

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Réception des soumissions - TPSGC / Bid
Receiving - PWGSC
1550, Avenue d'Estimauville
1550, D'Estimauville Avenue
Québec
Québec
G1J 0C7

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet Palplanches, pieux - IDS	
Solicitation No. - N° de l'invitation 53000-130002/A	Date 2013-05-15
Client Reference No. - N° de référence du client 53000-13-0002	
GETS Reference No. - N° de référence de SEAG PW-\$QCN-015-15394	
File No. - N° de dossier QCN-3-36032 (015)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-05-31	
Time Zone Fuseau horaire Heure Avancée de l'Est HAE	
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: Legendre, Sylvie	Buyer Id - Id de l'acheteur qcn015
Telephone No. - N° de téléphone (418) 649-2860 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: à déterminer / To be determined	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

TPSGC/PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

Delivery Required - Livraison exigée VOIR DOC.	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

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PART 1 - GENERAL INFORMATION

1. Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Requirement, the Basis of Payment, the Insurance Requirements and any other annexes.

2. Summary

This bid solicitation is being issued to satisfy the requirement of "The Jacques Cartier and Champlain Bridges Incorporated" for the supply, storage and delivery of sheet piles, pipe piles, tie backs and related hardware described in Annex A. These components are intended as part of the foundations of both a temporary causeway-bridge downstream from the Nuns' Island Bridge and a temporary viaduct on Nuns' Island (Verdun borough), in the Montreal region.

The requirement is subject to the provisions of the Agreement on Internal Trade (AIT).

The requirement is subject to a preference for Canadian goods and/or services.

3. Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2. Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Québec.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Financial Bid (2 hard copies)

Section II: Certifications (2 hard copies)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Financial Bid

- 1.1 Bidders must submit their financial bid in accordance with the Basis of Payment in Annex B. The total amount of Applicable Taxes must be shown separately.

1.2 Exchange Rate Fluctuation

C3011T (2010-01-11), Exchange Rate Fluctuation

Section II: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) The evaluation team will determine first if there are three (3) or more bids with a valid Canadian Content certification. In that event, the evaluation process will be limited to the bids with the certification; otherwise, all bids will be evaluated. If some of the bids with a valid certification are declared non-responsive, or are withdrawn, and less than three responsive bids with a valid certification remain, the evaluation will continue among those bids with a valid certification. If all bids with a valid certification are subsequently declared non-responsive, or are withdrawn, then all the other bids received will be evaluated.

1.2 Financial Evaluation

1.2.1 Mandatory Financial Criteria

SACC Manual Clause A0220T (2013-04-25), Evaluation of Price

2. Basis of Selection

SACC Manual Clause A0069T (2007-05-25), Basis of selection

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and related documentation to be awarded a contract. Canada will declare a bid non-responsive if the required certifications and related documentation are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications, to provide the related documentation or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies that the Bidder and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Bid of Standard Instructions 2003. The related documentation therein required will assist Canada in confirming that the certifications are true.

2. Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

2.1 Federal Contractors Program - Certification

2.1.1 Federal Contractors Program - \$200,000 or more

1. The Federal Contractors Program (FCP) requires that some suppliers, including a supplier who is a member of a joint venture, bidding for federal government contracts, valued at \$200,000 or more (including all applicable taxes), make a formal commitment to implement employment equity. This is a condition precedent to contract award. If the Bidder, or, if the Bidder is a joint venture and if any member of the joint venture, is subject to the FCP, evidence of its commitment must be provided before the award of the Contract.

Suppliers who have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any bids from ineligible contractors, including a bid from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

2. If the Bidder does not fall within the exceptions enumerated in 3.(a) or (b) below, or does not have a valid certificate number confirming its adherence to the FCP, the Bidder must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.
3. The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

- (a) is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;
- (b) is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;
- (c) is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached;
- (d) is subject to the FCP, and has a valid certificate number as follows: _____
(e.g. has not been declared an ineligible contractor by HRSDC.)

Further information on the FCP is available on the HRSDC Web site.

3. Additional Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

3.1 Canadian Content Certification

This procurement is conditionally limited to Canadian goods.

Subject to the evaluation procedures contained in the bid solicitation, bidders acknowledge that only bids with a certification that the good(s) offered are Canadian goods, as defined in clause A3050T, may be considered.

Failure to provide this certification completed with the bid will result in the good(s) offered being treated as non-Canadian goods.

The Bidder certifies that:

() the good(s) offered are Canadian goods as defined in paragraph 1 of clause A3050T.

3.1.1. *SACC Manual* clause A3050T (2010-01-11) Canadian Content Definition

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

1. Financial Capability

Manual SACC clause A9033T (2012-07-16) Financial Capability

2. Insurance Requirements

The Contractor must comply with the insurance requirements specified in Annex C . The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

PART 7 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

1. Requirement

The supply, storage and delivery of sheet piles, pipe piles, tie backs and related hardware detailed at Annex A. These components are intended as part of the foundations of both a temporary causeway-bridge downstream from the Nuns' Island Bridge and a temporary viaduct on Nuns' Island (Verdun borough), in the Montreal region.

2. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

2.1 General Conditions

2030 (2013-04-25), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

3. Delivery

The Contractor must establish a manufacturing schedule to ensure that all the sheet piles, pipe piles, tie backs and related hardware are fabricated and inspected by the Technical Authority, at the Contractor's premises, by August 19, 2013 at the latest.

The Contractor shall note that the site work for the purpose of installing the sheet piles, pipe piles, tie backs and related hardware (not in contract) is scheduled to begin in Autumn of 2013. The Contractor must deliver all the sheet piles, pipe piles, tie backs and related hardware between September 9, 2013 and September 13, 2013 inclusively. The delivery site (exact location to be determined prior to delivery) is located near the Nuns' Island Bridge, in the Montreal region, Quebec. Acceptance of the material will be done on September 13, 2013 at the latest.

The Contractor shall note that the delivery of the sheet piles, pipe piles, tie backs and related hardware may span over several days provided that the deadline in section above is met.

4. Authorities

4.1 Contracting Authority

The Contracting Authority for the Contract is:

Sylvie Legendre
Public Works and Government Services Canada
601-1550 Avenue D'estimauville
Québec, Québec, G1J 0C7
Téléphone : (418) 649-2860 Télécopieur: (418) 648-2209
Courriel: sylvie.legendre@tpsgc-pwgsc.gc.ca

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The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

4.2 Technical Authority

The Technical Authority for the Contract is :

Name: _____
Title: _____
Organization: _____

Telephone : _____
Facsimile : _____
Email : _____

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

4.3 Contractor's Representative

Name: _____
Title: _____
Telephone : _____
Facsimile : _____
Email : _____

5.1 Payment

5.1.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm prices, as specified in Annex B. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

5.2 Limitation of Price

SACC Manual clause C6000C (2011-05-16) Limitation of Price

5.3 Single Payment

SACC Manual clause H3010C (2010-01-11) Milestone payments

5.4 Schedule of Milestones

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

Milestone No.	Deliverable	Firm Amount	Delivery Date
1	Sheet piles, pipe piles, tie backs and related hardware, inspected at the contractor's premises	75% of the total detailed at Annex B	August 19, 2013
2	Sheet piles, pipe piles, tie backs and related hardware delivered on site	25% of the total detailed at Annex B	Between September 9 and 13, 2013 inclusively

5.5 SACC Manual Clauses

C2000C (2007-11-30), Taxes - Foreign-based Contractor

C2605C (2008-05-12), Canadian Customs Duties and Sales Tax - Foreign-based Contractor

5.6 Liquidated Damages

1. If the Contractor fails to meet the delivery time specified in the Contract, the Contractor agrees to pay to Canada liquidated damages in the amount of \$ 5,000.00 for each calendar day of delay. The total amount of the liquidated damages must not exceed 100 percent of the contract price.
2. Canada and the Contractor agree that the amount stated above is their best pre-estimate of the loss to Canada in the event of such a failure, and that it is not intended to be, nor is it to be interpreted as, a penalty.
3. Canada will have the right to hold back, drawback, deduct or set off from and against the amounts of any monies owing at any time by Canada to the Contractor, any liquidated damages owing and unpaid under this section.
4. Nothing in this section must be interpreted as limiting the rights and remedies which Canada may otherwise have under the Contract.

