in the Specification remain unchanged. There is no change to Contractor’s specified responsibilities re the TRB system, pile-driving and pile extraction requirements, and no change to measurement and payment regardless whether the sheet pile wall is re-driven to EL 0.0m, or portion(s) re-driven to EL -1.0m chart datum.”*
6. Within Section 31 62 17 (Steel Sheet Piling), replace clause 3.3.19 with: *“If conditions are encountered which make it difficult to re-drive a sheet pile in the location shown and to advance the pile to the tip elevation shown on the Drawings (or as allowed otherwise by Clause 3.3.16.2 of this Section of the Specification), employ all reasonable means to advance the pile.”*



7. Within Section 31 62 17 (Steel Sheet Piling), replace clause 3.8.1 with: *“Re-drive sheet piles to the design elevations described on the Drawings (or as allowed otherwise by Clause 3.3.16.2 of this Section of the Specification) to tolerance of +/- 25 mm.”*

**END OF ADDENDUM 004**

## Pile Record

Date: Nov 21 2012



**Salish Sea Industrial Services Ltd.**

*A True Partnership*

**Marine Services Division**



**Contract Number:**

EZ899-1310111/001/PWY

**Project Name:**

Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ26-700  
Sheet piles

**Weather:** Rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #1

**Sequence of driving piles:** #2 pair to # 7 pair

**Tip Elevation:** -13 m

**Cutoff Elevations:** 4.8 m

**Other:** All initial 27 pairs of piling were previously stacked, threaded and driven to within 3 meters of final elevation.  
Driving piles to required tip elevation was completed as a separate function

## Pile Record

Date: Nov 22 2012



**Salish Sea Industrial Services Ltd.**

*A True Partnership*

**Marine Services Division**



**Contract Number:**

EZ899-1310111/001/PWY

**Project Name:**

Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ26-700  
Sheet piles

**Weather:** Intermittant rain, overcast with sunny breaks

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #1

**Sequence of driving piles:** # 8 - # 28

**Tip Elevation:** -13 m

**Cutoff Elevations:** 4.8 m

**Other:** All initial 27 pairs of piling were previously stacked, threaded and driven to within 3 meters of final elevation.  
Driving piles to required tip elevation was completed as a separate function

## Pile Record

Date: Nov 23 2012



**Salish Sea Industrial Services Ltd.**

*A True Partnership*

**Marine Services Division**



**Contract Number:**

EZ899-1310111/001/PWY

**Project Name:**

Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ26-700  
Sheet piles

**Weather:** Rain with cloudy breaks

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #1

**Sequence of driving piles:** #29 - # 47

**Tip Elevation:** -13 m

**Cutoff Elevations:** 4.8 m

**Other:** All initial 27 pairs of piling were previously stacked, threaded and driven to within 3 meters of final elevation.  
Driving piles to required tip elevation was completed as a separate function

## Pile Record

Date: Dec 4 2012



**Salish Sea Industrial Services Ltd.**

*A True Partnership*

**Marine Services Division**



**Contract Number:**

EZ899-1310111/001/PWY

**Project Name:**

Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** Mhn Ellis

**Material:** AZ26-700  
Sheet piles

**Weather:** Intermittant rain, overcast with sunny breaks

**Type of hammer:** N odel 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #1

**Sequence of driving piles:** # 48 - #60

**Tip Elevation:** -13 m

**Cutoff Elevations:** 4.8 m

**Other:** All initial 27 pairs of piling were previously stacked, threaded and driven to within 3 meters of final elevation.  
Driving piles to required tip elevation was completed as a separate function

**Pile Record****Salish Sea Industrial Services Ltd.***A True Partnership***Marine Services Division****Date:** Dec 5 2012**Contract Number:** EZ899-1310111/001/PWY**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** Mhn Ellis

**Material:** AZ26-700  
Sheet piles

**Weather:** Intermittant rain, overcast with sunny breaks

**Type of hammer:** N odel 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #1

**Sequence of driving piles:** # 61 - # 74

**Tip Elevation:** -13 m

**Cutoff Elevations:** 4.8 m

**Other:** All initial 27 pairs of piling were previously stacked, threaded and driven to within 3 meters of final elevation.  
Driving piles to required tip elevation was completed as a separate function

