



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Public Works and Government Services Canada  
ATB Place North Tower  
10025 Jasper Ave./10025 ave. Jasper  
5th floor/5e étage  
Edmonton  
Alberta  
T5J 1S6  
Bid Fax: (780) 497-3510

**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**

<b>Title - Sujet</b> Norman Wells Wharf Repair	
<b>Solicitation No. - N° de l'invitation</b> EP922-173396/A	<b>Date</b> 2017-05-01
<b>Client Reference No. - N° de référence du client</b> DFO EP922-173396	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWU-183-11069	
<b>File No. - N° de dossier</b> PWU-7-40003 (183)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2017-05-23</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Mountain Daylight Saving Time MDT	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Tikhonovitch (RPC), Alex	<b>Buyer Id - Id de l'acheteur</b> pwu183
<b>Telephone No. - N° de téléphone</b> (780) 901-7940 ( )	<b>FAX No. - N° de FAX</b> (780) 497-3510
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF PUBLIC WORKS AND GOVERNMENT SERVICES CANADA HARRY HAYS BUILDING 759- 220 4 AVE SE CALGARY Alberta T2G4X3 Canada	

**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**

Public Works and Government Services Canada  
ATB Place North Tower  
10025 Jasper Ave./10025 ave Jasper  
5th floor/5e étage  
Edmonton  
Alberta  
T5J 1S6

<b>Delivery Required - Livraison exigée</b> See Herein	<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>

## **REQUEST FOR PROPOSAL (RFP)**

### **CONSTRUCTION MANAGEMENT SERVICES**

#### **CCG Wharf Repairs Norman Wells, Northwest Territories**

#### **IMPORTANT NOTICE TO BIDDERS**

##### **PWGSC UPDATE ON ASBESTOS USE**

Effective April 1, 2016, all Public Works and Government Services Canada (PWGSC) contracts for new construction and major rehabilitation will prohibit the use of asbestos-containing materials. Further information can be found at <http://www.tpsgc-pwgsc.gc.ca/comm/vedette-features/2016-04-19-00-eng.html>

##### **SUPPORT THE USE OF APPRENTICES**

Through Canada's Economic Action Plans, the Government of Canada proposes to support the employment of apprentices in federal construction and maintenance projects.

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## **SPECIAL INSTRUCTIONS TO BIDDERS (SI)**

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SI12	Rights of Canada
SI13	Web Sites

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### **SI01 INTRODUCTION**

1. Public Works and Government Services Canada (PWGSC) intends to retain a Contractor to provide Construction Management Services for the project as set out in this Request for Proposal (RFP).
2. Bidders responding to this RFP are requested to submit a full and complete submission, refer to SI05. The submission may cover not only the qualifications, experience and organization of the Bidder, but also the detailed approach to the work and the pricing and terms offered. A combination of the technical and financial services submission will constitute the Bid.

### **SI02 BID DOCUMENTS**

1. The following are the bid documents:
  - a) Request for Proposal (RFP) ;
  - b) Special Instructions to Bidders (SI);
  - c) General Instructions - Construction Services - Bid Security Requirements (GI);
  - d) Supplementary Conditions (SC);
  - e) Contract Documents (CD);
  - f) Submission Requirements and Evaluation (SRE);
  - g) Bid and Acceptance Form (BA);
  - h) Terms of Reference;
  - i) Basis of Payment;
  - j) All related Annexes and Appendices and any amendment issued prior to solicitation closing.
2. Submission of a bid constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

### **SI03 ENQUIRIES DURING THE SOLICITATION PERIOD**

1. Enquiries regarding this RFP must be submitted in writing to the Contracting Authority identified in the Solicitation Documents as early as possible within the solicitation period. Enquiries should be received no later than five (5) working days prior to the date set for closing of the solicitation to allow sufficient time to provide a response. Enquiries received after that time may result in an answer NOT being provided.
2. To ensure consistency and quality of the information provided to Bidders, the Contracting Authority will examine the content of the enquiry and will decide whether or not to issue an amendment.

3. All enquiries and other communications related to this RFP sent throughout the solicitation period are to be directed **ONLY** to the Contracting Authority identified in the Solicitation Documents. Failure to comply with this requirement may result in the bid being declared non-compliant.

#### **SI04 SUBMISSION OF BID**

1. The bid should be submitted following a "two-envelope" procedure of which is to include a technical and financial bid. Both envelopes should be enclosed and sealed together in a third envelope, the "Bid Envelope". All envelopes are to be provided by the Bidder.
2. The Bid Envelope should be addressed and submitted to the office designated on the Front Page of the Request for Proposal. The bid must be received on or before the date and time set for solicitation closing. The Bidder should ensure that the following information is clearly printed or typed on the face of the envelope:
  - a. Solicitation Number;
  - b. Name of Bidder;
  - c. Bidder's return address; and
  - d. Closing Date and Time.
3. The Technical Bid, and any associated document(s), should be enclosed and sealed in an envelope with the following information clearly printed or typed on the face of the envelope:
  - a. Envelope 1 - Technical Bid;
  - b. Solicitation Number;
  - c. Name of Bidder.
4. The Bid and Acceptance Form (BA), Bid Security and associated document(s), the Financial Bid, should be enclosed and sealed in an envelope with the following information clearly printed or typed on the face of the envelope:
  - a. Envelope 2 - Financial Bid;
  - b. Solicitation Number; and
  - c. Name of Bidder.
5. Timely and correct delivery of bids is the sole responsibility of the Bidder.
6. Unless otherwise specified in the Special Instructions to Bidders.
  - a. the bid will be in Canadian currency;
  - b. the requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-compliant.

#### **SI05 REVISION OF BID (2011-05-16)**

1. A bid submitted may be amended by letter or facsimile provided the revision is received at the office designated for the receipt of the bids, on or before the date and time set for the receipt of bids. The revision must be on the Bidder's letterhead or bear a signature that identifies the Bidder, and must clearly identify the change(s) to be applied to the original bid. The revision must also include the information identified in SI05 - Submission of Bid.

#### **SI06 OVERVIEW OF OPENING OF BIDS / BID SELECTION AND EVALUATION PROCEDURES**

The following is an overview of the opening of the bids and the selection and evaluation procedures.

1. There will be no Public opening.

2. Bid Opening, Selection and Evaluation Procedure;

- a. Envelope 1 "Technical Bid" will be opened first and will be reviewed and/or evaluated against the mandatory requirements set out elsewhere in the RFP. Technical Bids meeting all the minimum requirements are further considered. Failure to meet any or all of the mandatory requirement(s) will render the bid non-compliant. Non-compliant bids will be given no further consideration and the Financial Bid envelope will be returned to the bidder unopened.
  - b. Envelope 2 - "Financial Bid" will be opened after the Technical Bid has been deemed compliant. The Financial Bid will be evaluated against the mandatory requirements set out elsewhere in the RFP, failure to comply with any or all of the mandatory requirement(s) will render the bid non-compliant and no other consideration will be given to the bid. The compliant bid carrying the lowest price per point as set out elsewhere in the RFP will be recommended for contract award.
3. PWGSC normally expects to advise in writing unsuccessful Bidders within one week after PWGSC has entered into a contractual arrangement with the successful Bidder.
  4. Bid results may be obtained from the Contracting Authority named on the cover page of the RPF following completion of the bid evaluation.

**SI07 INSUFFICIENT FUNDING**

1. In the event that the most favourable compliant bid exceeds the amount of funding allocated for the Work, Canada in its sole discretion may
  - a. cancel the solicitation; or
  - b. obtain additional funding and award the Contract to the Bidder submitting the most favourable compliant bid; and/or
  - c. negotiate a reduction in the bid price and/or scope of work of not more than 15% with the Bidder submitting the most favourable compliant bid. Should an agreement satisfactory to Canada not be reached, Canada will exercise option (a.) or (b.).

**SI08 BID VALIDITY PERIOD**

1. Canada reserves the right to seek an extension to the bid validity period prescribed in BA04 of the Bid and Acceptance Form. Upon notification in writing from Canada, Bidders will have the option to either accept or reject the proposed extension.
2. If the extension referred to in paragraph 1. is accepted, in writing, by all those who submitted bids, then Canada will continue immediately with the evaluation of the bids and its approvals processes.
3. If the extension referred to in paragraph 1. is not accepted in writing by all those who submitted bids then Canada will, at its sole discretion, either
  - a. continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
  - b. cancel the solicitation.
4. The provisions expressed herein do not in any manner limit Canada's rights in law or under GI06 Rejection of Bid.

**SI09 DEBRIEFINGS**

1. After contract award, bidders may request a debriefing on their results of the bid solicitation process. Bidders should make the request to the Contracting Authority within fifteen (15) working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

#### **SI10 JOINT VENTURE (2011-05-16)**

1. A joint venture is an association of two or more parties who combine their money, property, knowledge, expertise or other resources in a single joint Working enterprise, sometimes referred as a consortium, in order to submit together a bid. Bidders who submit a bid, as a joint venture must indicate clearly that it is a joint venture and provide the following information:
  - a. the name of each member of the joint venture;
  - b. the Procurement Business Number of the joint venture;
  - c. the name of the representative of the joint venture, i.e. the member chosen by the other members to act on their behalf, if applicable;
  - d. the name of the joint venture, if applicable.
2. If the information is not clearly provided in the bid, the Bidder must provide the information on request from the Contracting Authority.
3. The bid must be signed by all the members of the joint venture unless one member has been appointed to act on behalf of all members of the joint venture. The Contracting Authority may, at any time, require each member of the joint venture to confirm that the representative has been appointed with full authority to act as its representative for the purposes of the bid solicitation and any resulting contract.
4. All of the members of the joint venture are jointly and severally responsible for the obligations entered into by the Bidder in accordance with the Contract Documents.

#### **SI11 DEFINITION OF BIDDERS**

1. "Bidder" means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a bid to perform the works. It does not include the parent, subsidiaries or other affiliates of the Bidder, or its subcontractors

#### **SI12 RIGHTS OF CANADA (2007-11-30)**

1. Canada reserves the right to:
  - a. Reject any or all bids received in response to the bid solicitation;
  - b. Enter into negotiations with bidders on any or all aspects of their bids;
  - c. Accept any bid in whole or in part without negotiations;
  - d. Cancel the bid solicitation at any time;
  - e. Reissue the bid solicitation;
  - f. If no compliant bids are received and the requirement is not substantially modified, reissue the bid solicitation by inviting only the bidders who bid to resubmit bids within a period designated by Canada; and
  - g. Negotiate with the sole compliant Bidder to ensure best value to Canada.

#### **SI13 WEB SITES**

1. The following is a list to some of the Web sites in the solicitation documents:
  - Buy and Sell: <https://www.achatsetventes-buyandsell.gc.ca>

- Canadian economic sanctions: <http://www.international.gc.ca/sanctions/index.aspx?lang=eng>
- Contractor Performance Evaluation Report (Form PWGSC-TPSGC 2913): <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913.pdf>
- Bid Bond (form PWGSC-TPSGC 504): <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/504.pdf>
- Performance Bond (form PWGSC-TPSGC 505): <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/505.pdf>
- Labour and Material Payment Bond (form PWGWSC-TPSGC 506): <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/506.pdf>
- Standard Acquisition Clauses and Conditions (SACC) Manual: <http://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>
- PWGSC, Industrial Security Services: <http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>
- PWGSC, Code of Conduct and Certifications: <http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>
- Construction and Consultant Services Contract Administration Forms Real Property Contracting: <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>
- Declaration Form: <http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>

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## **GENERAL INSTRUCTIONS - CONSTRUCTION SERVICES - BID SECURITY REQUIREMENTS (GI)**

GI01	Integrity Provisions - Bid
GI02	Completion of Bid
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GI10	Performance Evaluation
GI11	Conflict of Interest—Unfair Advantage
GI12	Code of Conduct for Procurement—Bid

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### **GI01 INTEGRITY PROVISIONS - BID (2016-04-04)**

1. The *Ineligibility and Suspension Policy* (the "Policy") in effect on the date the bid solicitation is issued, and all related Directives in effect on that date, are incorporated by reference into, and form a binding part of the bid solicitation. The Bidder must comply with the Policy and Directives, which can be found at [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html). <http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>
2. Under the Policy, charges and convictions of certain offences against a Bidder, its affiliates or first tier subcontractors, and other circumstances, will or may result in a determination by Public Works and Government Services Canada (PWGSC) that the Bidder is ineligible to enter, or is suspended from entering into a contract with Canada. The list of ineligible and suspended Suppliers is contained in PWGSC's Integrity Database. The Policy describes how enquiries can be made regarding the ineligibility or suspension of Suppliers.
3. In addition to all other information required in the bid solicitation, the Bidder must provide the following:
  - a. by the time stated in the Policy, all information required by the Policy described under the heading "Information to be Provided when Bidding, Contracting or Entering into a Real Property Agreement"; and
  - b. with its bid, a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy. The list of foreign criminal charges and convictions must be submitted using an Integrity Declaration Form, which can be found at [Declaration form for procurement](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.htm). <http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.htm>
4. Subject to subsection 5, by submitting a bid in response to this bid solicitation, the Bidder certifies that:
  - a. it has read and understands the *Ineligibility and Suspension Policy*. <http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>
  - b. it understands that certain domestic and foreign criminal charges and convictions, and other circumstances, as described in the Policy, will or may result in a determination of ineligibility or suspension under the Policy;
  - c. it is aware that Canada may request additional information, certifications, and validations from the Bidder or a third party for purposes of making a determination of ineligibility or suspension;
  - d. it has provided with its bid a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy;

- e. none of the domestic criminal offences, and other circumstances, described in the Policy that will or may result in a determination of ineligibility or suspension, apply to it, its affiliates and its proposed first tier subcontractors; and
  - f. it is not aware of a determination of ineligibility or suspension issued by PWGSC that applies to it.
5. Where a Bidder is unable to provide any of the certifications required by subsection 4, it must submit with its bid a completed Integrity Declaration Form, which can be found at *Declaration form for procurement*. <http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.htm>
6. Canada will declare non-compliant any bid in respect of which the information requested is incomplete or inaccurate, or in respect of which the information contained in a certification or declaration is found by Canada to be false or misleading in any respect. If Canada establishes after award of the Contract that the Bidder provided a false or misleading certification or declaration, Canada may terminate the Contract for default. Pursuant to the Policy, Canada may also determine the Bidder to be ineligible for award of a contract for providing a false or misleading certification or declaration.

## **GI02 COMPLETION OF BID (2014-03-01)**

1. The bid shall be
- a. submitted on the Bid and Acceptance Form provided through the Government Electronic Tendering Service (GETS) or on a clear and legible reproduced copy of such Bid and Acceptance Form that must be identical in content and format to the Bid and Acceptance Form provided through GETS;
  - b. based on the Bid Documents listed in the Special Instructions to Bidders;
  - c. correctly completed in all respects;
  - d. signed by a duly authorized representative of the Bidder; and
  - e. accompanied by
    - i. bid security as specified in GI05; and
    - ii. any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the bid.
2. Subject to paragraph 6) of GI06, any alteration to the pre-printed or pre-typed sections of the Bid and Acceptance Form, or any condition or qualification placed upon the bid may be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Bid and Acceptance Form by the Bidder shall be initialed by the person or persons signing the bid. Alterations, corrections, changes or erasures that are not initialed shall be deemed void and without effect.
3. Unless otherwise noted elsewhere in the Bid Documents, facsimile copies of bids are not acceptable.
4. Canada will make available Notices of Proposed Procurement (NPP), bid solicitations and related documents for download through the Government Electronic Tendering Service (GETS). Canada is not responsible and will not assume any liabilities whatsoever for the information found on websites of third parties. In the event an NPP, bid solicitation or related documentation would be amended, Canada will not be sending notifications. Canada will post all amendments, including significant enquiries received and their replies, using GETS. It is the sole responsibility of the Bidder to regularly consult GETS for the most up-to-date information. Canada will not be liable for any oversight on the Bidder's part nor for notification services offered by a third party.

### **GI03 IDENTITY OR LEGAL CAPACITY OF THE BIDDER (2015-02-25)**

1. In order to confirm the authority of the person or persons signing the bid or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by Canada, provide satisfactory proof of
  - a. such signing authority; and
  - b. the legal capacity under which it carries on business;

prior to contract award. Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this bid on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership. This also applies to Bidders submitting a bid as a joint venture.