6. Invoicing Instructions - Progress Payment Claim

1. The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment. Each claim must show:
 - A. all information required on form PWGSC-TPSGC 1111;
 - B. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;

3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the Contracting Authority identified under the section entitled "Authorities" of the Contract for appropriate certification. The Contracting Authority will then forward the certified claim, to the Technical Authority for appropriate certification after inspection and acceptance of the Work takes place, and onward submission to the Payment Office for the remaining certification and payment
4. The Contractor must not submit claims until all work identified in the claim is completed.

7. Certifications

7.1 Compliance

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

7.2. SACC Manual Clauses

A3060C (2008-05-12), Canadian Content Certification

8. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in (will be inserted at contract award).

9. Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions 2030 (2013-04-25) - Higher Complexity - Goods);
- (c) Annex A, Requirement;
- (d) Annex B, Basis of Payment;
- (e) Annex C, Insurance Requirements;
- (f) Annex D, Plans
- (g) the Contractor's bid dated _____.

10. Insurance Requirements

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

11. Progress Reports

1. The Contractor must submit monthly reports, in electronic format, on the progress of the Work, to both the Technica Authority and the Contracting Authority.
2. The progress report must contain the following parts:
 - A. PART 1: The Contractor must answer the following questions:
 - i. Is the project on schedule?
 - iii. Is the project free of any areas of concern in which the assistance or guidance of Canada may be required?

Each negative response must be supported with an explanation.

- B. PART 2: A narrative report, brief, yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing as a minimum:
 - i. description of the progress of each task and of the Work as a whole during the period of the report. Sufficient sketches, diagrams, photographs, etc., must be included, if necessary, to describe the progress accomplished.
 - ii. An explanation of any variation from the work plan.
 - iii. A description of trips or conferences connected with the Contract during the period of the report.
 - iv. A description of any major equipment purchased or constructed during the period of the report.

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QCN-3-36032

Buyer ID - Id de l'acheteur

qcn015

CCC No./N° CCC - FMS No/ N° VME

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

53000-13-0002

ANNEX A - REQUIREMENT

**HIGHWAY 15, TEMPORARY CAUSEWAY-BRIDGE,
SHEET PILES AND PIPE PILES SUPPLY
(2013)**

Prepared by :

Audrey Delsemme, jr Eng.
OIQ Membership No. : 5020473

and :

Tony Mailhot, Eng., M. Sc.
OIQ Membership No. : 114017

Verified by :

Bernard Breault, Eng.
OIQ Membership No. : 024663

1.0 PURPOSE

- 1.1 In general, the purpose of this contract is to supply, store and deliver sheet piles, pipe piles, tie backs and related hardware described in the present statement of requirements. These components will be installed by a third party (not in contract). They are intended as part of the foundations of both a temporary causeway-bridge downstream from the Nuns' Island Bridge and a temporary viaduct on Nuns' Island (Verdun borough), in the Montreal region.
- 1.2 Unless indicated otherwise, all works shown in the drawings and described in the specifications are part of this contract.
- 1.3 All works shown in the drawings and described in the specifications shall be performed within the time frame provided in section 3.0 *Work planning*.

2.0 DEFINITIONS

- 2.1 "related hardware" means all sleeves, machined bearing plates in contact with pipe piles or bearing plates in contact with walers, together with flat washers, nuts and locknuts required to install the tie backs.
- 2.2 "Project" stands for the project involving the construction of a temporary causeway-bridge for the replacement of the Nuns' Island Bridge.

3.0 WORK PLANNING

- 3.1 The Contractor shall establish a manufacturing schedule to ensure that all the sheet piles, pipe piles, tie backs and related hardware are fabricated and inspected by the Technical Authority by August 19, 2013 at the latest.
- 3.2 The Contractor shall note that the site work for the purpose of installing the sheet piles, pipe piles, tie backs and related hardware (not in contract) is scheduled to begin in Autumn of 2013. The Contractor shall deliver all the sheet piles, pipe piles, tie backs and related hardware between September 9, 2013 and September 13, 2013 inclusively. The delivery site (exact location to be determined by the Project contractor prior to delivery) is located near the Nuns' Island Bridge, in the Montreal region, Quebec. Acceptance of the material will be done September 13, 2013 at the latest.
- 3.3 The Contractor shall note that the delivery of the sheet piles, pipe piles, tie backs and related hardware may span over several days provided that the deadline in section 3.2 is met.
- 3.4 All work related to preparing and submitting to the Technical Authority the shop drawings of the sheet piles, pipe piles, tie backs and related hardware shall be completed, in all respects, no later than fourteen (14) days following the date of the written notification of the Contract award. The *Contractor's drawings* shall be submitted to the Technical Authority in a logical order and within the prescribed time frame. The Contractor and Technical Authority shall, if either party so requests, jointly prepare a calendar with predetermined dates for the submission and return of the *Contractor's drawings*. The Contractor shall allow five (5) working days for review by the Technical Authority unless otherwise agreed upon with the Technical Authority.

- 3.4.1 The term "*Contractor's drawings*" refers to lifting drawings, diagrams, illustrations, tables, performance charts, shop drawings, technical data sheets, brochures, samples and other documents required to perform the work, based on the drawings and specifications provided.

4.0 INSPECTIONS

- 4.1 The Contractor and the Technical Authority shall conduct a joint inspection of all the sheet piles, pipe piles, tie backs and related hardware on August 19, 2013 at the latest.
- 4.2 Once the sheet piles, pipe piles, tie backs and related hardware are delivered to and unloaded at the delivery site, the Contractor and Technical Authority shall inspect the delivered components together. Any corrections required shall be made on site by and at the expense of the Contractor.

5.0 DELIVERABLES AND DELIVERY SITE

- 5.1 The deliverables in this contract are :
- The sheet piles, pipe piles, tie backs and related hardware as per the price table and the specifications and drawings;
 - The manufacturing schedule;
 - The shop drawings and technical data sheets;
 - Quality control documents and welding procedures performed by companies approved by the Canadian Welding Bureau (CWB), in accordance with standard CSA W47.1, Division 1 or 2;
 - Mill test certificates and destructive and non-destructive test reports for all materials.
- 5.2 The delivery site for the sheet piles, pipe piles, tie backs and related hardware will be a piece of land near the Nuns' Island Bridge, in the Montreal region, Quebec, as illustrated in drawing 125701-S01.
- 5.2.1 The Contractor shall access the delivery site only from the on-ramp from Highway 15 South (Exit 60) to Highway 10 West, via the land managed by the Jacques Cartier and Champlain Bridges inc. (JCCBI) Society, as illustrated in drawing 125701-S01.
- 5.2.2 The Project contractor shall landscape the delivery site, therefore preparing it for the delivery of the sheet piles, pipe piles, tie backs and related hardware. The delivery site will be cleared of debris and obstacles and will be graded, planed and surfaced with either granular fill, asphalt or concrete.
- 5.2.3 The definitive configuration of the delivery site and its access will be transmitted to the Contractor no later than seven (7) days before the scheduled date of delivery of the sheet piles, pipe piles, tie backs and related hardware.
- 5.2.4 The Contractor shall proceed with the delivery and unloading of the sheet piles, pipe piles, tie backs and related hardware in such a manner as not to obstruct the work of the Project contractor and shall cooperate with the latter in order to ensure the smooth progress of these activities.

5.2.5 The Contractor shall be aware of accident prevention practices in force at the site of the Project contractor and subject to the requirements relating to health and safety for the activities of delivery and unloading of sheet piles, pipe piles, tie backs and related hardware.

5.2.6 The Contractor shall be aware of the Environmental Protection Action Plan of the Project contractor and subject to environmental protection requirements applicable to the activities of delivery and unloading of sheet piles, pipe piles, tie backs and related hardware.

6.0 DESCRIPTION OF WORK

6.1 The production and supply of the sheet piles, pipe piles of 915 mm and 1 829 mm in diameter, tie backs and related hardware, intended as part of the foundations of both a temporary causeway-bridge downstream from the Nuns' Island Bridge and a temporary viaduct on Nuns' Island (Verdun borough), in the Montreal region, includes all pertinent work stipulated in the drawings and specifications, including, but not limited to, the following:

- Preparation of the work schedule;
- Preparation of all the shop drawings;
- Supply of all materials, including, but not limited to, steel and all accessories for the fabrication and storage of sheet piles, pipe piles, tie backs and related hardware;
- Provision of mill test certificates and destructive and non-destructive test reports for all materials;
- Production of steel components;
- Cleaning of steel components;
- Storage of sheet piles, pipe piles, tie backs and related hardware;
- Delivery of sheet piles, pipe piles, tie backs and related hardware to the delivery site, located near the Nuns' Island Bridge, designated by the Project contractor.