## Pile Record

Date: Dec 10 2012



**Salish Sea Industrial Services Ltd.**

*A True Partnership*

**Marine Services Division**



**Contract Number:**

EZ899-1310111/001/PWY

**Project Name:**

Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ26-700  
Sheet piles

**Weather:** Clear cloudy occasional rain

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #1

**Sequence of driving piles:** Drive single sheet at East dolphin location

**Tip Elevation:** -13 m

**Cutoff Elevations:** 4.8 m

**Other:** Removal of dolphin piles required

**Pile Record**



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** Jan 21, 2013

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ38-700N  
Sheet piles

**Weather:** Light rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Starting at East end of Segment #1 working West

**Sequence of driving piles:** Stack 11 piles drive 10 to tip elevation

**Tip Elevation:** -13.50 m

**Cutoff Elevations:** 4.8 m

**Other:**

Driving piles to required tip elevation was completed as a separate function



**Pile Record**



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** Jan 22, 2013

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ38-700N  
Sheet piles

**Weather:** Clear

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #1 - mid rage of AZ38-700N sheet piles

**Sequence of driving piles:** Stack and drive 15 pairs to required tip elevation

**Tip Elevation:** -13.50 m

**Cutoff Elevations:** 4.8 m

**Other:**

Driving piles to required tip elevation was completed as a separate function

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** Jan 23, 2013

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ38-700N  
Sheet piles

**Weather:** clear and sunny

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** West end Segment #1

**Sequence of driving piles:** Complete remaining 3 pairs drive to tip  
Complete all cutoffs to final elevation

**Tip Elevation:** -13.50 m

**Cutoff Elevations:** 4.8 m

**Other:** All initial 29 pairs of piling were previously stacked, threaded and driven to within 3 meters of final elevation. Slip joint pair not installed  
Driving piles to required tip elevation was completed as a separate function

**Pile Record**



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 12-Feb-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** Corner interlock - 1 pair working East, 2 pair north

**Tip Elevation:** -13.5 m

**Cutoff Elevations:** 4.8 m - East west      5.1 North south

**Other:**

Driving piles to required tip elevation was completed as a separate function

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 14-Feb-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 14 pairs

**Tip Elevation:** -13.5 m

**Cutoff Elevations:** 4.8 m - East west

**Other:**

Driving piles to required tip elevation was completed as a separate function

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 15-Feb-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 12 pairs

**Tip Elevation:** -13.5 m

**Cutoff Elevations:** 4.8 m - East west

**Other:** First pair of the day, # 16 from the east end hit an obstruction but was driven through.  
Likely a broken pile stub now split vertically  
Driving piles to required tip elevation was completed as a separate function

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
Marine Services Division



**Date:** 18-Feb-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 22 pairs

**Tip Elevation:** -13.5 m

**Cutoff Elevations:** 4.8 m - East west

**Other:**

Driving piles to required tip elevation was completed as a separate function

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 19-Feb-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 18 pairs

**Tip Elevation:** -13.5 m

**Cutoff Elevations:** 4.8 m - East west

**Other:**

Driving piles to required tip elevation was completed as a separate function

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 20-Feb-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Rain, light wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 16 pairs

**Tip Elevation:** -13.5 m

**Cutoff Elevations:** 4.8 m - East west

**Other:**

Driving piles to required tip elevation was completed as a separate function



## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
Marine Services Division



**Date:** 01-Mar-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Clear

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 10 pairs

**Tip Elevation:** -16.0 m

**Cutoff Elevations:** 4.8 m - East west

**Other:**

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
Marine Services Division



**Date:** 04-Mar-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Clear

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 4 pairs at boat access

**Tip Elevation:** -20.775 m

**Cutoff Elevations:** -.075 m

**Other:**

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
Marine Services Division



**Date:** 05-Mar-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Clear  
**Type of hammer:** Model 50 APE Vibro  
**Other driving equipment:** 90 deg rotation plate  
**Location of piles:** Segment #2  
**Sequence of driving piles:** 12 pairs  
**Tip Elevation:** -16.0 m  
**Cutoff Elevations:** 4.8 m  
**Other:**

**Pile Record**

**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 06-Mar-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ700 N AZ 26 700 N  
Sheet piles

**Weather:** Clear

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:** 20 Pairs AZ700N 1 Pair AZ 26-700N from Seg #1