### **GI04 APPLICABLE TAXES (2015-02-25)**

1. "Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013.

### **GI05 BID SECURITY REQUIREMENTS (2014-06-26)**

1. The Bidder shall submit bid security with the bid in the form of a bid bond or a security deposit in an amount that is equal to not less than 10 percent of the bid amount. Applicable Taxes shall not be included when calculating the amount of any bid security that may be required. The maximum amount of bid security required with any bid is \$2,000,000.
2. A bid bond (form *PWGSC-TPSGC 504* <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/504-eng.html>) shall be in an approved form, properly completed, with original signatures and sealed by the approved bonding company whose bonds are acceptable to Canada either at the time of solicitation closing or as identified in Treasury Board Appendix L, Acceptable Bonding Companies.
3. A security deposit shall be an original, properly completed, signed where required and be either
  - a. bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or
  - b. bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
4. For the purposes of subparagraph 3. a.
  - a. a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
  - b. if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4. c, either by letter or by a stamped certification on the bill of exchange, bank draft or money; an
  - c. An approved financial institution is
    - i. a corporation or institution that is a member of the Canadian Payments Association as defined in the *Canadian Payments Act*; <http://laws.justice.gc.ca/eng/acts/C-21/>

- ii. a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
  - iii. a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
  - iv. a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the *Income Tax Act*; <http://laws-lois.justice.gc.ca/eng/acts/l-3.3/index.html> or
  - v. Canada Post Corporation.
5. Bonds referred to in subparagraph 3. b. shall be provided on the basis of their market value current at the date of solicitation closing, and shall be
- a. payable to bearer;
  - b. accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
  - c. registered as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.
6. As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to Canada and the amount shall be determined in the same manner as a security deposit referred to above.
7. An irrevocable standby letter of credit referred to in paragraph 6. shall
- a. be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
    - i. is to make a payment to, or to the order of, the Receiver General for Canada as the beneficiary;
    - ii. is to accept and pay bills of exchange drawn by the Receiver General for Canada;
    - iii. authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
    - iv. authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
  - b. state the face amount which may be drawn against it;
  - c. state its expiry date
  - d. provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the Departmental Representative identified in the letter of credit by his/her office;
  - e. provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;

- f. provide that it is subject to the International Chamber of Commerce (ICC) *Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision*, ICC Publication No. 600, Pursuant to the ICCUCP, a credit is irrevocable even if there is no indication to that effect; and
  - g. be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
8. Bid security shall lapse or be returned as soon as practical following
- a. the solicitation closing date, for those Bidders submitting non-compliant bids; and
  - b. the administrative bid review, for those Bidders submitting compliant bids ranked fourth to last on the schedule of bids; and
  - c. the award of contract, for those Bidders submitting the second and third ranked bids; and
  - d. the receipt of contract security, for the successful Bidder; or
  - e. the cancellation of the solicitation, for all Bidders.
9. Notwithstanding the provisions of paragraph 8. and provided more than three compliant bids have been received, if one or more of the bids ranked third to first is withdrawn or rejected for whatever reason then Canada reserves the right to hold the security of the next highest ranked compliant bid in order to retain the bid security of at least three valid and compliant bids.

#### **GI06 REJECTION OF BID (2014-09-25)**

1. Canada may accept any bid, whether it is the lowest or not, or may reject any or all bids.
2. Without limiting the generality of paragraph 1., Canada may reject a bid if any of the following circumstances is present:
  - a. the Bidder's bidding privileges are suspended or are in the process of being suspended;
  - b. the bidding privileges of any employee or subcontractor included as part of the bid are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to bid on the Work, or the portion of the Work the employee or subcontractor is to perform;
  - c. the Bidder is bankrupt, or where for whatever reason, its activities are rendered inoperable for an extended period;
  - d. evidence, satisfactory to Canada, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its bid;
  - e. evidence satisfactory to Canada that based on past conduct or behavior, the Bidder, a sub-contractor or a person who is to perform the Work is unsuitable or has conducted himself/herself improperly;
  - f. with respect to current or prior transactions with Canada

- i. Canada has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its bid; or
  - ii. Canada determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being bid on.
3. In assessing the Bidder's performance on other contracts pursuant to subparagraph 2. f. ii., Canada may consider, but not be limited to, such matters as:
  - a. the quality of workmanship in performing the Work;
  - b. the timeliness of completion of the Work;
  - c. the overall management of the Work and its effect on the level of effort demanded of the department and its representative; and
  - d. the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
4. Without limiting the generality of paragraphs 1. , 2. and 3., Canada may reject any bid based on an unfavourable assessment of the
  - a. adequacy of the bid price to permit the work to be carried out and, in the case of a bid providing prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that price applies;
  - b. Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
  - c. Bidder's performance on other contracts.
5. Where Canada intends to reject a bid pursuant to a provision of paragraphs 1. , 2. , 3. or 4., other than subparagraph 2. a., the contracting Authority will inform the Bidder and provide the Bidder ten (10) days within which to make representations, before making a final decision on the bid rejection.
6. Canada may waive informalities and minor irregularities in bids received if Canada determines that the variation of the bid from the exact requirements set out in the Bid Documents can be corrected or waived without being prejudicial to other Bidders.

#### **GI07 BID COSTS (2015-02-25)**

1. No payment will be made for costs incurred in the preparation and submission of a bid in response to the bid solicitation. Costs associated with preparing and submitting a bid, as well as any costs incurred by the Bidder associated with the evaluation of the bid, are the sole responsibility of the Bidder.

#### **GI08 PROCUREMENT BUSINESS NUMBER (2015-02-25)**

1. Bidders are required to have a Procurement Business Number (PBN) before Contract award. Bidders may register for a PBN in the Supplier Registration Information system on Web site: <https://buyandsell.gc.ca/for-businesses/selling-to-the-government-of-canada/register-as-a-supplier> . For non-Internet registration, Bidders may contact the nearest Supplier Registration Agent.

#### **GI09 COMPLIANCE WITH APPLICABLE LAWS (2013-04-25)**

1. By submission of a bid, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the bid and entry into any ensuing contract for the performance of the work.
2. For the purpose of validating the certification in paragraph 1., a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the request.
3. Failure to comply with the requirements of paragraph 2. shall result in disqualification of the bid.

#### **GI10 PERFORMANCE EVALUATION (2010-01-11)**

1. Bidders shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by Canada. The evaluation shall be based on the quality of workmanship; timeliness of completion of the work; project management, contract management and management of health and safety. Should the Contractor's performance be considered unsatisfactory, the Contractor's bidding privileges on future work may be suspended indefinitely.
2. The form *PWGSC-TPSGC 2913*, <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/2913-eng.html> SELECT - Contractor Performance Evaluation Report Form, is used to record the performance.

#### **GI11 CONFLICT OF INTEREST—UNFAIR ADVANTAGE (2011-05-16)**

1. In order to protect the integrity of the procurement process, bidders are advised that Canada may reject a bid in the following circumstances:
  - a. if the Bidder, any of its subcontractors, any of their respective employees or former employees was involved in any manner in the preparation of the bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;
  - b. if the Bidder, any of its subcontractors, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other bidders and that would, in Canada's opinion, give or appear to give the Bidder an unfair advantage.
2. The experience acquired by a bidder who is providing or has provided the goods and services described in the bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This bidder remains however subject to the criteria established above.
3. Where Canada intends to reject a bid under this section, the Contracting Authority will inform the Bidder and provide the Bidder an opportunity to make representations before making a final decision. Bidders who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a bid, the Bidder represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Bidder acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.

#### **GI12 CODE OF CONDUCT FOR PROCUREMENT—BID (2016-04-04)**

1. The *Code of Conduct for Procurement* <http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html> provides that Bidders must respond to bid solicitations in an honest, fair and comprehensive manner, accurately reflect their capacity to satisfy the requirements set out in the bid solicitation and resulting contract, submit bids and enter into contracts only if they will fulfill all obligations of the Contract. By submitting a bid, the Bidder is

Solicitation No. - N° de l'invitation  
EP922-173396  
Client Ref. No. - N° de réf. du client  
DFO EP922-173396

Amd. No. - N° de la modif.  
File No. - N° du dossier  
PWU-7-40003

Buyer ID - Id de l'acheteur  
pwu183  
Project No.- No. du projet

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certifying that it is complying with the *Code of Conduct for Procurement*. Failure to comply with the *Code of Conduct for Procurement* may render the bid non-responsive.

## **CONTRACT DOCUMENTS (CD)**

1. The following are the contract documents:
  - a. Contract Page when signed by Canada;
  - b. Duly completed Bid and Acceptance Form and any Appendices attached thereto;
  - c. Request for Proposal all Annexes, Appendices and Amendments thereto;
  - d. Terms of Reference;
  - e. Basis of Payment;
  - f. General Conditions and clauses:

GC1 General Provisions - Construction Services	R2810D (2016-04-04);
GC2 Administration of the Contract - Construction Services	R2820D (2016-01-28);
GC3 Execution and Control of the Work	R2830D (2015-02-25);
GC4 Protective Measures	R2840D (2008-05-12);
GC5 Terms of Payment	R2850D (2016-01-28);
GC6 Delays and Changes in the Work	R2860D (2016-01-28);
GC7 Default, Suspension or Termination of Contract	R2870D (2008-05-12);
GC8 Dispute Resolution - 100K - 5M - Construction Services	R2880D (2016-01-28);
GC9 Contract Security	R2890D (2014-06-26);
GC10 Insurance	R2900D (2008-05-12);
  - g. Supplementary Conditions (SC)
  - h. Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
  - i. Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and acceptance of the bid; and
  - j. Any amendment or variation of the contract documents that is made in accordance with the General Conditions; and
  - k. The Contractor's bid. (Technical Bid and Financial Bid)
2. The documents identified by title, number and date above are incorporated by reference and are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Web site: <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>
3. The language of the contract documents is the language of the Bid and Acceptance Form submitted.

## **SUPPLEMENTARY CONDITIONS (SC)**

- SC01 Industrial Security Related Requirements, *Document Safeguarding*
  - SC02 Insurance Terms
  - SC03 Changes to Contract Documents
  - SC04 Soliciting Bids
  - SC05 Determination of Construction Cost
  - SC06 Determination of Price for Subcontract Changes
  - SC07 Replacement of Specific Individuals
  - SC08 Interpretation
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### **SC01 INDUSTRIAL SECURITY RELATED REQUIREMENTS, DOCUMENTS SAFEGUARDING**

1. There is no security requirement applicable to this Contract.

### **SC02 INSURANCE TERMS**

1. Insurance Contracts
  - a. The Contractor must, at the Contractor's expense, obtain and maintain insurance contracts in accordance with the requirements of the Certificate of Insurance and the Basis of Payment. Coverage must be placed with an Insurer licensed to carry out business in Canada.
  - b. 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.
2. Period of Insurance
  - a. The policies required in the Certificate of Insurance must be in force from the date of contract award and be maintained throughout the duration of the Contract.
  - b. The Contractor must be responsible to provide and maintain coverage for Products/Completed Operations hazards on its Commercial General Liability insurance policy, for a period of six (6) years beyond the date of the Certificate of Substantial Performance.
3. Proof of Insurance
  - a. Before commencement of the Work, and no later than thirty (30) days after acceptance of its bid, the Contractor must deposit with Canada a Certificate of Insurance on the form attached herein.
  - b. Upon request by Canada, the Contractor must provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the Certificate of Insurance.
4. Insurance Proceeds

In the event of a claim, the Contractor must, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.
5. Deductible

The payment of monies up to the deductible amount made in satisfaction of a claim must be borne by the Contractor.

### **SC03 CHANGES TO CONTRACT DOCUMENTS**

1. R2810D (2016-04-04) General Condition (GC) 1 - General Provisions - Construction Services is amended as follows:
  - a. Subsection GC1.1.2 Terminology is amended as follows:

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- i. Delete the term “Contractor” from GC1.1.2 in its entirety and replace with the following:  
“Contractor” and “Construction Manager”  
*means the person contracting with Canada to provide or furnish all labour, Material and Plant and Construction Management Services for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to Canada.*
- ii. Add the following new terms to GC 1.2.2 :  
“Architectural and Engineering Services”  
*means services to provide a range of investigation and recommendation reports, planning, design, preparation, or supervision of the construction, repair, renovation or restoration of a work and includes contract administration services, for real property projects.*  
“Construction Services”  
*means construction, repair, renovation or restoration of any work except a vessel and includes; the supply and erection of a prefabricated structure; dredging; demolition; environmental services related to a real property; or, the hire of equipment to be used in or incidentally to the execution of any construction services referred to above.*  
“Facility Maintenance Services”  
*means services related to activities normally associated with the maintenance of a facility and keeping spaces, structures and infrastructure in proper operating condition in a routine, scheduled, or anticipated fashion to prevent failure and/or degradation including inspection, testing, servicing, classification as to serviceability, repairs, rebuilding and reclamation, as well as cleaning, waste removal, snow removal, lawn care, replacement of flooring, lighting or plumbing fixtures, painting and other minor works.*
- b. Subsection GC1.2.2 Order of precedence is amended as follows:
- i. Delete sub-paragraph 1. f. drawings and specifications in its entirety and replace with the following:  
*f. Terms of Reference & Basis of Payment.*
- ii. Delete sub-paragraph 2. in its entirety.
- c. General Condition (GC) 1 - General Provisions - Construction Services is amended as follows:

Add the following section in its entirety to (GC) 1:  
GC1.22 Performance Evaluation-contract

1. *Contractors will take note that the performance of the Contractor during and upon completion of the services will be evaluated by Canada. The evaluation includes all or some of the following criteria:*
  - a. *quality of workmanship*
  - b. *time*
  - c. *project management*
  - d. *contract management*
  - e. *health and safety*
2. *A weighting factor of 20 points will be assigned to each of the five criteria as follows:*
  - a. *unacceptable: 0 to 5 points*
  - b. *not satisfactory: 6 to 10 points*
  - c. *satisfactory: 11 to 16 points*
  - d. *superior: 17 to 20 points*
3. *The consequences resulting from the performance evaluation are as follows:*
  - a. *For an overall rating of 85% or higher, a congratulation letter is sent to the Contractor.*
  - b. *For an overall rating of between 51% and 84%, a standard, meets expectations letter, is sent to the Contractor.*
  - c. *For an overall rating of between 30% and 50%, a warning letter is sent to the Contractor indicating that if, within the next two (2) years, they receive 50% or less on another evaluation, the firm may be suspended from any new PWGSC solicitations for construction services, architectural and*

- engineering services or facility maintenance services, of real property projects, for a period of one year.*
- d. *For an overall rating of less than 30%, a suspension letter is sent to the Contractor indicating that the firm is suspended from any new PWGSC solicitations for construction services, architectural and engineering services or facility maintenance services, of real property projects, for a period of one year.*
  - e. *For a rating of 5 points or less on any one criterion, a suspension letter is sent to the Contractor indicating that the firm is suspended from any new PWGSC solicitations for construction services, architectural and engineering services or facility maintenance services, of real property projects, for a period of one year.*

*The form PWGSC-TPSGC 2913, Select - Contractor Performance Evaluation Report (CPEF), is used to record the performance.*

2. R2830D (2015-02-25) - General Condition (GC) 3 - Execution and Control of the Work is amended as follows:

Delete Section GC3.7- Construction by Other Contractors or Workers in its entirety and replace with the following:  
GC3.7 - Separate Contracts with other Contractors