6.2 LIST OF CONTRACTUAL DRAWINGS

6.2.1 The following drawings, listed below, accompany the Contract documents governing the present work and are an integral part of it :

Autoroute 15, pont-jetée temporaire, fourniture de palplanches et pieux caissons (2013)		
<i>Highway 15 – Temporary Causeway-Bridge, Sheet Piles and Pipe Piles Supply (2013)</i>		
Numéro	Date	Titre
125701-S01	2013-03-01	Localisation et liste des dessins <i>Location and Drawing List</i>
125701-S02	2013-03-01	Notes générales <i>General Notes</i>

Autoroute 15, pont-jetée temporaire, fourniture de palplanches et pieux caissons (2013)

Highway 15 – Temporary Causeway-Bridge, Sheet Piles and Pipe Piles Supply (2013)

Numéro	Date	Titre
125701-S03	2013-03-01	Plan d'ensemble <i>General Layout</i>
125701-S04	2013-03-01	Pont-jetée – Culée axe 1 – 1 de 2 <i>Causeway-Bridge – Abutment Axis 1 – 1 of 2</i>
125701-S05	2013-03-01	Pont-jetée – Culée axe 1 – 2 de 2 <i>Causeway-Bridge – Abutment Axis 1 – 2 of 2</i>
125701-S06	2013-03-01	Pont-jetée – Pile axe 2 <i>Causeway-Bridge – Pile Axis 2</i>
125701-S07	2013-03-01	Pont-jetée – Pile axe 3 <i>Causeway-Bridge – Pile Axis 3</i>
125701-S08	2013-03-01	Pont-jetée – Culée axe 4 – 1 de 2 <i>Causeway-Bridge – Abutment Axis 4 – 1 of 2</i>
125701-S09	2013-03-01	Pont-jetée – Culée axe 4 – 2 de 2 <i>Causeway-Bridge – Abutment Axis 4 – 2 of 2</i>
125701-S10	2013-03-01	Viaduc – Culée axe 1 – 1 de 2 <i>Viaduct – Abutment Axis 1 – 1 of 2</i>
125701-S11	2013-03-01	Viaduc – Culée axe 1 – 2 de 2 <i>Viaduct – Abutment Axis 1 – 2 of 2</i>
125701-S12	2013-03-01	Viaduc – Culée axe 3 – 1 de 2 <i>Viaduct – Abutment Axis 3 – 1 of 2</i>
125701-S13	2013-03-01	Viaduc – Culée axe 3 – 2 de 2 <i>Viaduct – Abutment Axis 3 – 2 of 2</i>
125701-S14	2013-03-01	Acier – Détails divers – 1 de 2 <i>Steel – Miscellaneous Details – 1 of 2</i>
125701-S15	2013-03-01	Acier – Détails divers – 2 de 2 <i>Steel – Miscellaneous Details – 2 of 2</i>

7.0 PARTICULAR REQUIREMENTS

7.1 CONTENT AND FORMAT OF THE MANUFACTURING SCHEDULE

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- 7.1.1 The Contractor shall, within seven (7) days after the Contract is awarded, submit to the Technical Authority for review a detailed work schedule showing that the work will be carried out within the Contract timeframe.
- 7.1.2 The schedule shall be sufficiently detailed to clearly identify the anticipated sequence of the activities required to carry out the work within the Contract timeframe by indicating their start and end dates and their interdependence. Moreover, the Contractor shall identify activities that are part of the Contract's critical path.
- 7.1.3 The schedule shall include all relevant activities indicated in the drawings and specifications and include, but not be limited to, the following:
- 7.1.3.1 Preparation of all the *Contractor's drawings* (including, but not limited to, shop drawings and transportation and storage drawings);
- 7.1.3.2 Material lead time and date of factory receipt;
- 7.1.3.3 Fabrication of sheet piles and pipe piles;
- 7.1.3.4 Welding of sheet piles ties to the 915 mm diameter pipe piles;
- 7.1.3.5 Fabrication of tie backs and related hardware;
- 7.1.3.6 Storage of sheet piles, pipe piles, tie backs and related hardware;
- 7.1.3.7 Delivery to the delivery site indicated in drawing 125701-S01;
- 7.1.3.8 Supply of all contract documents required for acceptance of the work.
- 7.2 SHOP DRAWINGS
- 7.2.1 At least ten (10) days before any material order or any components fabrication, the Contractor shall submit to the Technical Authority, for review, detailed shop drawings for the new work.
- 7.2.2 The Contractor shall prepare all manufacturing drawings as well as lists of materials required for the work, based on the drawings and specifications.
- 7.2.3 The drawings shall be prepared using AutoCAD (most recent version on the market) and according to the JCCBI's standardized procedures described in the *Computer Assisted Drawing Preparation Procedures*, which the Technical Authority will provide for the Contractor on request. Drawings not prepared according to these standardized procedures will be returned to the Contractor for correction. Drawings shall be produced in electronic format.
- 7.3 QUALITY CONTROL
- 7.3.1 At least ten (10) days before the steelwork begins, the Contractor shall submit to the Technical Authority, for review and comments, the quality control program he plans to implement for the steelwork.
- 7.4 STEELWORK

7.4.1 General

7.4.1.1 This subsection sets out the requirements related to steelwork covered by this Contract.

7.4.2 Reference Standards

7.4.2.1 The Contractor shall carry out steelwork in accordance with the requirements set out in the following standards and documents to which the provisions of the Contract are added:

7.4.2.1.1 (ANSI) American National Standards Institute / (NAAMM) National Association of Architectural Metal Manufacturers :

- ANSI/NAAMM MBG 531-00 *Metal Bar Grating Manual*;

7.4.2.1.2 (ASME) American Society of Mechanical Engineers :

- ASME B18.21.1 - 1999 *Lock Washers (Inch Series)*;

7.4.2.1.3 (ASTM) ASTM International :

- ASTM A53/A53M-07 *Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless*;

- ASTM A108-07 *Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished*;

- ASTM A123/A123M *Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products*;

- ASTM A153/153M-05 *Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware*;

- ASTM A434-06 *Standard Specification for Steel Bars, Alloy, Hot-Wrought or Cold-Finished, Quenched and Tempered*;

- ASTM A510-07 *Standard Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel*;

- ASTM A1011/A1011M-08 *Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength*;

7.4.2.1.4 (CSA) Canadian Standards Association :

- CAN/CSA G40.20-04/G40.21-04 *General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel*;

- CAN/CSA S6-06 *Canadian Highway Bridge Design Code*;

- CAN/CSA S16-01(R2007) *Limit States Design of Steel Structures*;

- CAN/CSA W47.1-03 *Certification of Companies for Fusion Welding of Steel*;

- CAN/CSA W48-06 *Filler Metals and Allied Materials for Metal Arc Welding*;

- CAN/CSA W59-03 *Welded Steel Construction (Metal Arc Welding)*;

- CAN/CSA W178.2-08 *Certification of Welding Inspectors*;

- CAN3 Z299.3-85 (R2006) *Quality Assurance Program – Category 3*.

7.4.2.1.5 (MTQ) Ministry of Transportation of Quebec :

- *Cahier des charges et devis généraux (CCDG)*.

7.4.2.1.6 (SSPC) The Society for Protective Coatings :

- SSPC-SP 11, *Power Tool Cleaning to Bare Metal*.

7.4.3 Materials

7.4.3.1 *General*

7.4.3.1.1 Structural steel shall conform to the requirements of standard CAN/CSA G40.21.

7.4.3.1.2 All steel components shall be new and free of deformations, rust and flaws, such as cracks, nicks or sharp edges.

7.4.3.1.3 The fabrication tolerances for steel components shall meet the requirements of standard CAN/CSA S6.

7.4.3.2 *Structural Steel*

7.4.3.2.1 Steel used for plates shall conform to standard CAN/CSA G40.21, grade 300W, 350W, 350WT or 350AT

7.4.3.2.2 Galvanization shall conform to standard ASTM A123/A123M.

7.4.3.3 *Welding Electrodes*

7.4.3.3.1 Welding electrodes shall be base electrodes conforming to standard CAN/CSA W48 or designated hydrogen controlled.

7.4.3.3.2 Storage and preparation of electrodes shall conform to standard CAN/CSA W59.

7.4.4 Source of Steel

7.4.4.1 *Certificate of Conformity*

7.4.4.1.1 For every delivery of steel and at least fourteen (14) days prior to their use, the Contractor shall provide the Technical Authority with a certificate of conformity

7.4.4.1.1.1 The certificate of conformity for steel shall include the following information for each production batch:

- name of steel mill;
- date and place of fabrication;
- nominal dimensions;
- grade;
- category;
- cast number;
- results of analyses, tests and quality control measures;
- production batch number.