**Tip Elevation:** -13.5 m -12.0 m

**Cutoff Elevations:** 4.8 m 4.8 m

**Other:** Complete slip joint at intesection between Seg #1 & Seg #2

**Pile Record**



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 07-Mar-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** AZ50  
Sheet piles

**Weather:** Clear

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #2

**Sequence of driving piles:**

**Tip Elevation:** -16.0 m

**Cutoff Elevations:** 4.8 m

**Other:** Complete redrives to set all previously driven Type C piles to final elevation

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
Marine Services Division



**Date:** April 5th

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:** Type E Sheets  
AZ38700N  
Sheet piles

**Weather:** Rain, wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #3

**Sequence of driving piles:** 24 pairs

**Tip Elevation:** -15m

**Cutoff Elevations:** 5.1 m - Seated from South to North

**Other:** No other issues  
Piles stacked previously

## Pile Record



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 05-Apr-12

**Contract Number:** Ea788-1210111/001/PY Z

**Project Name:** Phbsf #1A Esquimblt Grbving Dodk Y btf rlot Rf mfeibtion Projf dt

**To:** PY GSC  
**Attention:** Rbf -Ann Shbrp  
**From:** John Ellis

**Material:** Vypf E Shf fts  
Aa27600N  
Shf f t pilf s

**Weather:** Rbin, wine

**Type of hammer:** Moefl 40 APE Wcro

**Other driving equipment:** 80 ef g rotbtion plbtbf

**Location of piles:** Sf gmf nt #2

<b>Sequence of driving piles:</b>	2 pbirs	Vypf E	tip
	1 singlf	Vypf C	-14m
	13 pbirs	Vypf C	-15m
	4 pbirs	Vypf E	-15m

**Tip Elevation:** Wbrif s

**Cutoff Elevations:** 3.7m

**Other:** No othf r issuf s  
Pilf s stbdkf e prf viously

**Pile Record**



**Salish Sea Industrial Services Ltd.**  
*A True Partnership*  
**Marine Services Division**



**Date:** 08-Apr-13

**Contract Number:** EZ899-1310111/001/PWY

**Project Name:** Phase #1A Esquimalt Graving Dock Waterlot Remediation Project

**To:** PWGSC  
**Attention:** Rae-Ann Sharp  
**From:** John Ellis

**Material:**  
Misc Sheet piles  
Sheet piles

**Weather:** Rain, wind

**Type of hammer:** Model 50 APE Vibro

**Other driving equipment:** 90 deg rotation plate

**Location of piles:** Segment #3

**Sequence of driving piles:**  
5 pairs Type E tip  
21 pairs Type C -15m  
15 pairs Type E -16m



**Tip Elevation:** Varies

**Cutoff Elevations:** 4.8m

**Other:** No other issues  
Piles stacked previously





<div><div></div><div><div><div>Salish Sea Industrial Services Ltd.</div><div>A True Partnership</div><div>Marine Services Division</div></div><div></div></div></div>	
<div><div>Pile Record</div><div><div>Date:</div><div>09-Apr-13</div></div><div><div>Contract Number:</div><div>EZ899-1310111/001/PWY</div></div><div><div>Project Name:</div><div>Phase #1A Esquimalt Graving Dock Waterlot Remediation Project</div></div></div>	
<div><div>To:</div><div>PWGSC</div><div>Attention:</div><div>Rae-Ann Sharp</div><div>From:</div><div>John Ellis</div></div>	<div><div>Material:</div><div>Type D Sheets</div><div>AZ50</div><div>Sheet piles</div></div>
<div><div><div><div>Weather:</div><div>Rain, wind</div></div><div><div>Type of hammer:</div><div>Model 50 APE Vibro</div></div><div><div>Other driving equipment:</div><div>90 deg rotation plate</div></div><div><div>Location of piles:</div><div>Segment #3</div></div><div><div>Sequence of driving piles:</div><div>23 Pairs</div></div><div><div>Tip Elevation:</div><div>Varies as per asbuil DWGs</div></div><div><div>Cutoff Elevations:</div><div>Varies from 41.125 m (East) to 4.8 m (West)</div></div><div><div>Other:</div><div>No other issues</div><div>Piles stacked previously</div></div></div></div>	