1. *Canada reserves the right to award separate contracts for work. Where in the opinion of Canada, it is necessary for Canada to award separate contracts to other contractors, the Contractor will:*
  - a. *coordinate and cooperate with the work of other contractors;*
  - b. *coordinate and schedule the Work with the work of other contractors and connect as specified or shown;*
  - c. *participate with other contractors and the Departmental Representative in reviewing their construction schedules when directed to do so;*
  - d. *coordinate and perform the Work with care and diligence so as to ensure that Canada and other contractors will be in a position to proceed according to schedule with the delivery, installation and testing of their work; and*
  - e. *allow other contractors or workers, together with their plant, equipment and Material, access to the Site and the opportunity to use their plant and equipment.*
2. *When separate contracts are awarded for other parts of the Project, Canada will:*
  - a. *Ensure that insurance coverage is provided to the same requirements to the extent applicable. Such insurance will be coordinated with the insurance coverage of the Contractor as it affects the Work; and*
  - b. *Take all precautions reasonably possible to avoid labour or other disputes.*
  - c. *Ensure the separate contractors are required to adhere to the Contractor's Health & Safety policies and procedures when performing work at the location of the project under the Contractor's control as Constructor on the project.*
3. *The Contractor will give the Departmental Representative prompt written notice of any defect in, or any conflict occasioned by, the work of other contractors and prior to proceeding with any Work that is affected by or depends upon for its proper execution such work of other contractors. In the absence of such written report, the Contractor will have no claim against Canada by reason of the conflict or defective work of the other contractors.*
4. *Notwithstanding the foregoing, it is understood and agreed that the Contractor will be the "constructor" for the Project within the meaning of the applicable Health and Safety legislation, and will perform or have performed, in addition to any other obligations it may have pursuant to the application legislation, all of the obligations of a "constructor" set out in the legislation for the Work. It is further understood and agreed that Canada appoints and the Contractor agrees to be appointed as the constructor to fully control, coordinate, oversee and be responsible for all other contractors.*
5. *If there is a change in the scope of the Work required for the planning and performance of this coordination and connection, there might be a Change in the Work.*
6. *If the Contractor has caused damage, delay, impact, or interference to the work of other contractors, the Contractor agrees upon due notice to settle with the other contractors in accordance with GC5.8 item 6. of R2850D - General Condition (GC) 5 - Terms of Payment. If one or more of the other contractors makes a*

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*claim against Canada on account of damage, delay, impact, or interference alleged to have been so sustained, Canada will notify the Contractor and may require the Contractor to defend the action at the Contractor's expense and not as a Cost of the Work and without an adjustment in the Contract Fee. The Contractor will satisfy a final order or judgment against Canada and pay the costs incurred by Canada arising from such action and not as a Cost of the Work and without an adjustment in the Contract Fee.*

3. R2850D (2016-01-28) General Condition (GC) 5 Terms of Payment > 100K - Construction Services is amended as follows:

- a. Section GC5.4 Progress Payment is amended as follow:  
Add the following sub-section to CG5.4 Progress Payments

6. *The portion of the Work done under the Fixed Fee will be invoiced in equal monthly installments over the duration of the Contract.*

4. R2860D (2016-01-28) General Condition (GC) 6 - Delays and Changes in the Work – Construction Services is amended as follows:

Section GC6.4 Determination of Price is amended as follows:

Delete Section GC6.4 Determination of Price in its entirety and replace with the following:

**GC6.4 Determination of Price**

1. *Any adjustment to the Estimated Construction Costs resulting from a change in the Work pursuant to GC6.1 will represent all reasonable and proper costs including delay incurred by or savings accruing to the Contractor in respect of the labour, Plant and Material that are payable as Construction Costs.*
2. *If the final cost of the Construction Work, excluding the Contractor' fees, is not within 75 and 125 percent of the total Estimated Construction Cost either party to the Contract may request to negotiate a change in the Contractor' Percentage Fee for the Work outside of these thresholds if:*
  - a. *there is a demonstrable difference between the cost to the Contractor of performing the Work for the Estimated Construction Cost and the cost to the Contractor of performing the Work for the actual Construction Cost;*
3. *For the purposes of the negotiation referred to in paragraph 2.*
  - a. *The onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation.*
  - b. *If the actual Construction cost is less than 75 percent of the Estimated Construction, in no event will the total amount paid as the Contractor' Percentage Fee, amended as a result of a reduction in the cost of the Work, exceed the amount that would have been payable to the Contractor had the price of the Work actually accounted for 75 percent of the Estimated Construction Cost.*
4. *The amount of the Contract will be the final sum of the Fixed Monthly Fees, the actual Construction Cost, the Percentage Fee and any adjustments that are made in accordance with the Contract.*

**SC04 SOLICITING BIDS**

- 1) In subcontracting for the construction the Contractor must:

- a) Collaborate with the Project Team to prepare tender and contract documents that clearly set out the requirements for materiel and services;
- b) In consultation with the Project Team, the Contractor will consider reserving, or "setting aside", certain contracts exclusively for competition among Aboriginal businesses under the Procurement Strategy for Aboriginal Business (PSAB) as per Appendix 2.

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- c) Apply an Aboriginal Opportunities Consideration (AOC) section into each tender package that will maximize the potential for Aboriginal involvement.
- d) Manage subcontractors and ensure they provide the required services in a manner consistent with the terms and conditions of this Contract and achieve timely delivery of quality services at the lowest cost;
- e) Establish quality and performance requirements and monitor subcontractor performance, including quality of deliverables, adherence to schedules and costs;
- f) Provide for dispute resolution, initiation of subcontract amendments and payments; and
- g) Respond diligently to any industry or PWGSC enquiries concerning the awarding of subcontracts and inform PWGSC of any unresolved enquiries in a timely manner.
- 2) As an independent entity, the Contractor will select its own subcontractors. It is most important that these selection processes are fair, open and transparent and that all qualified subcontractors have the opportunity to be considered for the construction work. Government of Canada believes that competitive bidding and open tendering processes will yield the best value at lowest cost for subcontracted services. For all requirements, the Project Team in consultation with the Contractor will determine the appropriate contract security requirements and insurance requirements on a per work package basis. The Contractor will also be required to provide notification in accordance with Annex 9.2 of the PWGSC Supply Manual to the applicable CLCA offices. The Contractor must obtain open, fair and competitive bids for the subcontracts required for each portion of the Work in accordance with the following requirements:
- a) For subcontracts estimated at less than \$25,000.00 including Goods and Services Tax, they may be non-competitively tendered to qualified suppliers upon the written concurrence of the Departmental Representative. Details of how the AOC will be incorporated into the solicitation must be provided. Price support must be provided in order to verify the price is fair and reasonable. Examples of price support include but are not limited to: a current published price list indicating the percentage discount available, copies of paid invoices for the like quality and quantity of the goods, services or both sold to other customers, a price breakdown showing the cost of direct labour, direct materials, purchased items, engineering and plant overheads, general and administrative overhead, transportation, etc, and profit, price or rate certifications, or any other supporting documentation as requested by Canada.
- b) For subcontracts estimated between \$25,000 and \$99,999, including Goods and Services Tax, they will be required to solicit at least two bids competitively and provide details of how the AOC will be incorporated into the solicitation. Upon written concurrence of the Departmental Representative the requirement to solicit a minimum of 2 bids may be set aside if the Contractor can demonstrate to the Departmental Representative that less than 2 firms are capable of or willing to perform the work.
- c) For subcontracts estimated at \$100,000 or more, including Goods and Services tax:
- i. Indicate to Canada on the preferred procurement approach (Invitation to Tender or Request for Proposal) and provide details of how the AOC will be incorporated into the solicitation. The methodology used in the AOC section may be a point rating within the Request for Proposal (RFP) technical evaluation or a best value tender using a 90/10 (Price/AOC) approach. Notification of the procurement must be sent to the land claimant group(s) listed for each Comprehensive Land Claim Agreement (CLCA) that applies to the procurement.
  - ii. Advertise publicly through MERXTM Private, in accordance with open bidding procedures.
  - iii. The public advertisement should include, at a minimum, a description of the nature of the Work to be performed, information regarding any technical requirements, financial guarantees or other documentation to be provided with the bid, the completion date for the Work, the address of the bid closing location and the final date and time for receiving bids, the identification of a contact point for obtaining bid documents and from which further information may be obtained, the date, time and place of the public opening of the bids.
  - iv. Tender documentation should include all of the public advertisement information, as well as identification of the bid validity period, the evaluation criteria for awarding the contract including the AOC and any factors other than price to be considered in the evaluation of bids, the terms of payment and any other terms or conditions.
  - v. During the solicitation the Contractor must reply promptly to any request for bid documents or any reasonable request for relevant information made by a supplier participating in the tender, on condition that such information does not give the supplier an advantage over its competitors.

- vi. To ensure consistency and quality of the information provided to Bidders, the Contractor must ensure that any clarification, response to a bidders question or clarification information is provided to all potential bidders.
  - d) The receipt and opening of bids and the awarding of contracts should be consistent with the following:
    - i. Bids should be opened in the presence of a least two representatives of the Contractor, as well a representative of PWGSC must be invited to attend, all of whom will act as witnesses to the opening by verifying and signing the Record of Bids received.
    - ii. Contracts must be awarded in accordance with the requirements specified in the notices and bid documentation, and must be submitted by a supplier that complies with the terms and conditions of the bid documents.
    - iii. The Contractor must, upon request, promptly inform suppliers participating in the bid of decisions on contract awards.
  - e) The Contractor must:
    - i. Document any deviation from the competitive subcontracting process, notify PWGSC in writing within three (3) business days of any such deviation, and make the documentation available to PWGSC upon request.
    - ii. Demonstrate to PWGSC that it has a competitive subcontracting process and a prequalification process, reflecting industry practices.
  - f) The process for the evaluation of the bids must consist of the following:
    - i. Invite Canada to participate in, as an observer, the bid evaluation process.
    - ii. Evaluate bids in accordance with the criteria provided in the tender documents and document all results. Strengths and weaknesses should be documented for all proposals evaluated to substantiate the scores awarded to bidders.
    - iii. Upon completion of the evaluation process, the Contractor must prepare a contract award recommendation for the Crown's review. The Crown will review to confirm the evaluation was consist with SC04 and the pre-tender review of the procurement approach. The format of the contract award recommendation is the responsibility of the Contractor, however, at a minimum; the recommendation must include copies of the following documents:
      - i) Prequalification Phase (if applicable) – copies of prequalification documents such as CCDC 11 - 1996 (R2006) Contractor's Qualification Statement or equivalent, the list of contractors submitting applications for prequalification and the results of the evaluation of prequalification submissions.
      - ii) Tender phase: copies of all bids received, verification (e.g. A time stamp) that bids were received on time prior to the time scheduled for bid closing, a copy of the Record of the bid opening, properly witnessed, a copy of the MERXTM notice, a summary of all tenders received with their corresponding evaluation and/or bid amount breakdowns and totals, verification that bid security (if applicable) was provided with the bid, information on any tender qualifications or disqualifications; and identification of the supplier recommended for contract award with AOC commitments.
- 3) When PWGSC approves the expenditure, the Contractor must prepare the subcontracts for execution. No award of subcontracts to a Subcontractor can proceed without a contract award recommendation provided for the Departmental Representative review and concurrence.
  - 4) The Contractor, and anyone not at arm's length (as defined in the *Income Tax Act*, currently outlined in the Canadian Revenue Agency Income Tax Folio No. S1-F5-C1. Link is as follows: <http://www.craarc.gc.ca/tx/tchncl/ncmtx/fls/s1/f5/s1-f5-c1-eng.html>) to the Contractor, must be ineligible to submit bids for any construction tenders issued for work tendered as part of the Project. For further clarity, the Contractor and anyone not at arm's length to the Contractor will be deemed to have a Conflict of Interest that would prevent it from being eligible to submit bids for any tenders issued in connection with the Project.

## **SC05 DETERMINATION OF CONSTRUCTION COST**

1. The Construction Cost, as defined in that **BASIS OF PAYMENT Annex B**, initially will be determined based on the Estimated Construction Cost specified in the Request for Proposal. The Estimated Construction Cost will be adjusted periodically throughout the term of the contract to reflect the actual Construction Cost.
2. Any adjustment to the amount of a subcontract will require Canada's approval in writing. The Contractor will not be entitled to any additional fees other than the Percentage Fee.
3. Any request for adjusting the amount of a subcontract must be substantiated with a cost estimate breakdown identifying, as a minimum, all Labour, Material, and Plant costs and the amount of the allowance for the subcontractor's undertaking of the work within the stipulated amount. The Contractor will ensure that all prices included in the breakdown are fair and reasonable and in conformance with the following:
  - a. Labour rates will be established in accordance with applicable trade union agreements. Non-union labour rates will be established in accordance with industry standards. All labour rates will require approval by Canada in writing.
  - b. The costs of all Material and Plant must represent the actual amount paid to suppliers and said costs are to include all applicable discounts.
  - c. Allowances for the subcontractor's profit, supervision, co-ordination, administration, overhead and the risk of undertaking the work will be negotiated by the Contractor for each change, and will represent a reasonable amount for the nature and complexity of each change. However, in no circumstance will the subcontractor's allowance exceed 15%.
4. The price of any portion of the Work that is not subcontracted or paid for as a Fixed Fee will be equal to the actual cost of that portion of the Work plus the applicable Contractor's Percentage Fee.

## **SC06 DETERMINATION OF PRICE FOR SUBCONTRACT CHANGES**

1. Price Determination Prior to Undertaking Changes
  - a. If a Lump Sum Arrangement applies to the Contract between the Contractor and the Subcontractor or a part thereof, the price of any Subcontractor's change will be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed on in writing by the Contractor and Canada plus an allowance in accordance with SC04 3. c.
  - b. If a Unit Price Arrangement applies to the Contract between the Contractor and the Subcontractor or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
  - c. A price per unit referred to paragraph b., will be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed on by the Contractor and Canada, plus an allowance determined in accordance with SC04 3. c.
  - d. To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor will submit the Subcontractor's cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, any subcontract amount, and the amount of the allowance.
  - e. If no agreement is reached as contemplated in paragraph 1. the price will be determined in accordance with paragraph 3. "Price Determination Following Completion of Changes".
2. Allowable Costs under paragraph 1. "Price Determination Prior to Undertaking Changes".

a. General

- i. The Contractor will submit a summary of the subcontractor's cost estimate breakdown for each contemplated change, in accordance with paragraph 1. d. "Price Determination Prior to Undertaking Changes". The breakdown will itemize all labour, Material, Plant and equipment costs estimated by the Contractor's subcontractor, and the amount of the subcontractor allowance;
- ii. It is the responsibility of the Contractor to ensure that all prices included in the Contractor's breakdown to Canada of their subcontractors cost, are fair and reasonable in view of the terms expressed herein;
- iii. The labour hours required for the contemplated change will be based on the estimated number of hours to perform the work;
- iv. Time spent by a working foreman may be included in the number of labour hours, at a rate agreed to in writing by the Contractor and Canada;
- v. Time attributable to material handling, productivity factors and approved rest periods is to be included in the number of hours required by the contemplated change and will not be paid as a separate item under hourly rates;
- vi. Allowances referred to in paragraph 2. d.- "Allowance to the Subcontractor" below are not to be included in the hourly labour rates;
- vii. Credit for work deleted will only be for the work directly associated with the change;
- viii. When a change deletes work which has not yet been performed, Canada is entitled to an adjustment in the Contract Amount equal to the cost the Contractor would have incurred had the work not been deleted;
- ix. Allowances referred to in paragraph 2. d. "Allowance to the Subcontractor" below will not be applied to any credit amounts for deleted work;
- x. In those cases where the change involves additions and deletions to the work, the allowances referred to in paragraph 2. d. "Allowance to the Subcontractor" below will apply only when the cost of the additions minus the cost of the deletions would result in an increase in the Contract Amount. The allowance will only be applied to that portion of the costs of the additions that is in excess of the cost of the deletions;
- xi. If the contemplated change in the work necessitates a change in the contract completion date, or has an impact on the work, the Contractor will identify and include the resulting cost in the breakdown.

b. Hourly Labour Rates

- i. The hourly labour rates listed in the Contractor's Subcontractor breakdown will be determined in accordance with the collective agreements that are applicable at the site of the work and will include:
  - (a) the base rate of pay;
  - (b) vacation pay;
  - (c) benefits which includes:
    - Welfare contributions;
    - Pension contributions;
    - Union dues;
    - Training and industry funds contributions; and
    - Other applicable benefits, if any that can be substantiated by the Contractor
  - (d) statutory and legislated requirements, assessed and payable under statutory authority, which includes:
    - Employment Insurance contributions;
    - Canada Pension Plan or Quebec Pension Plan contributions;