7.4.4.1.1.2 A production batch comprises structural steel components of the same type, grade, category and dimensions from the same cast.

7.4.4.1.1.3 Samples used for physical tests shall be available from the steel mill for inspection by the Technical Authority.

7.4.4.2 *Stock Steel*

- 7.4.4.2.1 Where steel is from stock, the Contractor shall justify the quality of the materials by providing the Technical Authority with stamps and certificates from the manufacturer guaranteeing that the steel meets the prescribed requirements.
- 7.4.4.2.2 The Technical Authority reserves the right to select components to undergo testing at the Contractors expense.
- 7.4.4.2.3 In the absence of mill test certificates for all stock steel, the Contractor shall provide the Technical Authority with a certificate indicating that the steel meets the prescribed requirements.
- 7.4.4.3 *Imported Steel*
- 7.4.4.3.1 The Contractor shall provide the Technical Authority with a declaration of compliance with the prescribed requirements signed by the Canadian supplier of steel imported from a country other than the United States of America.
- 7.4.4.4 *Marking*
- 7.4.4.4.1 Structural steel shall be marked as required by standard CAN/CSA G40.21.
- 7.4.4.5 *Steel Testing Methods*
- 7.4.4.5.1 Steel shall be tested using the methods prescribed in the current ASTM standards.
- 7.4.4.6 *Delivery, Handling and Storage*
- 7.4.4.6.1 During fabrication and transportation, all necessary precautions shall be taken to prevent damage to steel components. Specifically, the Contractor shall ensure that :
- 7.4.4.6.1.1 the edges of components are not nicked;
- 7.4.4.6.1.2 components are not subject to excessive loads;
- 7.4.4.6.1.3 any protective spacers required during transportation, lifting and storage of components are supplied and installed;
- 7.4.4.6.1.4 no part of any steel component comes into contact with the ground;
- 7.4.4.6.1.5 components and their protective coating are protected from any damage.
- 7.4.4.7 *Delivery Inspection*
- 7.4.4.7.1 The Technical Authority reserves the right to inspect steel components on delivery according to the requirements set out in standard CAN/CSA G40.21.
- 7.4.4.7.1.1 Plates sections shall be big enough to allow 200 mm by 75 mm samples to be taken; the 200 mm dimension shall be in the direction of rolling.
- 7.4.4.7.1.2 The cast number shall be marked on pieces cut from plates with the Technical Authority present.
- 7.4.5 Shop Drawings

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- 7.4.5.1 At least fourteen (14) days before any materials are ordered or any components are fabricated, the Contractor shall submit to the Technical Authority for review shop drawings and detailed design notes for new steel structures and components; the drawings and notes shall bear the seal and signature of an engineer who is a member of the Ordre des ingénieurs du Québec and has at least five (5) years of experience in the design of structures.
- 7.4.5.2 Shop drawings shall include at least the following information :
- 7.4.5.2.1 a description of the work methods, temporary bracing and supports, and type of equipment proposed for transportation of the structural steel components;
- 7.4.5.2.2 the main dimensions, the location of the various components and the identifying marks;
- 7.4.5.2.3 all fabrication details, including shop joints, cuts, counter-profiles, assemblies, holes, bearing plates and threaded anchors;
- 7.4.5.2.4 the number of the welding procedure and the type of non-destructive testing of the welds in the tail of the welding symbol for each welded assembly;
- 7.4.5.3 Documents outlining the welding procedures and data sheets shall be approved and bear the seal of the Canadian Welding Bureau and shall be signed and sealed by an engineer who is a member of the Ordre des ingénieurs du Québec and has the qualifications described in paragraph 7.4.5.1.
- 7.4.5.4 The Contractor may not make any changes to materials or structural details set out in shop drawings reviewed by the Technical Authority without first obtaining written authorization from the Technical Authority.
- 7.4.5.5 The fact that the documents and components referred to in the preceding paragraphs are reviewed by the Technical Authority does not relieve the Contractor of its responsibilities under the Contract, including, but not limited to, its responsibility to supply appropriate materials and equipment, adopt suitable work methods, ensure quality work, and apply adequate safety measures.
- 7.4.6 Execution
- 7.4.6.1 *General*
- 7.4.6.1.1 The Contractor shall supply labour, machinery, equipment, tools and temporary structures for the fabrication and installation of steel components as prescribed by the drawings and specifications.
- 7.4.6.1.2 All new steel components shall be free of deformations, rust and flaws, such as cracks, nicks, sharp edges, ruts and welding splatters.
- 7.4.6.2 *Cutting and Piercing*
- 7.4.6.2.1 Shear cutting is permitted only for steel plate up to 20 mm thick where the steel has a nominal yield strength below 350 MPa and is permitted only for steel plate up to 16 mm thick where the steel has a nominal yield strength of 350 MPa or more.
- 7.4.6.2.2 Flame cutting in the shop shall be done using mechanical guides. The work shall be done continuously, without stopping and restarting, in order to obtain an even cut surface.

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- 7.4.6.2.3 Holes shall be drilled or punched.
- 7.4.6.2.4 All holes made in the shop shall be accurately drilled perpendicular to the surface.
- 7.4.6.3 *Welding*
- 7.4.6.3.1 General
- 7.4.6.3.1.1 Shop welding shall conform to standard CAN/CSA W59 *Welded Steel Construction (Metal Arc Welding)*.
- 7.4.6.3.1.2 The Contractor or any of its subcontractors who carry out welding work shall be certified by the Canadian Welding Bureau in accordance with the requirements of standard CAN/CSA W47.1. Division 1 or division 2 is required for steelwork.
- 7.4.6.3.1.3 The qualification certificate shall be obtained before fabrication begins, and certification shall be maintained throughout the fabrication period.
- 7.4.6.3.1.4 Welders, checkers and welding machine operators shall hold appropriate competency cards based on the welding position and the type of electrodes and welding method used. These competency cards shall be issued by the Canadian Welding Bureau in accordance with the requirements of standard CAN/CSA W47.1. Welders shall have at least five (5) years of welding experience.
- 7.4.6.3.1.5 Where welds are made in conditions where contraction or distortion stresses can reduce the strength or cause deformation of the members, the Contractor shall submit to the Technical Authority for review the following methods: a method detailing the welding sequence and methods for controlling distortion, including but not limited to, pre-heating, post-heating, heating between passes and specification of welds, in accordance with standard CAN/CSA W59.
- 7.4.6.3.1.6 The Contractor shall provide details of specific preparation of the edges of some plates for welding to ensure that the work conforms to the prescribed standards.
- 7.4.6.3.1.7 The elements to be welded shall be pre-heated immediately prior to welding to eliminate moisture.
- 7.4.6.3.1.8 Data sheets of the welding procedure shall indicate the preheating temperature according to the thickness of the base metal.
- 7.4.6.3.1.9 Fillet welds shall have the minimum width prescribed in standard CAN/CSA S6 and shall be detailed on the shop drawings submitted by the Contractor.
- 7.4.6.3.1.10 Prior to welding, the steel surfaces shall be cleaned to bare metal. After welding, remove any surface defects and grind any sharp edges. The Contractor shall ensure that all flux and welding splatters are removed.
- 7.4.6.3.1.11 Welds shall be made prior to galvanization.
- 7.4.6.3.1.12 When welding is complete, the adjacent steel surfaces shall be brushed to remove any splatters and loose welding material from the metal.

7.4.6.4 Galvanization

7.4.6.4.1 The galvanization process to be used on the metallic parts is the Hot-Dip Galvanization.

7.4.6.4.2 Surface preparation

7.4.6.4.2.1 The surfaces to be galvanized shall be clean and free of, but not limited to, paint, grease and rust. Deposits and residues from welding, scale and deposits of thick paint or rust shall be removed by suitable methods. The final stripping shall be done by immersion in a caustic solution, followed by rinsing with clear water and immersion in a bath of sulfuric acid or dilute hydrochloric acid. After etching, the pieces shall be immersed in an aqueous solution of zinc chloride and ammonium.

7.4.6.4.3 Galvanization process

7.4.6.4.3.1 The Hot-Dip Galvanization method shall be performed in accordance with the requirements of standard ASTM A123/A123M.

7.4.6.4.4 Galvanized parts protection

7.4.6.4.4.1 The Contractor shall protect galvanized parts against damage during handling and storage. This storage shall be done so that the air flows between parts, the water does not accumulate and drains freely and there is no metal to metal contact against the galvanized parts. The galvanized part coming into contact with the lifting equipment, such as cables and chains shall be adequately protected.

7.4.6.4.5 Repairs following galvanisation

7.4.6.4.5.1 Damaged surfaces, with a width of up to 5 mm and a length up to 100 mm, shall be repaired to the satisfaction of the Technical Authority using one of the following cold galvanizing products :

- *Sealtight Galvafruid Zinc-Rich Coating* distributed by W.R. Meadows of Canada Limited;
- *Z.R.C.* manufactured by Sealube, Quincy, Massachusetts, and distributed by Torfasco Limited;
- *LPS-Instant Cold Galvanize* distributed by Furnace Engineering Company (Canada);
- *Galvanox Type 1* manufactured by Carboline and distributed by Corrosion Service Company Limited.
- *Ferox 5017* manufactured and distributed by Ferox Inc.;
- *Galvano* (zinc paste # 70-40) manufactured by Métaflux and distributed by Améta Solution Inc.;
- *Crown - code 67009* manufactured by Crown and distributed by Wolseley Ltée

7.4.6.4.5.2 The zinc-rich cold galvanizing product shall be applied only to metal that is completely clean and dry. The Contractor shall use solvents to remove grease and oil before applying the zinc-rich product. The surfaces to be treated shall be prepared according to a type of care equivalent to SSPC-SP 11 *Power Tool Cleaning to Bare Metal*. before the application of the high zinc content product. The Contractor shall apply two coats with a dry film thickness of at least 130 micrometres.

- 7.4.6.4.5.3 Products shall be applied with a brush. Zinc-rich cold galvanizing products in a spray are not accepted.
- 7.4.6.4.5.4 Damaged surfaces of a width exceeding 5 mm or of a length exceeding 100 mm shall be galvanized again or repaired by metallization. In the latter case, the damaged surfaces shall first be cleaned according to the requirements of SSPC-SP 5/NACE ° n°1 *White Metal Blast Cleaning* or SSPC-SP standard 11 *Power Tool Cleaning to Bare Metal*. The minimum thickness of the metallic coating shall be 130 micrometres.
- 7.4.6.5 *Final Inspection*
- 7.4.6.5.1 A piece shall not leave the factory before the inspection report on non-destructive testing of welds has been given to the Technical Manager and the latter has completed its final inspection and given a written acceptance of the Contractor.
- 7.4.6.6 *Handling and transport*
- 7.4.6.6.1 Bolts, nuts and washers shall be delivered to the site, assembled and in containers sealed at the manufacturer's plant. The identification of each container shall include the production batch number and the main characteristics of the assembled bolts, nuts and washers.
- 7.4.6.6.2 Sealed or open containers on the construction site shall be stored away from moisture, dust and dirt so bolts, nuts and washers are maintained in the same state they were upon delivery. After each day's work, bolts, nuts and washers shall be returned in their original containers.
- 7.4.7 Quality Control
- 7.4.7.1 *General*
- 7.4.7.1.1 At least fourteen (14) days prior to the start of steelwork, the Contractor shall submit to the Technical Authority for review and comments the quality control program it plans to implement in carrying out steelwork.
- 7.4.7.1.2 The Contractor shall implement its quality control program in accordance with the requirements of standard CAN/CSA3 Z299.3. The program shall indicate all checks that will be made in carrying out the following steps :
- 7.4.7.1.2.1 receiving of materials;
- 7.4.7.1.2.2 fabrication of components;
- 7.4.7.1.2.3 delivery and unloading at the work site.
- 7.4.7.1.3 The Contractor shall notify the Technical Authority at least fourteen (14) days before the start of fabrication of the components concerned
- 7.4.7.1.4 The Contractor shall allow the Technical Authority to access any work area at any time and shall provide any information and assistance required.
- 7.4.7.1.5 Inspection of work by the Technical Authority does not relieve the Contractor of its obligation to perform the work in accordance with the requirements set out on the drawings and in the specifications.
- 7.4.7.1.6 The Contractor shall move and support the components to be inspected. Generally, inspections shall be carried out flat with vertical clearance of at least 1,25 m.

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- 7.4.7.1.7 The Technical Authority shall be informed of any defects found in the work. The Contractor shall not make any repairs before obtaining authorization from the Technical Authority. The Contractor shall submit to the Technical Authority in writing for review the methods it plans to use to correct the defects. The corrective methods shall include drawings, sketches and appropriate welding procedures.
- 7.4.7.1.8 Every repaired component shall be inspected by the Technical Authority before being shipped from the shop.
- 7.4.7.1.9 The Contractor may not ship any component from the shop without written authorization from the Technical Authority.
- 7.4.7.2 *Inspection of Welds*
- 7.4.7.2.1 All welds made on steel components are fully (100%) visually inspected (before, during and after welding) in conformity to standard CAN/CSA W59 *Welded Steel Construction (Metal Arc Welding)* by a certified welding inspector, in accordance with the requirements of standard CAN/CSA W178.2 *Certification of Welding Inspectors*.
- 7.4.7.2.2 Non-destructive testing of welds shall be performed by a registered laboratory certified by the Canadian Welding Bureau, according to the requirements of CSA W178.1 *Certification of Welding Inspection Organizations*.
- 7.4.7.2.3 A butt weld in a pipe pile shall be checked by ultrasound on 100% of its length.
- 7.4.7.2.4 Fillet welds between connectors and pipe piles shall be verified by magnetic-particle inspection on 100% of their length;
- 7.4.7.2.5 The Technical Authority shall be notified at least twelve (12) hours before non-destructive testing. These testing, including visual inspections shall be a documented inspection report written by the inspector or supervisor who has performed and analyze the testing. The report shall include radiography and be submitted to the Technical Authority at least twenty-four (24) hours before the components leave the shop.
- 7.4.7.2.6 The inspection of welds shall be done before galvanizing.
- 7.4.7.2.7 The Technical Authority may conduct additional non-destructive testing of welds independently and at its own expense. In the event of welding defects, the Contractor shall cover the cost of any inspections of welds carried out before and after the defects are corrected.
- 7.4.7.3 *Galvanization*
- 7.4.7.3.1 The Contractor shall notify the Technical Authority at least fourteen (14) days before the galvanization is scheduled. The Contractor shall provide samples of all materials required by the Technical Manager.
- 7.4.7.3.2 The Technical Authority shall monitor receipt of galvanizing. Control tests related to the thickness, adhesion and coating quality will be made by the Technical Authority as required by the standard ASTM A123/A123M.

7.4.7.3.3 The implementation of the quality control program shall not in any way affect the date of completion of the works. The Contractor shall proceed with the design and galvanizing of samples immediately after the award of the contract so as not to delay the execution of the work.

7.5 STEEL SHEET PILES

7.5.1 Reference Standards

7.5.1.1 The Contractor shall carry out steel sheet piles works in accordance with the requirements set out in the following standards and documents to which the provisions of the Contract are added :

7.5.1.1.1 ASTM International :

- *ASTM A6 / A6M - 12a Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling*

7.5.2 Materials

7.5.2.1 The steel for the sheet piles shall be hot rolled and have a minimum yield strength of 345 MPa.

7.5.2.2 The connectors shall be continuous so that the sheet piles slide their full length without binding.

7.5.2.3 The sheet piles shall be fabricated in one length (no splicing).

7.5.2.4 All sheet piles components shall be legibly stamped with the following information :

- Batch number ;
- Manufacturer name ;
- Profile length and number.

7.5.2.5 No lifting or slinging holes are to be pre-drilled into the sheet pilings..

7.5.3 Delivery, Storage and Handling

7.5.3.1 The Contractor shall lift the sheet piles using slings so as to evenly distribute their weight and avoid excessive bending.

7.5.3.2 The Contractor shall store the sheet piles on a flat surface or provide supports so that the sheet piles are level while in storage.

7.5.3.3 The Contractor shall provide blocks and supports and place them no more than 3 m apart so that the sheet piles are not subject to excessive deflection while in storage at the storage site and the delivery site.

7.5.3.4 The Contractor shall ensure that the lengths of the cantilevers at the ends of the sheet piles do not exceed 0.5 m.