- 
- Worker's Compensation Board or " Commission des normes, de l'équité, de la santé et de la sécurité du travail " premiums;
  - Public Liability and Property Damage insurance premiums; and
  - Health tax premiums.
- ii. In the case of non-union labour, all rates claimed will be in accordance with industry standards and the Contractor's and its Subcontractor will provide satisfactory proof of the rates actually paid
- c. Material, Plant and Equipment Costs
- i. The costs of all purchases and rentals will be based on the actual amount paid to the suppliers by the Contractor or its Subcontractor and said costs are to include all applicable Discounts.
- d. Allowance to the Subcontractor
- i. The allowances provided will be considered as full compensation for:
- (a) supervision, coordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount; and
  - (b) miscellaneous additional costs related to
    - The purchase or rental of material, plant and equipment;
    - The purchase of small tools and supplies;
    - Safety and protection measures; and
    - Permits, bonds, insurance, engineering, as built drawings, commissioning, and site office.
3. Price Determination Following Completion of Changes
- a. If it is not possible to predetermine, or if there is failure to agree on the price of a change in the Work, the price of the change will be equal to the aggregate of:
- i. all reasonable and proper amounts actually expended or legally payable by the Contractor in for labour, Plant and Material that fall within one of the classes of expenditure described in paragraph b. that are directly attributable to the performance of the Contract;
  - ii. an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is determined in accordance with SC04 3. c.; and
  - iii. interest on the amounts determined under subparagraphs a. i. and a. ii. of paragraph 3. calculated in accordance with GC5.11, "Interest on Settled Claims";
- b. The cost of labour, Plant and Material referred to in subparagraph a. i. and a. ii. of paragraph 3 will be limited to the following categories of expenditure:
- i. payments to Subcontractors and Suppliers;
  - ii. wages, salaries bonuses and, if applicable, travel and lodging expenses of employees of the Subcontractors located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Subcontractor generally employed at the head office or at a general office of the Subcontractor provided they are actually and properly engaged on the Work under the Contract;
  - iii. assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and Applicable Taxes collection costs;

- iv. rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Subcontractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
- v. payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
- vi. payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
- vii. payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
- viii. any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

#### 4. Price Determination - Variations in Tendered Quantities

- a. Except as provided in subparagraphs b., c., d. and e., if it appears that the final quantity of labour, Plant and Material under a price per unit item will exceed or be less than the estimated tendered quantity, the Contractor's Subcontractor will perform the Work or supply the Plant and Material required to complete the item and payment will be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- b. If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15 percent, either party to the Contract may make a written request to the other party to negotiate an amended price per unit for that portion of the item which exceeds 115 percent of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor will, on request, provide Canada with:
  - i. detailed records of the actual cost to the Subcontractor performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and
  - ii. the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115 percent of the tendered quantity.
- c. If agreement is not reached as contemplated in subparagraph b., the price per unit will be determined in accordance with paragraph 3. "Price Determination Following Completion of Changes"
- d. If it appears that the final quantity of labour, Plant and Material under a price per unit item will be less than 85 percent of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if:
  - i. there is a demonstrable difference between the unit cost to the Contractor's Subcontractor of performing or supplying the estimated tendered quantity and the unit cost of the Subcontractor for performing or supplying the final quantity; and
  - ii. the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
- e. For the purposes of the negotiation referred to in subparagraph d.
  - i. the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
  - ii. in no event will the total price for an item that has been amended as a result of a reduction in quantity under subparagraph d., exceed the amount that would have been payable to the Contractor's Subcontractor had 85 percent of the tendered quantity actually been performed or supplied.

## **SC07 REPLACEMENT OF SPECIFIC INDIVIDUALS**

1. If specific individuals are identified in the Contract to perform the Work, the Contractor must provide the services of those individuals unless the Contractor is unable to do so for reasons beyond its control.
2. If the Contractor is unable to provide the services of any specific individual identified in the Contract, it must provide a replacement with the same level of qualifications and experience as the individual who is being replaced. The replacement must meet the criteria used in the selection of the Contractor and be acceptable to Canada. The Contractor must, as soon as possible, give notice to the Contracting Authority of the reason for replacing the individual and provide:
  - a. the name, qualifications and experience of the proposed replacement; and
  - b. proof that the proposed replacement has the required security clearance granted by Canada, if applicable.
3. The Contractor must not, in any event, allow performance of the Work by unauthorized replacement persons. The Departmental Representative may order that a replacement stop performing the Work. In such a case, the Contractor must immediately comply with the order and secure a further replacement in accordance with paragraph 2. The fact that the Departmental Representative does not order that a replacement stop performing the Work does not relieve the Contractor from its responsibility to meet the requirements of the Contract.

## **SC08 INTERPRETATION**

R2810D General Condition GC1.1.2 Terminology is modified to include the following,

“Architectural and Engineering Services ”:

means services to provide a range of investigation and recommendation reports, planning, design, preparation, or supervision of the construction, repair, renovation or restoration of a work and includes contract administration services, for real property projects.

“Construction Services ”:

means construction, repair, renovation or restoration of any work except a vessel and includes; the supply and erection of a prefabricated structure; dredging; demolition; environmental services related to a real property; or, the hire of equipment to be used in or incidentally to the execution of any construction services referred to above.

“Facility Maintenance Services ”:

means services related to activities normally associated with the maintenance of a facility and keeping spaces, structures and infrastructure in proper operating condition in a routine, scheduled, or anticipated fashion to prevent failure and/or degradation including inspection, testing, servicing, classification as to serviceability, repairs, rebuilding and reclamation, as well as cleaning, waste removal, snow removal, lawn care, replacement of flooring, lighting or plumbing fixtures, painting and other minor works.

## SUBMISSION REQUIREMENTS AND EVALUATION (SRE)

- SRE 1 General Information
- SRE 2 Technical Bid Submission Requirements and Evaluation
- SRE 3 Comprehensive Land Claim Agreement
- SRE 4 Total Score
- SRE 5 Financial Bid Evaluation
- SRE 6 Basis of Selection

### SRE 1 GENERAL INFORMATION

#### 1.1 Reference to the Selection Procedure

- 1.1.1 An 'Overview of the bid opening and selection procedure' can be found in the Special Instructions to Bidders (SI)

#### 1.2 Submission of Bids

- 1.2.1 Bids are to be submitted in accordance with Special Instructions to Bidders (SI)
- 1.2.2 Submit one (1) signed original and five (5) copies of the Technical Bid (envelope one).
- 1.2.3 Submit one (1) signed original of the Financial Bid (envelope two).

#### 1.3 Format of Bids

##### 1.3.1 Technical Bid

In their Technical Bid, Bidders should demonstrate their understanding of the requirements contained herein and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, clear and concise manner for carrying out the work.

The Technical Bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the solicitation is not sufficient. In order to facilitate the evaluation of the Bid, Canada requests that the bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their Bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

The following Bid format information should be implemented when preparing the Bid:

- Paper size should be - 216mm x 279mm (8.5" x 11")
- Smallest font size should be 11 point Times or equal
- Margins should be 12 mm left, right, top, and bottom
- Double-sided submissions are preferred
- One (1) 'page' means one side of a 216mm x 279mm (8.5" x 11") sheet of paper; 279mm x 432 mm (11" x 17") fold-out sheets for spreadsheets, organization charts etc. will be counted as two Pages.

The order of the Technical Bid should follow the order established in the Submission Requirements Section of the RFP. The maximum number of pages (including text and graphics) to be submitted is 30. The following are not part of this page limitation:

- Covering Letter
- Front Page of the RFP
- Financial Bid
- Health and Safety documentation
- Resumes (limit 2 page each)
- Sample Project reports. Refer to SRE 2.

The consequence of exceeding the maximum 30 page limitation is that all pages that extend beyond the 30 page limitation will be removed from the technical Bid submission and will not be evaluated by the PWGSC Evaluation Committee for evaluation.

##### 1.3.2 Financial Bid

Bidders must submit their Financial Bid in accordance with the RFP

#### **1.4 Evaluation of Bids**

1.4.1. To be declared complaint, a Bid must:

- comply with all the requirements of the Request for Proposal;
- meet all mandatory evaluation criteria;
- Financial Bid form must be fully completed and accompanied by the required bid security.

1.4.2. Bids not meeting 1.4.1 will be declared non-complaint. Complaint Bids will be evaluated and assigned a score against the criteria described in SRE 2.

### **SRE 2 TECHNICAL BID SUBMISSION REQUIREMENTS AND EVALUATION**

#### **2.1 TECHNICAL CRITERION 1 - Experience of the Bidder: (Maximum Points: 40)**

Describe the accomplishments and achievements of the Bidder for work related to the identified project. Information to be supplied:

Description of two (2) projects, where a Substantial Completion was issued within the last 4 years. Projects must be similar in nature and value. Projects must have occurred in a remote northern location and include Earthworks, concrete installation and steel fabricating.

A brief project description and intent including total construction value and contracts managed as well as start and Substantial Completion date. Clearly indicate how the project is comparable to the subject Project of this Request for Proposal;

How budget was controlled and managed (i.e. contract price & final construction cost with explanation to address variances);

How schedule was controlled and managed (i.e. initial schedule and revised schedule with explanation to address variances);

How scope, quality and risks were managed to achieve client's expectations. Provide specific examples that are relevant to this project, if possible;

Names of key personnel responsible for delivery; outline their roles and responsibilities; and

Client references including name, address, phone and fax or e-mail of client contact at the working level - (PWGSC reserves the right to verify and consider the satisfaction of the referenced clients)

The Contractor must ensure that all references provided are currently available and can be contacted by the PWGSC Evaluation Team within five (5) working days of bid closing.

#### **2.2 TECHNICAL CRITERION 2 - Experience of Key Personnel of the Bidder: (Maximum Points: 20)**

Describe the accomplishments/achievements, relevant experience/expertise, roles/responsibilities/degree of Involvement, years with the firm of all key personnel and their backups. The key personnel should include, at a minimum, the Senior Project Manager, Site Superintendent, Field Engineer with 3 years' experience and a Site Safety Officer.

Information to be supplied for each member of the key personnel:

- Resume (maximum two pages);
- List of recently (within the last 4 years) completed projects, along with their responsibility for each project.

#### **2.3 TECHNICAL CRITERION 3 - Understanding of the Project - (Maximum Points: 20)**

The Bidder should demonstrate an understanding of the goals, the constraints, the challenges and the issues of the Project that will shape the end product.

Information to be supplied:

- One paragraph outlining the logistical and technical challenges they foresee on this project;
- One paragraph indicating how they propose to overcome these challenges;
- One paragraph indicating what steps will be undertaken to maintain the schedule should there be significant delays in major items.

**2.4 TECHNICAL CRITERION 4 - Management of Services: (Maximum Points: 10)**

The Bidder should demonstrate capability to manage the services and meet Project challenges and to ensure consistent control and communication efficiency. The Bidder should also demonstrate how the team will be organized and managed.

Information to be supplied:

- Personnel org. chart;
- Rolls and responsibilities of each member of the team;
- Percentage of time each member will be allocated to this project.

**2.5 TECHNICAL CRITERION 5 - Management of Services and Work (Maximum Points: 10)**

The Bidder should describe how it proposes to perform the Services and deliver the Work while meeting the project constraints.

Information to be supplied:

- Schedule complete with milestone dates;
- List of key subcontractors or suppliers to be used on this project;
- List of company resources that will be available for this project.

<b>SRE 2 - Technical Bid Submission Requirements and Evaluation Matrix</b>	
<b>Criterion</b>	<b>Maximum Points</b>
<b>2.1 Technical Criterion 1 - Experience of the Bidder (40 Points)</b>	
Project 1	20
Project 2	20
<b>Total</b>	<b>40</b>
<b>2.2 Technical Criterion 2 - Experience of Key Personnel of Bidder (20 Points)</b>	
Senior Project Manager	5
Site Superintendent	5
Field Engineer	5
Site Safety Officer	5
<b>Total</b>	<b>20</b>
<b>2.3 Technical Criterion 3 - Understanding of the Project (20 Points)</b>	
<b>Total</b>	<b>20</b>
<b>2.4 Technical Criterion 4 - Management Services (10 Points)</b>	
<b>Total</b>	<b>10</b>
<b>2.5 Technical Criterion 5 - Management of Services and Work (10 Points)</b>	
<b>Total</b>	<b>10</b>
<b>Maximum Score</b>	<b>100</b>

### SRE 3 COMPREHENSIVE LAND CLAIM AGREEMENT

#### **Sahtu Dene and Metis Comprehensive Land Claim**

In this requirement, it is not mandatory for Bidders to include the Aboriginal Opportunity Consideration (AOC) as part of their proposal.

This procurement is subject to the Sahtu Dene and Métis Comprehensive Land Claim Agreement.

Bidders are requested to maximize Sahtu employment, subcontracting and on-the-job training opportunities, and involve local, regional and Sahtu participants and businesses, in carrying out the work under this project.

The CLCA contains a provision requiring the inclusion of socio-economic bid criteria in the solicitation document, when practicable and consistent with sound procurement management principles, and subject to Canada's international trade agreement obligations. These socio-economic bid criteria are often referred to as Aboriginal Opportunity Considerations (AOC), and bidders propose Sahtu opportunities in their bid submission via an Aboriginal Opportunity Considerations Plan.

The proposed requirement is subject to the Sahtu Dene and Metis Comprehensive Land Claim Agreement. The requirements of this CLCA will apply to this procurement. The provisions that apply are contained in: Chapter 12 – Economic Measures, of the Sahtu Dene and Metis Comprehensive Land Claim Agreement, <http://www.aadnc-aandc.gc.ca/eng/1100100031147/1100100031164>

For purposes of interpretation:

"Participant" is as defined in Chapter 2 (Definitions) of the Sahtu Dene and Métis Comprehensive Land Claim Agreement.

"Sahtu settlement area" comprises the area within the Northwest Territories as described in Appendix A of the Sahtu Dene and Metis Comprehensive Land Claim Agreement.

"Sahtu Dene and Metis firms" means an entity which complies with the legal requirements to carry on a business in the area and which is a limited company with at least 51 % of the company's voting shares beneficially owned by participants, or is a cooperative controlled by participants, or is a participants' sole proprietorship or partnership.

"deliveries to" means "goods delivered to, and services performed in".

Please refer to Annex C - Aboriginal Opportunities Considerations (AOC).

### SRE 4 TOTAL SCORE

The overall points of the proposals which are responsive will be totaled in accordance with the following method:

Criterion	Rating
Technical Rating	0 - 100
Aboriginal Opportunities Considerations (AOC) Rating	0 - 10
<b>Total Score</b>	<b>0 – 110*</b>

*\*Technical Rating will be added to the AOC rating to determine the Total Score*

### SRE 5 FINANCIAL EVALUATION

The Financial Bid submitted by the Bidder will be divided by the Total Score to establish the Price per Point of the Bid.

### SRE 6 BASIS OF SELECTION

Total maximum points for the sum of SRE 2.1 through SRE 2.5 (Technical Criteria) is 100 points; a minimum score of 75 (or the equivalent of 75% of total score) points must be achieved to proceed to the opening of the Financial Bid; a score of less than 75 points will be considered non-compliant.

Technical Rating will be added to the AOC rating to determine the Total Score.

The Bidder whose compliant Bid achieves the lowest overall Price per Point is the first entity that the Evaluation Board will recommend be approached to finalize the details of a Contract for the provision of the required Services and Work. In the case of a tie, the Bidder submitting the lowest Total Proposed Amount will be selected.

**BID AND ACCEPTANCE FORM (BA) (2 pages)**

**BA01 IDENTIFICATION:** Construction Management Services  
 CCG Wharf Repairs  
 Norman Wells, Northwest Territories

**BA02 BUSINESS NAME AND ADDRESS OF BIDDER:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Procurement Business Number: \_\_\_\_\_

E-Mail address: \_\_\_\_\_

Industrial Security Program Organisation Number (ISP ORG#) \_\_\_\_\_

**BA03 THE OFFER**

1. The Bidder offers Canada to perform and complete the Work for the above named project in accordance with the Request for Proposal for the **TOTAL BID AMOUNT** of:

\$ \_\_\_\_\_ excluding Applicable Taxes.

(To be expressed in numbers only)

(The **TOTAL BID AMOUNT** represents the sum of items 1. (a) + (b) + (c) + (d) and (e) below

(a) Fixed Monthly Fee for CM Advisory Service (CMa) (Item 1. a. of Annex B - Basis of Payment) of:

\$ \_\_\_\_\_ X 7 months = \$ \_\_\_\_\_

(b) Percentage Fee for CM General Contractor service (CMc) (Item 1 b. of Annex "B" - Basis of Payment) of the Estimated Construction Cost.

\_\_\_\_\_ % X \$1,100,000.00 = \$ \_\_\_\_\_

(c) Estimated Construction Cost: (Item 2 of Annex B - Basis of Payment) = \$1,100,000.00

(d) Cost of Bonding and Insurance (Item 3. i. of Annex B - Basis of Payment) \$ \_\_\_\_\_

(e) Per Diem Rates, (Item 1 c of Annex "B" - Basis of Payment). Total of Item 1 (e) \$ \_\_\_\_\_

Per Diem Rates

<u>Personnel Rate Table</u>			
Category of Personnel	Quantity (days) (X)	Per Diem Rate (Y)	Extended Price (X x Y)
Senior Project Manager	10	\$	\$
Site Superintendent	10	\$	\$
Site Health & Safety Officer	10	\$	\$
Commissioning Specialist	10	\$	\$
General site labourer	10	\$	\$
Carpenter	10	\$	\$
Welder/steel fabricator	10	\$	\$
Total Price ( <i>Insert total on line item 1, (e) above.</i> )		\$	

The quantities and categories of personnel identified in this table are to be included in the Total Bid Amount but will not be included

in the total contract award value. They are for evaluation purposes only and will not be interpreted by the Bidder to be a commitment by Canada to request the services. These costs should be included as required by the bidder. Per diem rates are only to be used for any work required that is outside the scope of the TOR.

Per Diem rates (inclusive of payroll costs, LOA overhead and profit) represent a full 8 hour work day. The Bidder's Per Diem rates, will be used to derive the Bidder's Hourly Rates (Bidder's Per Diem rate divided by 8 hours). Payment for any additional services or personnel will be based on the hourly rate and paid on the basis of actual hours worked.

In order to ensure that fair and competitive rates are received for each of the category of personnel the following requirements must be adhered to:

- The Bidder must provide a rate for each category of personnel;
- The rate for any given listed category of personnel cannot be \$0.00 or nil value;
- The hourly rates must reflect the level of experience for each of the listed category of personnel. For example, if an hourly rate for personnel at the intermediate level exceeds the hourly rate for personnel at the senior level in the same category both hourly rates will be deemed not to reflect the appropriate level of experience. Failure to comply with this subparagraph may render the bid non-compliant.

2. Canada may reject the bid if any of the prices submitted, including the per diem rates supplied under, do not reasonably reflect the cost of performing the part of the work to which that price applies.
3. In conducting its evaluation of the bids, Canada may, but will have no obligation to, correct any error in the extended pricing of bids by using unit pricing and any error in quantities in bids to reflect the quantities stated in the bid solicitation; in the case of error in the extension of prices, the unit price will govern.

#### **BA04 BID VALIDITY PERIOD**

1. The Bid will not be withdrawn for a period of Thirty (30) days following the date of solicitation closing.

#### **BA05 ACCEPTANCE AND CONTRACT**

1. Upon acceptance of the Contractor's Bid by Canada, a binding Contract will be formed between Canada and the Contractor. The contract value will be determined in accordance with amounts bid for items BA 03 (a) + (b) + (c) and (d) (All Applicable Taxes excluded).

#### **BA06 CONSTRUCTION TIME**

1. The full scope of work is to be completed within 7 (seven) months from contract award.

#### **BA07 BID SECURITY**

1. The Bidder will enclose bid security with its BID in accordance with GI05 Bid Security Requirements.

#### **BA08 SIGNATURE**

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Name and title of person authorized to sign on behalf of Bidder (Type or print)

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Signature

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Date

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## APPENDIX 1 INTEGRITY PROVISIONS - LIST OF NAMES

In accordance GI01 INTEGRITY PROVISIONS - BID provide a complete list of each individual who are currently Directors and or Owner of the Bidder.

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently Directors of the Bidder. Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the Owner(s).

<u>Board of Directors / Owner (Use format - first name last name)</u>		
<u>First Name</u>	<u>Last Name</u>	<u>Position (if applicable)</u>

## APPENDIX 2

### PROCUREMENT STRATEGY FOR ABORIGINAL BUSINESS (PSAB) CERTIFICATIONS FOR TENDERED WORK PACKAGES

The Web site address for Annex 9.4: Requirements for the Set-aside Program for Aboriginal Business is:  
<https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/annex/9/4>

#### A3000T (2014-11-27) SET-ASIDE FOR ABORIGINAL BUSINESS

- A. This procurement is set aside under the federal government's Procurement Strategy for Aboriginal Business, as detailed in *Annex 9.4*, Requirements for the Set-aside Program for Aboriginal Business, of the *Supply Manual*.
- B. The Bidder:
- certifies that it meets, and will continue to meet throughout the duration of any resulting contract, the requirements described in the above-mentioned annex;
  - agrees that any subcontractor it engages under any resulting contract must satisfy the requirements described in the above-mentioned annex; and
  - agrees to provide to Canada, immediately upon request, evidence supporting any subcontractor's compliance with the requirements described in the above-mentioned annex.
- C. The Bidder must check the applicable box below:
- The Bidder is an Aboriginal business that is a sole proprietorship, band, limited company, co-operative, partnership or not-for-profit organization.
- OR**
- The Bidder is either a joint venture consisting of two or more Aboriginal businesses or a joint venture between an Aboriginal business and a non-Aboriginal business.
- D. The Bidder must check the applicable box below:
- The Aboriginal business has fewer than six full-time employees.
- OR**
- The Aboriginal business has six or more full-time employees.
- E. The Bidder must, upon request by Canada, provide all information and evidence supporting this certification. The Bidder must ensure that this evidence will be available for audit during normal business hours by a representative of Canada, who may make copies and take extracts from the evidence. The Bidder must provide all reasonably required facilities for any audits.
- F. By submitting a bid, the Bidder certifies that the information submitted by the Bidder in response to the above requirements is accurate and complete.

**A3001T (2011-05-16) OWNER/EMPLOYEE CERTIFICATION - SET-ASIDE FOR ABORIGINAL BUSINESS**

If requested by the Contracting Authority, the Bidder must provide the following certification for each owner and employee who is Aboriginal:

1. I am, \_\_\_\_\_ (*insert "an owner" and / or "a full time employee"*)  
of \_\_\_\_\_ (*insert name of business*), and an Aboriginal person, as defined in Annex 9.4 of the Supply Manual entitled "Requirements for the Set-Aside Program for Aboriginal Business".
2. I certify that the above statement is true and consent to its verification upon request by Canada.

\_\_\_\_\_  
Printed name of owner and/or employee

\_\_\_\_\_  
Signature of owner and/or employee

\_\_\_\_\_  
Date

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## APPENDIX 3 HEALTH AND SAFETY REQUIREMENTS

### MANDATORY HEALTH AND SAFETY - *for Work in the Northwest Territories & Nunavut*

#### 1.) SPECIAL INSTRUCTIONS TO BIDDERS (SI):

##### WCB AND SAFETY PROGRAM

1. The recommended Bidder shall provide to the Contracting Authority, prior to Contract award:

1.1 a Workers' Safety and Compensation Claims Cost Summary - *Northwest Territories & Nunavut*, or equivalent documentation from another jurisdiction;

1.2 a Workers' Safety and Compensation Commission letter of good standing, also listing covered Directors, Principals, Proprietor(s) or Partners who will be or who are anticipated to be present on the work site(s), or equivalent documentation from another jurisdiction; and

1.3 a Certificate of Recognition (COR) or Registered Safety Plan (RSP). A health and safety policy and program, as required by other provincial/territorial Occupational Health and Safety Acts, will be acceptable in lieu of a COR or RSP.

2. The recommended Bidder shall deliver all of the above documents to the Contracting Authority on or before the date stated (usually 3-5 days after notification) by the Contracting Authority. Failure to comply with the request may result in the bid being declared non-compliant.

Exemption to Generic Safety Programs (*Northwest Territories & Nunavut Territory only*) - Contractors having ten (10) or less employees do not require a written program. However, evidence of a system to manage health and safety remains a requirement.

#### 2.) SUPPLEMENTARY CONDITIONS (SC):

##### Workplace Safety and Health

##### 1. EMPLOYER/PRINCIPAL CONTRACTOR

1.1 The Contractor shall, for the purposes of the Safety Act and General Safety Regulations, Northwest Territories & Nunavut Territory, and for the duration of the Work:

1.1.1 act as the Employer, where there is only one employer on the work site, in accordance with the Authority Having Jurisdiction;

1.1.2 assume the role of Principal Contractor, where there are two or more employers involved in work at the same time and space at the work site, in accordance with the Authority Having Jurisdiction; and

1.1.3 agree, in the event of two or more Contractors working at the same time and space at the work site, without limiting the General Conditions, to Canada's order \* to:

1.1.3.1 assume, as the Principal Contractor, the responsibility for Canada's other Contractor(s); or

1.1.3.2 accept that Canada's other Contractor is Principal Contractor and conform to that Contractor's Site Specific Health and Safety Plan.

\* "order" definition: *after contract award, Contractor is ordered by a Change Order*

##### 2. SUBMITTALS

2.1 The Contractor shall provide to Canada:

2.1.1 prior to the pre-construction meeting, a transmittal and copy of a completed Notice of Project form PWGSC - TPSGC 458 (form will be provided to the proposed contractor prior to award), as sent to the Authority Having Jurisdiction (AHJ); and

2.1.2 prior to commencement of work and without limiting the terms of the General Conditions:

2.1.2.1 copies of all other necessary permits, notifications and related documents as called for in the scope of work/specifications and/or by the AHJ; and

2.1.2.2 a site specific Health and Safety Plan as requested.

*NOTE: Please do not include any forms that include personal 3rd party information such as the names of the contractor's employees and their related claims information.*

### 3. LABOUR AUTHORITY CONTACT:

*The contact below represents the Labour Authority in the jurisdiction (AHJ). They are not representatives of the Workers Compensation.*

Do not contact the people referenced below for issues pertaining to WCB or WCB Clearances. Those queries must be directed specifically to the WCB, and where the WCB has both a Labour and Compensation component, WCB issues must be directed to the Compensation/Employer Services sections.

### **NORTHWEST TERRITORIES**

Workers' Safety and Compensation  
Northwest Territories and Nunavut  
Prevention Services  
Box 8888

Yellowknife, NT, X1A 2R3

Attention: Chief Industrial Safety Officer

Telephone: (867) 669-4418

Facsimile: (867) 873-0262

DECLARATION

DATE: \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This company is exempt from the Northwest Territories/Nunavut Safety Act and Regulations requirement to have a formalized Health and Safety Policy and Program, on the basis that this company does not at the present time employ more than ten (10) full time employees, including those required on all current projects for all clients. By signing this Declaration the Contractor certifies they will remain in compliance with the identified AHJ's requirements regarding health and safety at the work site.

Current number of full time employees: \_\_\_\_\_

\_\_\_\_\_  
TITLE OF COMPANY OFFICER

\_\_\_\_\_  
SIGNATURE

**APPENDIX 4 – DEPARTMENTAL REPRESENTATIVE AUTHORITY  
TO BE PROVIDED AT CONTRACT AWARD.**

Contracting Authority is:

Name: Alex Tikhonovitch

Title: Procurement Specialist

Department: Public Works and Government Services Canada

Division: Real Property Contracting

Telephone: 780-901-7940

E-mail: alex.tikhonovitch@pwgsc-tpsgc.gc.ca

Technical Authority is :

Name : \_\_\_\_\_

Title : \_\_\_\_\_

Department : \_\_\_\_\_

Division : \_\_\_\_\_

Telephone : \_\_\_\_ - \_\_\_\_ - \_\_\_\_\_

e-mail : \_\_\_\_\_

Solicitation No. - N° de l'invitation  
EP922-173396  
Client Ref. No. - N° de réf. du client  
DFO EP922-173396

Amd. No. - N° de la modif.  
File No. - N° du dossier  
PWU-7-40003

Buyer ID - Id de l'acheteur  
pwu183  
Project No.- No. du projet

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**ANNEX A**  
**TERMS OF REFERENCE AND GENERAL PROCEDURES AND STANDARDS**

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## ANNEX B BASIS OF PAYMENT

### THE BASIS OF PAYMENT OF THE CONTRACT IS COMPRISED OF THE FOLLOWING

#### 1. CONTRACTOR'S FEE

- Fixed Monthly Fees;
- Percent Construction Fee;
- Additional Personnel

#### 2. CONSTRUCTION COSTS

#### 3. ALLOWABLE DISBURSEMENTS

---

##### 1. Contractor's Fee

The Contractor's Fee will be paid monthly in arrears for the term of the contract. The Contractor's fee is based on the aggregate of the following:

##### a. Fixed Monthly Fee

The fixed monthly fee will be paid in equal monthly installments in arrears over the Term of the Contract. The fixed monthly fee will constitute reimbursement for Services provided by the Contractor's Staff for CMA and Cx as specified in detail in the Terms of Reference. All services specified in the Terms of Reference are to be included in the Fixed Monthly Fee portion of the contract.

The fixed monthly fee will include:

- i. all overhead, administration, mark-up and profit for the Contractor's operations, including, but not limited to standard office expenses such as any photocopying, computer and software costs, Internet, all telephone and fax, cellular telephones, depreciation, rent and maintenance of office facilities, furniture, office equipment and supplies, taxi charges, parking. Note: Site office costs are included in the percent construction fee.
- ii. the actual cost of all personnel employed or contracted by the Contractor to deliver the services specified in the Terms of Reference and includes all payroll costs such as salary, statutory holidays, vacations with pay, unemployment insurance premiums and worker's compensation contributions where applicable, pension plan contributions, sick time allowance, medical/dental insurance premiums and any other benefits. Do not include contracted personnel of sub-trades that will perform the construction;
- iii. The salaries, benefits or other compensation for the Contractor's officers, directors, principals and support staff;
- iv. Travel and accommodation costs related to the Work for the duration of the Contract, of the Contractor's personnel;
- v. All other costs which may be considered disbursements unless specifically listed;
- vi. Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work, unless otherwise expressly provided herein;
- vii. All field personnel such as superintendents, health and safety officers, assistant superintendents, field engineers, commissioning agent, etc., including vehicles and vehicle expenses

##### b. Percent Construction Fee

The percent construction fee includes:

- i. The Contractor's percentage mark-up for overhead, profit and general administration costs that are not included in b. (below).
- ii. The construction, maintenance and operation of a site field office at the Site, including, but not limited to standard office expenses such as any photocopying, computer costs, Internet, all telephone and fax, cellular telephones, depreciation, rent and maintenance of office facilities, furniture, office equipment and supplies, taxi charges, parking, communication equipment, advertising and publications, long distance phone, bottled water, courier, stamps, software, office supplies and petty cash items.

- iii. All costs that have not been identified for reimbursement under the Basis of Payment - Fixed Monthly Fee, Additional Personnel, Construction Costs and Allowable Disbursements will be included in the Percent Construction Fee. The percent construction fee will be paid in arrears for each progress claim submitted in accordance with GC5 - Terms of Payment, during the Term of the Contract. The value of the percent construction fee for the payment period will be based on the construction cost of the work actually incurred during that period.

c. Additional Personnel

The Contractor will include in the Fixed Monthly Fees sufficient personnel to complete the Work within the time frame stipulated in BID AND ACCEPTANCE FORM - CONSTRUCTION TIME.

However, should Canada determine that, for the purposes of schedule acceleration, additional personnel is required, Canada will have the right to request that the Contractor provide such additional personnel for the performance of the Work or any part or parts thereof.

For additional personnel requested by Canada, the Contractor will be reimbursed in accordance with the firm per diem rates quoted in the Bid and Acceptance Form for the identified categories of personnel or in accordance with rates which have been negotiated and mutually agreed to between Canada and the Contractor for personnel that were not pre-identified in the Bid and Acceptance Form. Such costs will be payable monthly in arrears.

**2. Construction Costs**

Determination of Construction Cost will be in accordance with the SUPPLEMENTARY CONDITIONS (SC).  
Construction Costs will be reimbursed in accordance with GC5 - Terms of Payment.