7.5.3.5 The Contractor shall place blocks between the sheet piles rows, directly above the blocks in the row underneath.

7.6 PIPE PILES

7.6.1 Reference Standards

7.6.1.1 The Contractor shall carry out pipe piles works in accordance with the requirements set out in the following standards and documents to which the provisions of the Contract are added :

7.6.1.1.1 ASTM International :

- ASTM A500 / A500M - 10a *Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes*
- ASTM A572 / A572M - 12 *Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel*
- ASTM A252 - 10 *Standard Specification for Welded and Seamless Steel Pipe Piles*

7.6.1.2 The steel for pipe piles shall comply with the requirements set out in table 8, "*Mechanical Properties of Hollow Profiles*" of standard CSA G40.21, "*General Construction Steel*," or Grade C of standard ASTM A500, "*Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes*," or Grade 50 or 55 of standard ASTM A572, "*Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel*". For ASTM A572 steel, the piles shall be fabricated in compliance with the requirements of standard ASTM A252, "*Standard Specification for Welded and Seamless Pipe Piles A*".

7.6.2 Materials

7.6.2.1 The steel for the pipe piles and sheet piles connectors shall have a minimum yield strength of 345 MPa.

7.6.2.2 All pipe pile components shall be legibly stamped with the following information :

- Batch number ;
- Manufacturer name ;
- Nominal dimensions.

7.7 TIE BACKS AND RELATED HARDWARE

7.7.1 Reference Standards

7.7.1.1 The Contractor shall carry out tie back and related hardware works in accordance with the requirements set out in the following standards and documents to which the provisions of the Contract are added :

7.7.1.1.1 ASTM International :

- ASTM A108 - 07 *Standard Specification for Steel Bar, Carbon and Alloy, Cold Finished*

- *ASTM A615 / A615M - 12 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement*

7.7.2 Materials

7.7.2.1 The tie backs shall be of grade 75.

7.7.2.2 The tie backs shall be hot-dip galvanized and continuously threaded bars.

7.7.2.3 The nuts and sleeves shall have a higher load capacity than the tie backs and be hot-dip galvanized.

7.7.2.4 The sleeves, bearing plates, nuts, locknuts and flat washers shall be hot-dip galvanized.

7.7.2.5 All production batch components shall be labelled with the following information :

- Batch number ;
- Manufacturer name ;
- Nominal dimensions.

ANNEX B - BASIS OF PAYMENT

1	2	3	4	5	6
Item	Description	Measuring Unit	Firm unit Price	Total Estimated Quantity	Calculated Price
1	Supply of sheet piles				
1.1	Supply of sheet piles pairs - Causeway-bridge abutment - Axis 1 (L = 13.9m)	Unit	\$	16	\$
1.2	Supply of sheet piles pairs - Causeway-bridge upstream wing wall - Axis 1 (L = 16.8m)	Unit	\$	10	\$
1.3	Supply of sheet piles pairs - Causeway-bridge downstream wing wall - Axis 1 (L = 17.9 m)	Unit	\$	10	\$
1.4	Supply of sheet piles pairs - Causeway-bridge abutment - Axis 4 (L = 12.4 m)	Unit	\$	16	\$
1.5	Supply of sheet piles pairs - Causeway-bridge upstream wing wall - Axis 4 (L = 16.9 m)	Unit	\$	8	\$
1.6	Supply of sheet piles pairs - Causeway-bridge downstream wing wall - Axis 4 (L = 15.4 m)	Unit	\$	8	\$
1.7	Supply of sheet piles pairs - Viaduct abutment - lower part - Axis 1 (L=12.4 m)	Unit	\$	7	\$
1.8	Supply of sheet piles pairs - Viaduct abutment - upper part - Axis 1 (L =13.1 m)	Unit	\$	8	\$
1.9	Supply of sheet piles pairs - Viaduct upstream wing wall - Axis 1 (L = 13.8 m)	Unit	\$	9	\$
1.10	Supply of sheet piles pairs - Viaduct downstream wing wall- Axis 1 (L = 12.5 m)	Unit	\$	9	\$
1.11	Supply of sheet piles pairs - Viaduct abutment - lower part - Axis 3 (L = 12.0 m)	Unit	\$	7	\$
1.12	Supply of sheet piles pairs - Viaduct abutment - upper part - Axis 3 (L = 12.7 m)	Unit	\$	8	\$
1.13	Supply of sheet piles pairs - Viaduct upstream wing wall- Axis 3 (L = 13.5 m)	Unit	\$	8	\$
1.14	Supply of sheet piles pairs - Viaduct downstream wing wall- Axis 3 (L = 12.0 m)	Unit	\$	8	\$
2	Supply of additional sheet piles (if required, see Notes item 2.2)				
2.1	Supply of additional sheet piles pairs - Viaduct upstream wing wall - Axis 1 (L = 13.8 m)	Lot Price	---	---	\$

1	2	3	4	5	6
Item	Description	Measuring Unit	Firm unit Price	Total Estimated Quantity	Calculated Price
2.2	Supply of additional sheet piles pairs-Viaduct downstream wing wall- Axis 1 (L = 12.5 m)	Lot Price	---	---	\$
2.3	Supply of additional sheet piles pairs-Viaduct upstream wing wall- Axis 3 (L = 13.5 m)	Lot Price	---	---	\$
2.4	Supply of additional sheet piles pairs-Viaduct downstream wing wall- Axis 3 (L = 12.0 m)	Lot Price	---	---	\$
3	Supply of 915 mm Ø pipe piles				
3.1	Supply of 915 mm Ø pipe piles - Causeway-bridge abutment - Axis 1 (L = 14.7 m)	Unit	\$	17	\$
3.2	Supply of 915 mm Ø pipe piles - Causeway-bridge upstream wing wall - Axis 1 (L = 17.6 m)	Unit	\$	10	\$
3.3	Supply of 915 mm Ø pipe piles - Causeway-bridge downstream wing wall- Axis 1 (L = 18.7 m)	Unit	\$	10	\$
3.4	Supply of 915 mm Ø pipe piles - Causeway-bridge abutment - Axis 4 (L = 13.2 m)	Unit	\$	17	\$
3.5	Supply of 915 mm Ø pipe piles - Causeway-bridge upstream wing wall- Axis 4 (L = 17.6 m)	Unit	\$	8	\$
3.6	Supply of 915 mm Ø pipe piles - Causeway-bridge downstream wing wall - Axis 4 (L=16.2 m)	Unit	\$	8	\$
3.7	Supply of 915 mm Ø pipe piles - Viaduct abutment - lower part - Axis 1 (L = 13.2 m)	Unit	\$	8	\$
3.8	Supply of 915 mm Ø pipe piles - Viaduct abutment - upper part - Axis 1 (L = 13.8 m)	Unit	\$	8	\$
3.9	Supply of 915 mm Ø pipe piles - Viaduct abutment - lower part - Axis 3 (L=12.7 m)	Unit	\$	8	\$
3.10	Supply of 915 mm Ø pipe piles - Viaduct abutment - upper part - Axis 3 (L = 13.4 m)	Unit	\$	8	\$
4	Supply of 1,829 mm Ø pipe piles				
4.1	Supply of 1,829 mm Ø pipe piles- Causeway-bridge pile - Axis 2 (L = 13.9 m)	Unit	\$	5	\$
4.2	Supply of 1,829 mm Ø pipe piles- Causeway-bridge pile - Axis 3 (L = 13.3 m)	Unit	\$	5	\$
5					

1	2	3	4	5	6
Item	Description	Measuring Unit	Firm unit Price	Total Estimated Quantity	Calculated Price
	Supply of tie backs and related hardware				
5.1	Supply of 90 mm Ø tie backs and related hardware - Causeway-bridge abutment - lower bed - Axis 1 (L = 15.2 m)	Unit	\$	13	\$
5.2	Supply of 75 mm Ø tie backs and related hardware - Causeway-bridge abutment - Middle bed - Axis 1 (L = 19.9 m)	Unit	\$	13	\$
5.3	Supply of 75 mm Ø tie backs and related hardware- Causeway-bridge abutment - upper bed - Axis 1 (L = 24.7 m)	Unit	\$	13	\$
5.4	Supply of 75 mm Ø tie backs and related hardware- Causeway-bridge abutment - Middle bed for corner piles- Axis 1 (L = 25.7 m)	Unit	\$	2	\$
5.5	Supply of 90 mm Ø tie backs and related hardware- Causeway-bridge abutment - lower bed for corner piles - Axis 1 (L = 22.4 m)	Unit	\$	2	\$
5.6	Supply of 90 mm Ø tie backs and related hardware - Causeway-bridge abutment - lower bed - Axis 4 (L = 17.5 m)	Unit	\$	13	\$
5.7	Supply of 75 mm Ø tie backs and related hardware- Causeway bridge abutment - Middle bed - Axis 4 (L = 22.3 m)	Unit	\$	13	\$
5.8	Supply of 90 mm Ø tie backs and related hardware - Causeway-bridge abutment - Middle bed for corner piles - Axis 4 (L = 24.0 m)	Unit	\$	2	\$
5.9	Supply of 90 mm Ø tie backs and related hardware - Causeway-bridge wing walls - Axis 1 and 4 (L = 36.6 m)	Unit	\$	20	\$
5.10	Supply of 75 mm Ø tie backs and related hardware - Causeway-bridge wing walls - Axis 1 and 4 (L = 36.6 m)	Unit	\$	29	\$
5.11	Supply of 63 mm Ø tie backs and related hardware - Viaduct wing walls - Axis 1 (L=22.9 m)	Unit	\$	9	\$
5.12	Supply of 63 mm Ø tie backs and related hardware - Viaduct wing walls - Axis 3 (L=24.6 m)	Unit	\$	8	\$
6	Delivery of sheet piles, pipe piles, tie backs and related hardware to delivery site	Lot Price	---	---	\$