Construction Costs will include:

- i. The actual, reasonable and direct costs of subcontracts;
- ii. The actual, reasonable and direct costs incurred by the Contractor, as previously agreed to by Canada in performing the Work, as follows:
- iii. Materials incorporated into the Work, including costs of transportation;
- iv. Materials, products, supplies, equipment, temporary services and facilities, including transportation and maintenance thereof, which are consumed in the performance of the Work, and cost less salvage value on such items used, but not consumed, which remain the property of the Contractor;
- v. Tools, machinery and equipment, exclusive of hand tools, used in the performance of the Work, whether rented by the Contractor or others, including installation, minor repairs and replacements, dismantling, removal, transportation and delivery costs thereof;
- vi. Site engineering, as-built drawings, maintenance manuals and all other documents required to be provided prior to certification of Substantial Performance, as well as commissioning activities;
- vii. Independent inspection and testing services other than those described in the construction documents;
- viii. Temporary services, O & M Manuals, as-builts, engineering drawings and rental costs of site trailers;
- ix. Site washrooms other than those furnished by Canada;
- x. Health and Safety sundries for visitors (hard hats, boots, gloves, goggles, masks, etc.);
- xi. Bilingual Site signage;
- xii. Utility costs, as applicable;
- xiii. The cost of safety measures and requirements;
- xiv. Cleaning materials supplies, hand tools and consumables;
- xv. Site photos;
- xvi. Printing of construction documents;
- xvii. Removal and disposal of waste products and debris.

Site Labour Costs (allowance is included within Estimated Construction Cost)

The Contractor will not use its own forces or the forces of a non-arm's length entity to provide Trade Work unless the Contractor has been specifically authorized to do so by Canada.

However, the Contractor will be reimbursed for the labour expended by the Contractor's carpenters and general site labourers for any physical construction work related to RS 18 which received prior approval from the Departmental Representative. Site labour costs that have been authorized by the Departmental Representative will be paid monthly in arrears.

Notwithstanding the above, Canada may require that the Contractor competitively procure any or all of the construction work, including work that may be completed by the Contractor's own labourers.

Any costs incurred by the Contractor due to failure on the part of the Contractor to exercise reasonable care and diligence in the Contractor's attention to the Work will be borne by the Contractor.

### **3. Allowable Disbursements**

In addition to the Contractor's Fee, Canada will reimburse at actual cost, without any administrative cost or mark-up for overhead or profit, the following disbursements supported by Invoices/receipts:

- i. The cost of the Contractor's insurance and bonding;
- ii. Fees, levies, permits, costs and charges levied by authorities having jurisdiction at the Site;
- iii. Travel, if requested in writing by Canada, would be reimbursed in accordance with the National Joint Council Travel Directives without any administrative cost or mark-up for overhead or profit.

## **Annex C - Aboriginal Opportunities Considerations (AOC)**

### **Evaluation and Assessment of AOC Guarantee**

For a bid to be assigned points for representations made in respect of any AOC bid criteria, the bidder must provide proof with their bid to demonstrate how they will meet the objective of each criterion. Bidders may use the attached GUARANTEE TABLES to supplement the AOC submission provided in their bid.

Proof of efforts and/or guarantees made by Bidders should include, but not be limited to, the names of persons or companies contacted and the nature of the undertakings at the time of the submission as applicable. Bidders must ensure their AOC documentation demonstrates sufficient evidence to assess the compliance of their bid against the criteria listed herein. It is the Bidders' responsibility to provide sufficient information in its bid to enable the Evaluation Committee to complete its evaluation. Bidders must include all reference material to be considered. Only material and/or documents submitted as part of the bid proposal will be considered. URL links to website will not be considered.

Canada reserves the right to verify any information provided in the AOC and that untrue statements may result in the tender being declared non-responsive.

### **Aboriginal Opportunities Considerations Criteria (AOC)**

ITEM	CATEGORY	Available Points
3.0	This procurement is subject to the <b><u>Sahtu Dene and Métis CLCA</u></b> . Canada reserves the right to confirm validity of all declarations / guarantees.	
3.1	<b>HEAD OFFICE:</b> Bidders are requested to demonstrate the existence of head offices, staffed administrative offices or other staffed facilities in the CLCA.	/10
3.2	<p><b>LABOUR:</b> The employment of onsite Sahtu in carrying out the work of the contract.</p> <p>Bidder will be evaluated on their firm guarantee to use onsite Sahtu people from the CLCA in carrying out the work. The percentages identified below relate specifically to on-site labour hours regardless of whether they are Prime Contractor staff and/or Sub-contractor staff.</p> <p>Percentages should be supported by list of specific positions that may or will be staffed by onsite Sahtu participants. Onsite Sahtu employment will be confirmed during activities based on supporting documentation provided by the Contractor and review of Departmental Representative statistics records on Sahtu labour on site.</p> <p>Sahtu Dene and Metis labour must meet the following criteria:            1. A Sahtu Dene or Metis participant who is working on-site performing services related to the project for a contractor, subcontractor or supplier who has a contract with PWGSC to do work related to the project.            2. The participant must confirm they are enrolled as a participant in the Sahtu Dene and Metis Comprehensive Land Claim (registry is maintained by the Enrolment Board operated by the Sahtu Secretariat Inc.).</p> <p>0 – 100% - of total labour hours (excluding the labour hours for the work the contractor tenders out)            0 – 50 points (prorated)</p> <p>*** Penalties and Incentives Conditions will apply to this criterion.</p>	/50
3.3	<b>SUB-CONTRACTORS/SUPPLIERS:</b> The use of sub-contractors or suppliers that are Sahtu, or	/40

	<p>Sahtu firms, in carrying out the contract.</p> <p>Bidder will be evaluated on their firm guarantee to use Sahtu Sub-Contractors for services or the procurement of supplies and equipment from the Sahtu people from the CLCA associated with the Contract.</p> <p>Sahtu firm must meet the following criteria:</p> <ol style="list-style-type: none"> <li>1. An enterprise that is a sole proprietorship, limited company, co-operative, or not for-profit organization in which participants have majority ownership and control (meaning at least 51 percent); or a joint venture or consortium in which an participant firm or participant firms have at least 51 percent ownership and control.</li> <li>2. The Supplier's head office or the head office of the participant group that holds the majority ownership must be located within the Sahtu Settlement Area.</li> </ol> <p>Note: if the Prime Contractor is a Sahtu owned business, the total dollar value of the Sahtu contracting shall also include the contractor's share of the contract.</p> <p>If Contractor is a Sahtu firm, the entire value of the contract, LESS any non- Sahtu sub-contracting for both goods and services, would apply to the total value of Sahtu contracting below.</p> <p>0 – 100% - of total cost (excluding the work that the contractor tenders out)        0 – 40 points (prorated)</p> <p>*** Penalties and Incentives Conditions will apply to this criterion.</p>	
	<b>TOTAL POINTS AVAILABLE</b>	<b>/100</b>
	<b>Weight</b>	<b>0.1</b>
	<b>Total AOC Rating</b>	

**BIDDER GUARANTEE AND CERTIFICATION**

1. At time of bid submission - The tables below may be used by bidders to submit their proposals.
2. Information provided may be subject to verification.

**TABLE 1 – Head Office**

<b>Provide Current Business address</b>
Bidders are requested to demonstrate the existence of head offices, staffed administrative offices or other staffed facilities in the area of the contract or CLCA Settlement Area.



**TABLE 3 – Guarantee of Sahtu Content for Sub-Contracting/Suppliers Content:**

Total Estimated Cost for Supplies/Materials, Equip And Services Procured From Sahtu Companies for This Contract  
Total Bid Price (excluding the work that the contractor tenders out)

= \_\_\_\_\_%

Name & Position Title (Provide name(s) where possible)	Sahtu Company	Non-Sahtu Company
Bidder to include the value of work to be Sub-Contracted.		

**Bidder Certification**

The Bidder must submit the following certification if a guarantee of AOC is being provided, either at time of bid submission, or prior to contract award.

<b>ABORIGINAL OPPORTUNITIES CONSIDERATIONS CERTIFICATION:</b>		
_____	_____	
<b>PRINT NAME</b>	<b>SIGNATURE</b>	<b>DATE</b>
<b>The bidder certifies it's AOC guarantee for contracting submitted with its bid is accurate and complete.</b>		

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## **CONTRACTOR ACHIEVEMENT REPORTING AND CERTIFICATION**

1. For successful Contractor only - If an AOC guarantee is provided as part of the bid, the successful Contractor must provide a summary of activities undertaken to meet the guarantees made as part of the AOC portion of their bid. The following table must be completed with supporting information (such as invoices, work logs, payroll receipts, etc.) by the contractor prior to final payment.
2. Information provided may be subject to verification.
3. The AOC Certification and AOC Achievement Reports must be submitted prior to final payment with details how the Contractors met its' AOC guarantee.
4. Failure to comply with the request to submit the certification and report within 15 business days may result in a full 1% penalty.

### Return Reports to:

Contracting Authority Name: Alex Tikhonovitch  
Email: [alex.tikhonovitch@pwgsc-tpsgc.gc.ca](mailto:alex.tikhonovitch@pwgsc-tpsgc.gc.ca)

### **TABLE 1 – Head Office**

<b>Provide Current Business address</b>
Contractors are requested to demonstrate the existence of head offices, staffed administrative offices or other staffed facilities in the area of the contract or CLCA.

**TABLE 2 – Achievement of onsite Sahtu Labour Content**

Total No. Of onsite Sahtu Employee Hours for This Contract = \_\_\_\_\_ %  
 Total No. Of Employee Hours for This Contract (excluding the labour  
 hours for the work the contractor tenders out)

<b>Name &amp; Position Title            (Provide name(s) where possible)</b>	<b>Onsite            Sahtu            Employee            Hours</b>	<b>Onsite Non –            Sahtu Employee            Hours</b>
Contractor to include the # of hours worked		

**TABLE 3 – Achievement of Sahtu Content for Sub-Contracting/Suppliers Content:**

Total Cost For Supplies/Materials, Equipment And Services Procured From Sahtu Companies for This Contract  
Final Contract Value (excluding the work that the contractor tenders out) = \_\_\_\_\_  
 \_\_\_\_\_%

Company Name	Sahtu Company	Non- Sahtu Company
Contractor to include the value of Sub-Contracted work		

Contractor Certification

<b>ABORIGINAL OPPORTUNITIES CONSIDERATION ACHIEVEMENT CERTIFICATION:</b>		
_____	_____	_____
<b>PRINT NAME</b>	<b>SIGNATURE</b>	<b>DATE</b>
<p><b>The Contractor certifies the information contained in the ACHIEVEMENT TABLES is accurate and complete.</b></p>		

## **ABORIGINAL OPPORTUNITIES CONSIDERATIONS INCENTIVE AND PENALTY CONDITIONS**

1. Under the provisions of the proposed contract, where the contractor meets the guarantees specified and certified in his bid, the contractor will be paid the agreed contract price.
2. If the contractor does not meet the certified percentage of onsite Sahtu employee hours worked on the Contract and fails to fulfill their onsite Sahtu employment guarantees, an amount of up to 0.5% of the final contract value may be deducted from the final payment or hold back provisions. (Table 2A)
3. If the contractor does not meet the certified percentage of Sahtu Sub-contractors/Suppliers, and fails to fulfill their Sahtu sub-contractors/suppliers guarantees, an amount of up to 0.5% of the final contract value may be deducted from the final payment or hold back provisions. (Table 2B)
4. If the contractor hires additional onsite Sahtu resources above the established employment guarantees that were certified in the bid, which results in Sahtu employment, subject to the approval of the Departmental Representative, the contractor may be eligible to request an incentive bonus of up to 0.5% of the final contract value that may be paid to the contractor at the end of the project. (Table 1A)
5. If the contractor exceeds the percentage of Sahtu Sub-contractors/Suppliers guarantees that were certified in the bid, subject to the approval of the Departmental Representative, the contractor may be eligible to request an incentive bonus of up to 0.5% of the final contract value that may be paid to the contractor at the end of the project. (Table 1B)
6. Contractors who exceed the AOC guarantee under one criterion but fall short on the other may be evaluated for a penalty and an incentive. The Sahtu Incentive and Penalty Conditions as specified above will be assessed based on the formulas identified herein.
7. 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 penalties owing and unpaid under this section.
8. Nothing in this section must be interpreted as limiting the rights and remedies which Canada may otherwise have under the Contract.
9. Canada reserves the right, at their sole discretion, to reduce or eliminate penalties if it can be clearly demonstrated that significant efforts were made to meet the AOC guarantee and the minimum requirements could not be met due to circumstances out of the Contractor's control.

NOTE: "FINAL CONTRACT VALUE" for the purposes of the incentive and penalty calculation the final contract value includes all amendments to the original award amount unless identified as being excluded from the AOC calculation at the time of change order or amendment negotiation.

**SAHTU EMPLOYMENT INCENTIVE AND PENALTY  
 CHECKLIST**

CONTRACTOR: \_\_\_\_\_

STEP#	FINAL STATISTICS	% PROPOSED	% ACHIEVED
1	Percentage of On-site Sahtu Labour Person Hours		
2	Percentage of Sahtu Sub-Contracting/Supplier costs		
3	Final Contract Value (no gst)	\$	
4	<p><b>Certified Onsite Sahtu employment guarantee met, exceeded or fell short?</b></p> <p><b>Met</b> - No applicable penalty or bonus.</p> <p><b>Exceeded</b> - Contractor may be eligible to request an incentive bonus of up to <u>0.5%</u> of the final contract value, that may be paid to the contractor at the end of the project;  <b>Proceed to Table 1A</b></p> <p><b>Shortfall</b> - Contractor may be penalized up to <u>0.5%</u> of the final contract value  <b>Proceed to Table 2A</b></p>		
5	<p><b>Certified Sahtu Sub-contracting/Supplier guarantee met, exceeded or fell short?</b></p> <p><b>Met</b> - No applicable penalty or bonus.</p> <p><b>Exceeded</b> - Contractor may be eligible to request an incentive bonus of up to <u>0.5%</u> of the final contract value that may be paid to the contractor at the end of the project;  <b>Proceed to Table 1B</b></p> <p><b>Shortfall</b> - Contractor may be penalized up to <u>0.5%</u> of the final contract value  <b>Proceed to Table 2B</b></p>		
6	COMMENTS:		

**TABLE 1A - ASSESSMENT OF ONSITE SAHTU  
 LABOUR INCENTIVE BONUS**

ITEM#	REQUIREMENT	WEIGHT	SCORE
1	<p><b>INCREASED ONSITE SAHTU LABOUR:</b></p> <p><b>Note:</b> Sahtu participation for training that has been accounted and paid for within and external to the contract shall be considered ineligible for the incentive process and will be excluded as such. Calculate the percentage increase of Onsite Sahtu labour for the Contract based on the following:</p> <p>% Increase = <math>\frac{\text{Actual} - \text{Proposed}}{100\% - \text{Proposed}\%} * 60\%</math></p>	<b>60</b>	
2	<p><b>CONTRACTOR DUE DILIGENCE:</b></p> <p>Case-by-case-consideration is given to contractor's ability to demonstrate diligent efforts to increase the onsite Sahtu labour guarantees.</p> <p><b>Points awarded for contractor due diligence based on the following scale:</b></p> <p>0-13 points - Contractor demonstrated little to no effort and made no attempt to increase the guarantees.</p> <p>14-27 points - Contractor demonstrated moderate effort while attempting to increase the Sahtu guarantees.</p> <p>28-40 points - Contractor demonstrated outstanding effort while attempting to increase the Sahtu guarantees.</p>	<b>40</b>	
3	<b>TOTAL ASSESSED SCORE</b>	<b>100</b>	
4	<b>RECOMMENDED SAHTU LABOUR INCENTIVE BONUS</b> (final contract value) x 0.5% x (total assessed score/100)	\$	
5	<b>COMMENTS/JUSTIFICATIONS:</b>		
6	<b>SIGNATURE OF EVALUATION PANEL:</b>		
	<p>Departmental Representative: _____</p> <p>Project Authority: _____</p> <p>Contracting Officer (PWGSC): _____</p>		

<b>TABLE 1B - ASSESSMENT OF SAHTU SUB-CONTRACTING/SUPPLIER INCENTIVE BONUS</b>			
ITEM#	REQUIREMENT	WEIGHT	SCORE
1	<p><b>INCREASED SAHTU SUB-CONTRACTING/SUPPLIER GUARANTEE:</b></p> <p>Calculate the percentage increase of Sahtu Sub-Contracting/Supplier costs for the Contract based on the following:</p> <p>% Increase = <math>\frac{\text{Actual} - \text{Proposed}}{100\% - \text{Proposed\%}} * 60\%</math></p>	60	
2	<p><b>CONTRACTOR DUE DILIGENCE:</b> Case-by-case-consideration is given to contractor's ability to demonstrate diligent efforts to increase sub-contracting/supplier guarantees.</p> <p><b>Points awarded for contractor due diligence based on the following scale:</b></p> <p>0-13 points - Contractor demonstrated little to no effort and made no attempt to increase the guarantees.</p> <p>14-27 points - Contractor demonstrated moderate effort while attempting to increase the Sahtu guarantees.</p> <p>28-40 points - Contractor demonstrated outstanding effort while attempting to increase the Sahtu guarantees</p>	40	
3	<b>TOTAL ASSESSED SCORE</b>	100	
4	<b>RECOMMENDED SAHTU SUB-CONTRACTING/SUPPLIER INCENTIVE BONUS</b> (final contract value) x <u>0.5%</u> x (total assessed score/100)	\$	
5	<b>COMMENTS/JUSTIFICATIONS:</b>		
6	<p><b>SIGNATURE OF EVALUATION PANEL:</b></p> <p><b>Departmental Representative:</b> _____</p> <p><b>Project Authority:</b> _____</p> <p><b>Contracting Officer (PWGSC):</b> _____</p>		

**TABLE 2A - ASSESSMENT OF ONSITE SAHTU  
 LABOUR PENALTY**

ITEM#	REQUIREMENT	WEIGHT	SCORE
1	<p><b>Calculate the percentage of guarantee achieved for Onsite Sahtu content based on the following formula, where:</b></p> <p>Guarantee percentage = <math>\frac{\text{Achieved}}{\text{Proposed}} = \frac{\quad}{\quad} \% * 60\%</math></p> <p><b>Notes:</b> percentage of 50% or less receives zero points</p>	60	
2	<p><b>CONTRACTOR DUE DILIGENCE:</b></p> <p>Case-by-case-consideration is given to contractor's ability to demonstrate diligent efforts to achieve Onsite Sahtu employment guarantees.</p> <p><b>Points awarded for contractor due diligence based on the following scale:</b></p> <p>0-13 points - Contractor demonstrated little to no effort and made no attempt to meet the AOC employment guarantee.</p> <p>14-27 points - Contractor demonstrated moderate effort while attempting to meet the AOC employment guarantee.</p> <p>28-40 points - Contractor demonstrated outstanding effort while attempting to meet the AOC employment guarantee.</p>	40	
3	<b>TOTAL ASSESSED SCORE</b>	100	
4	<b>TOTAL CALCULATED PENALTY:</b> (100 - total assessed score)% x (Final contract value) x <u>0.5%</u>	\$	
5	<b>COMMENTS/JUSTIFICATIONS:</b>		
6	<p><b>SIGNATURE OF EVALUATION PANEL:</b></p> <p>Departmental Representative: _____</p> <p>Project Authority: _____</p> <p>Contracting Officer (PWGSC): _____</p>		

**TABLE 2B - ASSESSMENT OF SAHTU  
 SUB-CONTRACTING/SUPPLIER PENALTY**

ITEM#	REQUIREMENT	WEIGHT	SCORE
1	<p><b>Calculate the percentage of guarantee achieved for Sahtu content based on the following formula, where:</b>            Guarantee percentage = <math>\frac{\text{Achieved}}{\text{Proposed}} = \frac{\quad}{\quad} \% * 60\%</math></p> <p><b>Note:</b> Guarantee percentage of 50% or less receives zero points.</p>	60	
2	<p><b>CONTRACTOR DUE DILIGENCE:</b></p> <p>Case-by-case-consideration is given to contractor's ability to demonstrate diligent efforts to achieve Sahtu sub-contracting / supplier guarantees.</p> <p><b>Points awarded for contractor due diligence based on the following scale:</b>            0-13 points - Contractor demonstrated little to no effort and made no attempt to meet the AOC sub-contracting/supplier guarantees.            14-27 points - Contractor demonstrated moderate effort while attempting to meet the AOC sub-contracting/supplier guarantees.            28-40 points - Contractor demonstrated outstanding effort while attempting to meet the AOC sub-contracting/supplier guarantees.</p>	40	
3	<b>TOTAL ASSESSED SCORE</b>	100	
4	<p><b>TOTAL CALCULATED PENALTY:</b>            (100 - total assessed score)% x (Final contract value) x <u>0.5%</u></p>	\$	
5	<b>COMMENTS/JUSTIFICATIONS:</b>		
6	<p><b>SIGNATURE OF EVALUATION PANEL:</b></p> <p><b>Departmental Representative:</b> _____</p> <p><b>Project Authority:</b> _____</p> <p><b>Contracting Officer (PWGSC):</b> _____</p>		

## ANNEX D

### CERTIFICATE OF INSURANCE

(not required at bid submission)

Page 1 of 2



Travaux publics et  
 Services gouvernementaux  
 Canada

Public Works and  
 Government Services  
 Canada

Description and Location of Work	Contract No.
	Project No.

Name of Insurer, Broker or Agent	Address (No., Street)	City	Province	Postal Code
Name of Insured (Contractor)	Address (No., Street)	City	Province	Postal Code
Additional Insured (All Policies) Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services.				

Type of Insurance	Insurer Name and Policy Number	Inception Date D / M / Y	Expiry Date D / M / Y	Limits of Liability		
				Per Occurrence	Annual General Aggregate	Completed Operations Aggregate
<b>Commercial General Liability Umbrella/Excess</b>				\$ \$	\$ \$	\$ \$

I certify that the above policies were issued by insurers in the course of their Insurance business in Canada, are currently in force and include the applicable insurance coverage's stated on page 2 of this Certificate of Insurance, including advance notice of cancellation / reduction in coverage.

Name of person authorized to sign on behalf of Insurer(s) (Officer, Agent, Broker)

Telephone number

Signature

Date D / M / Y

## CERTIFICATE OF INSURANCE Page 2 of 2

### General

The insurance policies required on page 1 of the Certificate of Insurance must be in force and must include the insurance coverage listed under the corresponding type of insurance on this page and the policies must insure the Contractor and must include Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services as an additional Insured and must be endorsed to provide Canada with not less than thirty (30) days notice in writing in advance of a cancellation of insurance or any reduction in coverage.

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

### Commercial General Liability

The insurance coverage provided must not be substantially less than that provided by the latest edition of IBC Form 2100.

The policy must either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:

- (a) Blasting.
- (b) Pile driving and caisson work.
- (c) Underpinning.
- (d) Removal or weakening of support of any structure or land whether such support be natural or otherwise if the work is performed by the insured.

The policy must have the following minimum limits:

- (a) **\$5,000,000** Each Occurrence Limit;
- (b) **\$10,000,000** General Aggregate Limit per policy year if the policy contains a General Aggregate; and
- (c) **\$5,000,000** Products/Completed Operations Aggregate Limit.

Umbrella or excess liability insurance may be used to achieve the required limits.



## Construction Management (CM) Services

- For Advisory Services (CMa) and Construction Services (CMc)
- With Commissioning (Cx)

# TERMS OF REFERENCE

## CCG Wharf Repairs

For:

Department of Fisheries and Oceans  
(DFO)

Canadian Coast Guard (CCG)

Norman Wells, Northwest Territories

March 28, 2017



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# 1. PROJECT DESCRIPTION

## 1.1 GENERAL

### 1.1.1 PURPOSE

- .1 Terms of Reference (TOR) have been developed to engage the services of a Construction Manager (CM) to provide CM Advisory (CMa) and CM General Contractor (CMc), Semi-at-Risk services for the Canadian Coast Guard (CCG) Wharf Repair project and to ensure that the CM has a clear understanding of the project scope, procedures and performance requirements.
- .2 Equally integral to the TOR are three (3) documents; Definitions, General Procedures and Standards (GP&S) and Division 01 General Requirements.

### 1.1.2 PROJECT INFORMATION

Project Information	
Project Title:	CCG Wharf Repairs
Project Location:	Norman Wells, Northwest Territories
PSPC Project Number:	R.084190.001
User Department:	Department of Fisheries and Oceans (DFO)

## 1.2 BACKGROUND INFORMATION

### 1.2.1 PURPOSE AND NEED FOR THE PROJECT

- .1 The CCG Wharf is an important operational facility for the DFO, it is needed primarily by the Canadian Coast Guard for loading and offloading supplies and navigational aids (buoys). In addition, the wharf is needed by Cooper Barging Service Ltd, and by NTCL when the river level is low – as the CCG wharf offers better access at low water.
- .2 The DFO has identified a need to repair the CCG Wharf at Norman Wells as initial assessments indicate a need for extensive repairs to the structure, mainly due to years of damage from ice flows.
- .3 The project is to repair current damaged structural elements and sections of the CCG Wharf and the southeast shoreline of the wharf so it will function efficiently and effectively, and address health and safety concerns for CCG and other users' ships and crews.
- .4 The project will also ensure adequate water depth for vessels.

### 1.2.2 USER DEPARTMENT

- .1 The User Department referred to throughout the TOR is the Department of Fisheries and Oceans (DFO).

### 1.2.3 EXISTING CONDITIONS



- .1 The existing wharf, located on the north bank of the Mackenzie River in Norman Wells, NT. was built in 1975.
- .2 The wharf consists of a steel sheet pile wall and ramp retaining a concrete and rock fill loading and storage area, steel caisson, 'deadman' anchors, whalers, and bollards protected by rip rap at the upstream corner.
- .3 Access is from a public service road.
- .4 The wharf is subjected to excessive ice loads, and with increasing loads due to ice buildup and jamming against the wharf.
- .5 'Whalers' act as stiffeners for the steel sheet piles and are installed about 2m below the surface. Some are damaged and require repair.
- .6 'Deadman' anchors, installed along the west side of the wharf provide structural support for the sheet steel piling and may require repair or replacement.
- .7 The ramp, added as a feature after the original construction, is to be retained and repaired.
- .8 The southeast shoreline rip rap has eroded and is too small to protect the shoreline and steel sheet pile wharf.
- .9 The Structure Condition Reports from the 2009 and 2015 (available as existing documentation) highlight the following conditions:
  - .1 The sheet steel pile retaining walls have incurred damage due to ice force, and are in extremely poor condition. This creates reduced accessibility making it difficult for vessels to tie up at the location.
  - .2 The steel caisson has failed due to loss of fill and is bent and torn. (Existing drawings do not provide information regarding its construction. DFO indicates that it may have been installed between 1986 and 1991. It appears to provide shore protection and an anchor to protect against ice flows.)
  - .3 Bollards are too low, have failed, or are missing.
  - .4 The wharf ramp is damaged and unsafe.
  - .5 Oversize concrete block deck structures are in poor condition and anchor bolts are exposed.

#### **1.2.4 CONSTRAINTS AND CHALLENGES**

- .1 Norman Wells is located in the Northwest Territories and experiences weather extremes which may affect ability to investigate existing conditions and construction activities.
- .2 The site is remotely located, primarily accessible to residents and visitors by air. Delivery of goods and materials during the winter months (mid December to mid March) is by ice roads, and by barge during the summer month when the river is open.
- .3 The Town of Norman Wells is a small community; access to reserves of diesel fuel and availability of heavy equipment may be limited.
- .4 Environmental restrictions will be confirmed through independent environmental assessment provided by DFO.

#### **1.2.5 HAZARDOUS MATERIALS**

- .1 No hazardous materials have been identified at this site.



## **1.3 PROJECT DELIVERY APPROACH**

### **1.3.1 PROJECT DELIVERY OBJECTIVES AND REQUISITE**

- .1 Collaborative Project Delivery.
  - .1 Aspects of CDP include:
    - .1 Integrated project delivery process as per the Project Procedures Manual (PPM) – see Definition;
      - .1 Developed in collaboration with the Project Team – see Definitions.
    - .2 Demonstration of continuous leadership to prevent unnecessary re-work, waste, cost, time and administration.
  - .2 Provide Construction Management services, CMa and CMc Required Services, throughout the project life cycle:
    - .1 Deliver project according to the Project Milestones, within approved scope, quality, budget and construction cost estimate and schedule;
    - .2 Prevent unnecessary re-work, waste, cost, time and administration;
    - .3 Services and duties listed and allocated to the CM throughout the Required Services sections, are not exhaustive and do not preclude alternative or supplementary approaches as may be suggested by the CM for consideration by the Departmental Representative and vice versa.

### **1.3.2 REQUIRED SERVICES APPROACH**



- .1 Regarding the PWGSC, National Project Management System (NPMS) - the Project Delivery Stage and the associated Design, Implementation and Delivery Close Out Phases, Figures 1 and 2 below, entitled Levels of Effort and Roles and Related Fees respectively, depict a conventional combined CMA and CMc services condition overlaid by Design Consultant services conditions.
  - .1 Generally, these Figures also apply to separately procured CMA and CMc service contracts.
- .2 Levels of effort associated with the Design Consultant and CMA and CMc Required Services vary with the project delivery lifecycle – as depicted in **Figure 1**.



**Figure1** Levels of Effort

- .3 The Design Consultant retains direct Professional accountability, duty of care, traditional roles and responsibilities associated with successful design and delivery throughout the project lifecycle - as depicted in **Figure 2**.
- .4 CMA services also continue throughout the project lifecycle and at the start of Construction/Implementation the CMA and CMc roles run concurrently and remain interrelated over the remainder of the lifecycle.
  - .1 Concurrent with the Design Consultant, the CMA services also include:
    - .1 Project Oversight Services, benefiting the CMc and the Project Team, see Definitions document, and;
    - .2 Advisory services to the Departmental Representative.
- .5 CMc Implementation/Construction services occur upon the CM implementing Work by Own Force or upon entering into contract with Subcontractors and PWGSC initiating Sub-Projects – Sub-Projects, see Definitions Document.



**Figure 2** Roles and Related Fees

### 1.3.3 DESIGN PHASE

- .1 Design Consultant:
  - .1 The Crown has selected –AECOM Canada Ltd. (referred herein as the Design Consultant team) for Engineering and related services;
  - .2 Notwithstanding further Design Consultant TOR detail, the Design Consultant is to;



- .1 Complete design, construction documentation and various Sub-Contractor Tender Packages/CM Own Forces Work;
- .2 Develop CMc Sub-Contractor Tender Packages and collaborate on specifying; Division 00, Instruction to Bidders, Procurement and Contracting Requirements and Division 01, General Requirements.
- .3 Work with the CM on the development and delivery on-time design of related documentation;
- .4 Provide cross discipline coordination;
- .5 Provide advice on CMA/c activities and deliverables.
- .2 Construction Manager (CMA);
  - .1 Provide advisory and stewardship support services to the Departmental Representative and Design Consultant team;
  - .2 Conduct Quality Assurance (QA) Reviews.

#### **1.3.4 CONSTRUCTION/IMPLEMENTATION PHASE**

- .1 Design Consultant:
  - .1 Notwithstanding further Design Consultant TOR detail, the Design Consultant is to:
    - .1 Provide distinct and separate tender packages in a timely manner and ensure full co-ordination of the work of all disciplines;
    - .2 Assist Departmental Representative with contract administration of CMc's Work by Own Forces or Sub-Contractor Work;
  - .2 Construction Manager (CMc):
    - .1 Enter into contract with Sub-Contractors and with PSPC for Work by Own Forces;
      - .1 Coordinate Work, provide quality assurance and ensure effective and efficient delivery of Work Results
    - .2 Turn over a fully functional and commissioned asset, complete with:
      - .1 Submittal Documentation.

#### **1.3.5 WORK/TENDER PACKAGES**

- .1 Project will be delivered using up to five (5) work and tender packages.
- .2 Tender packages will be determined prior to the start of the construction document phase.