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1	2	3	4	5	6
Item	Description	Measuring Unit	Firm unit Price	Total Estimated Quantity	Calculated Price
A - Sub-total (item 1 to 6)					\$
7	Overhead	Lot Price	---	---	\$

Total Bid Price (Sub-total A + item 7) = _____ \$ (applicable taxes not included)

NOTES :

- 1 The bid prices for the components in the Price Table must include all labour, equipment and materials needed to perform the work in accordance with the specifications, drawings and instructions of the Technical Authority , including, but not limited to, the following:
 - 1.1 Coordination and supervision of necessary fabrication, inspection, manufacturing control, engineering and technical work, as well as any necessary adjustments and corrections, in order to ensure that the work is performed in a professional manner and in accordance with the specifications and drawings;
 - 1.2 Coordination of the site delivery of the sheet piles, pipe piles, tie backs and related hardware with the Project contractor ;
 - 1.3 Anything needed to perform the work in accordance with the specifications and drawings, whether or not the specific items are mentioned in the specifications or shown on the drawings;
 - 1.4 All financing costs, including interest on the contract and security holdbacks;
 - 1.5 Administrative costs, profit and the contract security.
 - 1.6 The Contractor must take into account, in the price of its bid, any restrictions that may result from construction work activities of the Project contractor, from the health and safety requirements as well as from environmental protection requirements.
- 2 The work provided in this contract is measured for payment as follows:
 - 2.1 Item 1 – Supply of sheet piles
 - 2.1.1 Item 1.1 – Supply of sheet piles pairs – Causeway-bridge abutment – Axis 1 (L=13.9 m)
Item 1.2 – Supply of sheet piles pairs – Causeway-bridge upstream wing wall – Axis 1 (L=16.8 m)
Item 1.3 – Supply of sheet piles pairs – Causeway-bridge downstream wing wall– Axis 1 (L=17.9 m)
Item 1.4 – Supply of sheet piles pairs – Causeway-bridge abutment – Axis 4 (L=12.4 m)

Item 1.5 – Supply of sheet piles pairs – Causeway-bridge upstream wing wall– Axis 4 (L=16.9 m)

Item 1.6 – Supply of sheet piles pairs – Causeway-bridge downstream wing wall– Axis 4 (L=15.4 m)

Item 1.7 – Supply of sheet piles pairs – Viaduct abutment – Lower part – Axis 1 (L=12.4 m)

Item 1.8 – Supply of sheet piles pairs – Viaduct abutment – Upper part – Axis 1 (L=13.1 m)

Item 1.9 – Supply of sheet piling pairs – Viaduct upstream wing wall – Axis 1 (L=13.8 m)

Item 1.10 – Supply of sheet piles pairs – Viaduct downstream wing wall – Axis 1 (L=12.5 m)

Item 1.11 – Supply of sheet piles pairs – Viaduct abutment – Lower part – Axis 3 (L=12.0 m)

Item 1.12 – Supply of sheet piles pairs – Viaduct abutment – Upper part – Axis 3 (L=12.7 m)

Item 1.13 – Supply of sheet piles pairs – Viaduct upstream wing wall – Axis 3 (L=13.5 m)

Item 1.14 – Supply of sheet piles pairs – Viaduct downstream wing wall – Axis 3 (L=12.0 m)

- 2.1.1.1 For payment purposes, the sheet piles in items 1.1 to 1.14 are measured in sheet piles pairs that are fabricated, accepted by the Technical Authority and stored at the storage site , according to the drawings, specifications and instructions of the Technical Authority.
- 2.1.1.2 The bid price for each of these items must include, but not be limited to, the following:
- 2.1.1.2.1 Preparation of the necessary shop drawings, calculation sheets and reports;
- 2.1.1.2.2 Fabrication of the sheet piles according to the drawings and specifications;
- 2.1.1.2.3 Handling and transportation of the sheet piles from the Contractor's or sub contractor's factory (as the case may be) to the storage site ;
- 2.1.1.2.4 All verifications required following fabrication of the sheet piles, including, but not limited to, the quality control and test documents ;
- 2.1.1.2.5 Corrections required.

2.2 Item 2 – Supply of additional sheet piles

2.2.1 Item 2.1 – Supply of additional sheet piles pairs – Viaduct upstream wing wall – Axis 1 (L=13.8 m)

Item 2.2 – Supply of additional sheet piles pairs – Viaduct downstream wing wall – Axis 1 (L=12.5 m)

Item 2.3 – Supply of additional sheet piles pairs – Viaduct upstream wing wall – Axis 3 (L=13.5 m)

Item 2.4 – Supply of additional sheet piles pairs – Viaduct downstream wing wall – Axis 3 (L=12.0 m)

- 2.2.1.1 Payment for supply of the additional sheet piles in items 2.1 to 2.4 will be in a lump sum, according to the drawings, specifications and instructions of the Technical Authority.
- 2.2.1.2 Should the Contractor supply sheet piles that are narrower than the sheet piles indicated in the drawings, the lump sum submitted for each above item will pay for the additional sheet piles pairs required to obtain the wall length specified in the drawings.
- 2.2.1.3 The bid price for each of these items must include, but not be limited to, the following:
- 2.2.1.3.1 Preparation of the necessary shop drawings, calculation sheets and reports;
- 2.2.1.3.2 Fabrication of the sheet piles according to the drawings and specifications;
- 2.2.1.3.3 Handling and transportation of the sheet piles from the Contractor's or sub contractor's factory (as the case may be) to the storage site ;
- 2.2.1.3.4 All verifications required following fabrication of the sheet pilings, including, but not limited to, the quality control and test documents;
- 2.2.1.3.5 Corrections required.

2.3 Item 3 – Supply of 915 mm Ø pipe piles

- 2.3.1 Item 3.1 – Supply of 915 mm Ø pipe piles – Causeway-bridge abutment – Axis 1 (L=14.7 m)

Item 3.2 – Supply of 915 mm Ø pipe piles – Causeway-bridge upstream wing wall – Axis 1 (L=17.6 m)

Item 3.3 – Supply of 915 mm Ø pipe piles – Causeway-bridge downstream wing wall – Axis 1 (L=18.7 m)

Item 3.4 – Supply of 915 mm Ø pipe piles – Causeway-bridge abutment – Axis 4 (L=13.2 m)

Item 3.5 – Supply of 915 mm Ø pipe piles – Causeway-bridge upstream wing wall – Axis 4 (L=17.6 m)

Item 3.6 – Supply of 915 mm Ø pipe piles – Causeway-bridge downstream wing wall – Axis 4 (L=16.2 m)

Item 3.7 – Supply of 915 mm Ø pipe piles – Viaduct abutment – Lower part - Axis 1 (L=13.2 m)

Item 3.8 – Supply of 915 mm Ø pipe piles – Viaduct abutment – Upper part - Axis 1 (L=13.8 m)

Item 3.9 – Supply of 915 mm Ø pipe piles – Viaduct abutment – Lower part - Axis 3 (L=12.7 m)

Item 3.10 – Supply of 915 mm Ø pipe piles – Viaduct abutment – Upper part - Axis 3 (L=13.4 m)

- 2.3.1.1 For payment purposes, the pipe piles in items 3.1 to 3.10 are measured in single pipe piles that are fabricated, accepted by the Technical Authority and stored on the storage site , according to the drawings, specifications and instructions of the Technical Authority.
- 2.3.1.2 The bid price for each of these items must include, but not be limited to, the following:
- 2.3.1.2.1 Preparation of the necessary shop drawings, calculation sheets and reports;
- 2.3.1.2.2 Fabrication of the pipe piles according to the drawings and specifications;
- 2.3.1.2.3 Supply and welding of the sheet piles connectors to the pipe piles according to the drawings and specifications;
- 2.3.1.2.4 Handling and transportation of the pipe piles from the Contractor's or sub contractor's factory (as the case may be) to the storage site;
- 2.3.1.2.5 All verifications required following fabrication of the pipe piles and connectors, including, but not limited to, the quality control and test documents ;
- 2.3.1.2.6 Corrections required.
- 2.4 Item 4 – Supply of 1,829 mm Ø pipe piles
- 2.4.1 Item 4.1 – Supply of 1,829 mm Ø pipe piles – Causeway-bridge pile – Axis 2 (L=13.9 m)
Item 4.2 – Supply of 1,829 mm Ø pipe piles – Causeway-bridge pile – Axis 3 (L=13.3 m)
- 2.4.1.1 For payment purposes, the pipe piles in items 4.1 and 4.2 are measured in single pipe piles that are fabricated, accepted by the Technical Authority and stored at the storage site , according to the drawings, specifications and instructions of the Technical Authority.
- 2.4.1.2 The bid price for each of these items must include, but not be limited to, the following:
- 2.4.1.2.1 Preparation of the necessary shop drawings, calculation sheets and reports;
- 2.4.1.2.2 Fabrication of the pipe piles according to the drawings and specifications;
- 2.4.1.2.3 Handling and transportation of the pipe piles from the Contractor's or sub contractor's factory (as the case may be) to the storage ;
- 2.4.1.2.4 All verifications required following fabrication of the pipe piles and connectors, including, but not limited to, the quality control and test documents;
- 2.4.1.2.5 Corrections required.
- 2.5 Item 5 – Supply of tie backs and related hardware
- 2.5.1 Item 5.1 – Supply of 90 mm Ø tie backs and related hardware – Causeway-bridge abutment – Lower bed – Axis 1 (L=15.2 m)

Item 5.2 – Supply of 75 mm Ø tie backs and related hardware – Causeway-bridge abutment – Middle bed – Axis 1 (L=19,9 m)

Item 5.3 – Supply of 75 mm Ø tie backs and related hardware – Causeway-bridge abutment – Upper bed – Axis 1 (L=24,7 m)

Item 5.4 – Supply of 75 mm Ø tie backs and related hardware – Causeway-bridge abutment – Middle bed for corner piles – Axis 1 (L=25,7 m)

Item 5.5 – Supply of 90 mm Ø tie backs and related hardware – Causeway-bridge abutment – lower bed for corner piles– Axis 1 (L=22,4 m)

Item 5.6 – Supply of 90 mm Ø tie backs and related hardware – Causeway-bridge abutment – Lower bed – Axis 4 (L=17,5 m)

Item 5.7 – Supply of 75 mm Ø tie backs and related hardware – Causeway-bridge abutment – Middle bed – Axis 4 (L=22,3 m)

Item 5.8 – Supply of 90 mm Ø tie backs and related hardware – Causeway-bridge abutment – Middle bed for corner piles– Axis 4 (L=24,0 m)

Item 5.9 – Supply of 90 mm Ø tie backs and related hardware –Causeway-bridge wing walls – Axis 1 and 4 (L=36,6 m)

Item 5.10 – Supply of 75 mm Ø tie backs and related hardware – Causeway-bridge wing walls – Axis 1 and 4 (L=36,6 m)

Item 5.11 – Supply of 63 mm Ø tie backs and related hardware – Viaduct wing walls – Axis 1 (L=22,9 m)

Item 5.12 – Supply of 63 mm Ø tie backs and related hardware – Viaduct wing walls – Axis 3 (L=24,6 m)

- 2.5.1.1 For payment purposes, the tie backs and related hardware in items 5.1 and 5.12 are measured in single tie backs and related hardware that are fabricated, accepted by the Technical Authority and stored at the storage site , according to the drawings, specifications and instructions of the Technical Authority.
- 2.5.1.2 The bid price for each of these items must include, but not be limited to, the following:
- 2.5.1.2.1 Preparation of the necessary shop drawings and reports;
- 2.5.1.2.2 Fabrication and supply of the tie backs and related hardware according to the drawings and specifications;
- 2.5.1.2.3 Handling and transportation of the tie backs and related hardware from the Contractor's or sub contractor's factory (as the case may be) to the storage site.
- 2.5.1.2.4 All verifications required following fabrication of the tie backs and related hardware, including, but not limited to, the quality control and test documents.
- 2.5.1.2.5 Corrections required.

-
- 2.6 Item 6 – Delivery of the sheet piles, pipe piles, tie backs and related hardware to the delivery site
- 2.6.1 Payment for delivery of the sheet piles, pipe piles, tie backs and related hardware to the delivery site will be in a lump sum following delivery to and unloading at the site of the sheet piles, pipe piles, tie backs and related hardware and their acceptance by the Technical Authority.
- 2.6.2 The bid price for this item must include, but not be limited to, the following
- 2.6.2.1 All documents required related to the loading and handling of the sheet piles, pipe piles, tie backs and related hardware;
- 2.6.2.2 Loading, transportation and unloading of the components in this Contract at the delivery site designated by the Project contractor, near the Nuns' Island Bridge, including, but not limited to, the following:
- 2.6.2.3.1 Delivery voucher for the materials;
- 2.6.2.3.2 Identification of all components;
- 2.6.2.3.3 Storage mounts to secure and protect the sheet piles, pipe piles, tie backs and related hardware.
- 2.7 Item 7 – Overhead
- 2.7.1 Overhead is paid by means of a lump sum.
- 2.7.2 The bid price for this item must include, but not be limited to, the following:
- 2.7.2.1 Transportation to and storage at the site of the equipment and materials required to perform the work;
- 2.7.2.2 Rental of all parcel of land belonging to third parties in order to perform the work;
- 2.7.2.3 Site utilities, such as electricity, lighting, water, sewer, heating, cooling and any other utilities required to perform the work;
- 2.7.2.4 Means of communication with the Technical Authority Owner , including user fees such as activation fees, cost of accessories, monthly payments and call charges;
- 2.7.2.5 Provision of guards, temporary fences and other security measures required to protect the materials and equipment;
- 2.7.2.6 Required tools and their repair and maintenance;
- 2.7.2.7 Insurance and securities;
- 2.7.2.8 Work inspection;
- 2.7.2.9 Obtaining the required permits and authorizations;

-
- 2.7.2.10 Application and maintenance of the site prevention and safety program;
- 2.7.2.11 Services of a project leader and superintendent
- 2.7.2.12 Performance of all other work in these specifications and illustrated in the drawings and which are not included in the above payment items;
- 2.7.2.13 Provision of all contractual and professional documents required in the specifications, including, but not limited to, the detailed schedule and updates, statutory declarations, shop drawings, various procedures, and compliance and other certificates not specifically included in the other payment items;
- 2.7.2.14 Provision of the storage site
- 2.7.2.15 Maintenance, cleaning and restoration of the storage site and of the delivery site to its original state or a state deemed acceptable by the Technical Authority;
- 2.7.2.16 Provision of all end-of-contract documents required in the specifications, including, but not limited to, final statutory declarations, as-built drawings and any other document required by the Canada to complete the Contract and not specifically included in the other payment items;
- 2.7.2.17 Supply of wooden crates marked as to content or any other equivalent system of adequate dimensions used to store and transport the associated hardware in this Contract without damaging it;
- 2.7.2.18 Provision of cushions, 60% pressure-treated hemlock lumber beams or any other equivalent system of dimensions deemed adequate by the Technical Authority to support the sheet piles, pipe piles and tie backs during fabrication, storage, delivery and handling at the delivery site near the Nuns' Island Bridge, so as to move the sheet piles, pipe piles and tie backs without damaging them;
- 2.7.2.18.1 The sheet piles, pipe piles, tie backs and wooden crates or any equivalent system acceptable to the Technical Authority containing the related hardware must be placed on the storage site and on the delivery site near the Nuns' Island Bridge with a minimum clearance of 150 mm above the ground.

ANNEX C - INSURANCE REQUIREMENTS

The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.

The Commercial General Liability policy must include the following:

Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.

Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.

Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.

Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.

Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.

Employees and, if applicable, Volunteers must be included as Additional Insured.

Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)

Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.

Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.

If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.

Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against

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Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

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ANNEX D - PLANS