### **1.4 SUMMARY OF PERSONNEL AND QUALIFICATIONS**

#### **1.4.1 GENERAL**

- .1 Provide a Construction Management Team consisting of:
  - .1 Advisory and Support Services;
    - .1 Project Manager,
    - .2 Risk Management Specialist,
    - .3 Schedule Management Specialist,
    - .4 Budgeting and Cost Estimating Specialist,
    - .5 Waste Management Specialist,
    - .6 Quantity Surveying Specialist,
    - .7 Commissioning Process Manager.
  - .2 General Contractor Services;



- .1 Construction Project Manager,
  - .2 Construction Site Superintendent,
  - .3 Health and Safety Officer,
  - .4 Site Surveying,
  - .5 Commissioning Process Manager,
  - .6 Construction Quality Management Specialist.
- .2 Report directly to the PSPC Departmental Representative.

## 1.5 PROJECT SCHEDULE

### 1.5.1 GENERAL

- .1 Prepare a Project Schedule, in accordance with the milestone list.

### 1.5.2 ANTICIPATED MILESTONE DATES

PROJECT PHASE AND DELIVERABLES	WEEKS	MILESTONE DATE
Award of CM Contract		2017-06
Preliminary Engineering Report Approval		2017-06
Construction Documents Approval		
PSPC Review (for each tender package submission)	2 weeks	2017-07
Construction Start	On-going as required.	
Substantial Completion of Construction		2018-02
Final Completion (Commissioning, Final Inspection and Acceptance)	4 weeks	2018-03
Post Construction Deliverables	4 weeks	
Post Construction Warranty Evaluation	40 weeks	

## 1.6 PROJECT BUDGET

### 1.6.1 ESTIMATED CONSTRUCTION COSTS

- .1 The total Estimated Construction Cost for the project is \$1,450,000.
  - .1 The construction cost estimates do not include Administration costs; Project Management fees; Design Consultant or CM fees; Risk Allowance or GST.
  - .2 Estimated Construction Cost is in 'Budget-Year (Current)' dollars and it includes General Contractor Services and an allowance for escalation and contingencies.
  - .3 Crown will not accept scope creep or cost escalation of selected Proponent's proposal, except in the limited situations as stipulated in the terms of the contract.

## 1.7 EXISTING DOCUMENTATION

### 1.7.1 DISCLAIMER

- .1 Reference information will be available in the language in which it is written.



## 1.7.2 DOCUMENTS AVAILABLE TO THE SUCCESSFUL PROPONENT IN ENGLISH ONLY

- .1 Copies of all pertinent documentation will be made available to the CM.
- .2 Consultant Team design reports including:
  - .1 Preliminary Engineering Report.

## 1.8 CODES, ACTS, STANDARDS, GUIDELINES AND REGULATIONS

### 1.8.1 GENERAL

- .1 At the CM start-up meeting the Departmental Representative will confirm required Codes, Acts, Standards and Regulations unique to Federal Government projects.
  - .1 Baring copyrights, and if not available through public media or purchase, copies of applicable Code, Acts, Standards and Regulations will be provided by the Departmental Representative.
- .2 The Authorities Having Jurisdiction (AHJ) on this project are:
  - .1 The local AHJs;
  - .2 Treasury Board of Canada, accessed through the Department Representative.
- .3 Identify, analyze and manage the construction of the project in accordance with the requirements of all AHJs and all applicable Codes, Acts, Standards and Guidelines and Legislation.
  - .1 The applicability of various Codes, Acts, Standards and Guidelines arise out of direct and indirect application to Federal buildings, such as the Canada Labour Code.
- .4 The project is subject to the Sahtu Dene and Metis Comprehensive Land Claim Agreement.



## 2. REQUIRED SERVICES - CMa

### 2.1 GENERAL REQUIREMENTS

#### 2.1.1 GENERAL

- .1 As CMa provide the Departmental Representative, Design Consultant team and project stake holders the advisory support services of this Section throughout the project lifecycle and the respective deliverables associated with the Project Milestones to achieve a Collaborative Project Delivery (CPD) – see Definitions.
  - .1 See Figure 2, CMa and CMc Roles, for interrelated CMa Services during Implementation/Construction and Delivery Closeout project phases.
  - .2 Regarding Project Milestones/milestones, for further detail refer to GP&S document, section 2 Project Administration, article Project Management.
- .2 In consultation with the Departmental Representative develop and maintain an integrated process, lines of communication and reporting between all members of the project delivery team and stakeholders.

#### 2.1.2 SUMMARY OF SERVICES

- .1 CMa, Advisory Support Services include:
  - .1 Project Oversight Services;
  - .2 Cost Management Services;
  - .3 Schedule Management Services;
  - .4 Risk Management Services;
  - .5 Commissioning Services;
- .2 CMc, construction, see Section 3, Required Services - CMc.

### 2.2 PROJECT OVERSIGHT SERVICES

#### 2.2.1 GENERAL

- .1 Throughout the project life cycle (and respective Project Milestones) provide general oversight and project management Services and deliverables.
  - .1 Oversight service is to secure confidence that the design and construction quality management system is effective and efficient to ensure a quality project delivery.
- .2 In mutual support of and in collaboration with PSPC and the Design Consultant, develop, implement and up-date the Project Procedure Manual (PPM) – see Definitions.
  - .1 Conduct progress of the PPM and the respective Sections; and
  - .2 Collaborate on amendments as may be required.
- .3 Provide, as part of the Work and the without being limited to Scope and Activities listing below, all required Oversight Services to meet or exceed the Project requirements and expectations.
- .4 Notwithstanding the Design Consultant's requirement to submit minutes and reports, document and submit to the Departmental Representative commentaries, minutes and reports resulting from CM activities associated with:
  - .1 Approvals and acceptances;
  - .2 Supportive and leadership roles throughout the project life cycle.



## 2.2.2 SCOPE AND ACTIVITIES

- .1 Lead PPM development, production and monitoring.
  - .1 As part of the QC Plan, assess and mutually amend the PPM throughout the project lifecycle.
- .2 During the provision of Oversight Services consider as progressive PPM assessment for amendment purposes, aspects inherent in the PPM Sections, such as:
  - .1 Governance;
    - .1 Relevant policies, legislation, standards, agency requirements  
Subcontractor/Own Forces approvals.
  - .2 Risk Management;
    - .1 Financial and non-financial risks and impact; and
    - .2 Risk assessment methodologies and management.
  - .3 Planning;
    - .1 Process to identify requirements and performance;
    - .2 Analysis of delivery method options and business case development;
  - .4 Procurement;
    - .1 Open, fair and competitive solicitation;
    - .2 Procurement selection options;
    - .3 Timely tender deliverables; and
    - .4 Tendering processes, evaluation and award practices.
  - .5 Contract Management;
    - .1 Contract types and document preparation;
    - .2 Insurance and performance bonds;
    - .3 Building Code Schedules of Professional Involvement;
    - .4 Progress claims, billing and payments;
    - .5 Use of contract amendments and change orders; and
    - .6 Legal considerations and claims prevention.
  - .6 Budget and Cost Management;
    - .1 Management mechanisms; and
    - .2 Estimates at various project lifecycle project milestones.
  - .7 Monitoring and Reporting;
    - .1 Routine standards;
    - .2 Approval standards (review authority – Acceptance responsibility); and
    - .3 Reporting requirements such as financial, performance and risk based.
  - .8 Project Evaluation;
    - .1 Project performance related to design and construction;
    - .2 Sub-Contractor/Own Forces evaluations;
    - .3 Project Close Out submittals; and
    - .4 Long term asset performance.
- .3 Analyze and become familiar with all the Project background documents and reports.
- .4 Review site conditions, with respect to technical and implementation issues affecting this project



- .5 Obtain Departmental Representative sign-off on all original and updated documentation.
- .6 Attend project progress and evaluation workshops.
  - .1 Provide QA Review commentary.
- .7 Review Design Consultant milestone Deliverables.
  - .1 Provide QA Review commentary.
- .8 Analyze and become familiar with all the Project background documents and reports.
- .9 Review site conditions, with respect to technical and implementation issues affecting this project:
  - .1 Notwithstanding the requirement for CM Cx Issues and Resolutions Log, provide input to and review of the Design Consultant's overall project Issues and Resolutions Log.
- .10 Develop, review and update the anticipated project tender package program:
  - .1 Determine appropriate construction Tender Packages; and
  - .2 Develop and update a list of recommended sub-contractors.
- .11 Prepare Master formats and supporting breakdown formats associated with; Cost Management, Schedule Management, Risk Management, Quality Management, Commissioning, Construction, Delivery Closeout and Issues/Resolutions Logs.
- .12 Provide Project Monitoring and Reporting as identified in the General Procedures and Standards (GP&S) document – Project Monitoring and Reporting section.
  - .1 Refer to GP&S; Project Monitoring and Reporting and Monthly Quarterly Reporting sections for further detail.
- .13 Assist in providing liaison and coordination with Government Authorities for various reviews and approvals.
- .14 Advice on construction related matters for the Departmental Representative, the User Department, the Design Consultant team and members of the CM's Project Delivery Team.
- .15 Mitigate potential conflict and overlap, with respect to:
  - .1 The design services performed by the Design Consultant team; and
  - .2 The Work to be performed by the various Subcontractors.
- .16 Develop procurement strategies and construction implementation phasing.
- .17 Determine the potential impact to the Project of applicable labour conditions and availability of materials.
- .18 Obtain and administer project warrantees and manufacturer's guarantees.
- .19 Provide advice on methods of construction as may be required from time to time by the Design Consultant team;

### **2.2.3 DELIVERABLES**

- .1 Project Procedures Manual (PPM) including all progressive updates associated with:
  - .1 Project Execution Plan;
  - .2 Project Management Plan;
  - .3 Quality Management Plan; and



- .4 Risk Management Program.
- .2 Quality Assurance Reviews, including:
  - .1 Commentaries, minutes and reports.
- .3 Permits, fees paid and agency sign-offs.
- .4 Tender Package program including:
  - .1 Market conditions commentary;
  - .2 Phasing opportunities;
  - .3 Tender Package listing;
  - .4 Sub-Contractor listing.
- .5 Master formats for schedules, plans and programs.
- .6 Monitoring and Reporting.
- .7 Constructions Schedule, including:
  - .1 Procurement strategies and implementation plan.
- .8 Project Monitoring and Reporting:
  - .1 Monthly and Quarterly Reports.
- .9 Compiled Warranties and Guarantees.
- .10 Phasing and procurement strategies.
- .11 Project Closeout Deliverables.

## **2.3 COST MANAGEMENT SERVICES**

### **2.3.1 GENERAL**

- .1 Throughout the project life cycle and respective Project Milestones, provide Cost Management Services and Deliverables.
  - .1 The Departmental Representative manages all funding for the Project including budgeting, expenditures and Progress Payment approvals.
  - .2 Refer to the GP&S and Definitions documents for further detail regarding project applicable Cost Management and Reporting Service requirements.
- .2 Lead, produce and update the Master Cost Plan and Cash Flows encompassing the entire project life cycle. – see Definitions.
  - .1 Based on CM comparative Construction Cost Estimates provide QA Reviews, complete with CM supporting data, of costing data as may be submitted by the Design Consultant and or stakeholders.
  - .2 Participate in reconciling Design Consultant estimates with the Project Budget.
- .3 Prepare independent and iterative project Construction Cost Estimates;
  - .1 Intent of CM Construction Cost Estimates to provide supports to CM QA Reviews of Design Consultant's and other stakeholder cost submissions.
    - .1 Refer to Definitions Document regarding Estimates and GP&S Document documents Cost Management detail.

### **2.3.2 SCOPE AND ACTIVITIES**

- .1 Develop and submit for review within 14 calendar days of award of contract a design and construction Master Cost Plan and Cash Flows, made ready for Monthly and Quarterly Reporting.
- .2 Collaborate with the Design Consultant in giving consideration to the Design



- Consultant's and CM's project specific costs and estimates to be rolled up and coordinate in the CM's Master.
- .3 Revise and refine the Master Cost Plan and Cash Flows throughout the project life cycle, complete with narrative:
    - .1 Advise of deviations and seek and report on authorization as per the Departmental Representatives change process;
    - .2 Monitor Project costs and expenditures against the Estimated Construction Cost limits and identify respective estimates variances;
      - .1 Notify Departmental Representative of a cost estimate potential to exceed the Estimated Construction Cost limit,
        - .1 Provide recommendations for remedial action.
    - .3 With each Sub-Contract tender and Own Forces construction contract award, revise the schedule-based cash-flow to reflect the changes emanating and resulting from each award.
  - .4 Advise, make recommendations and submit QA Reviews – at each project milestone - related to cost estimate planning associated with aspects such as:
    - .1 Construction feasibility, availability of materials and labour time requirements for installation and construction and third party contract amendments and Change Orders;
    - .2 Systems, assemblies, equipment, materials and specialty labour;
    - .3 Alternate materials, construction techniques and installation methods;
    - .4 Current pricing levels and trends in associated activities relating to the project;
    - .5 Selection, availability and pricing of goods and services;
    - .6 Insurance and bonding requirements;
    - .7 Value Analysis/Engineering (VE/A);
    - .8 Life Cycle Costing (LCC);
    - .9 Construction Schedule acceleration opportunities; and
    - .10 Commissioning (Cx).
  - .5 Track and log project costs and earned value - relative performance to project progress throughout the project life cycle.
  - .6 Develop Budgets for each Sub-Contractor Tender Package and Own Forces Work Package as soon as major project requirements have been identified accompanied by respective elemental Construction Cost Estimate(s).
  - .7 Update at various interim milestones, as agreed with the Departmental Representative.
  - .8 Visit the Work as required throughout the course of Contract be knowledgeable and familiar with aspects such as, site conditions, site access and on-site progress:
    - .1 Submit site visit report.
  - .9 Analysis of all change order cost estimates submitted by the Design Consultant and Work Package Contractors.
  - .10 Address all costs in Federal Fiscal Year (FY) format (April 01 to March 31 of the following year).

### 2.3.3 DELIVERABLES



- .1 QA Reviews of Design Consultant's Cost Estimates and Plans.
- .2 Site visit Report(s).
- .3 Master Cost Plan and Cash Flows
- .4 Cost Estimates planning documentation.
- .5 Interim project milestones Construction Cost Estimate(s) and Budget.
- .6 Master Cost Plan Reports.
- .7 Project Cost/Earned Value Logs.
- .8 Tender Package and Work by Own Forces estimates.

## **2.4 SCHEDULE MANAGEMENT SERVICES**

### **2.4.1 GENERAL**

- .1 Throughout the project life cycle provide and respective Project Milestones provide Schedule Management Services and Deliverables.
  - .1 Refer to the GP&S and Definition documents for further detail regarding project applicable Schedule Management Service requirements.
- .2 Verify Design Consultant's and other Project Team members' Schedule submissions.
  - .1 Prepare concurrent, independent and iterative project Schedules – see Definitions Document.
  - .2 Based on CM comparative Schedules, provide QA Reviews, complete with supporting data.
- .3 Based on Reporting periods, as Lead, produce and update the Master Schedule, encompassing the entire project life cycle – see GP&S and Definitions Documents.
  - .1 Participate in reconciling Design Consultant and Project Team schedules with CM Master Project Schedule.

### **2.4.2 SCOPE AND ACTIVITIES**

- .1 Develop and submit for review, within 14 calendar days of award of contract, a design and construction a Master Schedule made ready for Monthly and Quarterly Reporting.
  - .1 Collaborate with the Design Consultant in giving consideration to the Design Consultant's and CM's project specific schedules to be rolled up and coordinate in the CM's Master Schedule.
- .2 Revise and refine the Master Schedule throughout the project life cycle:
  - .1 Advise of deviations and seek and report on authorization as per the Departmental Representatives change process;
  - .2 Up-date schedule component Project Execution Plan complete with narrative addressing variances and corresponding impacts.
- .3 Monitor Project schedule against the Departmental Representative estimated milestone deliverable dates and identify respective variances:
  - .1 Notify Departmental Representative of a potential for any Deliverables to exceed a milestone date;
  - .2 Submit to Departmental Representative for review;
    - .1 Recommendations for remedial action,
    - .2 Impact of delay, reasons for delay and proposed actions.



- .4 Advise, make recommendations and submit documentation related to:
  - .1 Procurement strategies for equipment or materials to be pre-ordered to meet the Master Schedule. In event of schedule changes indicate the impact and the reasons for such changes and submit proposed amendments to the Departmental Representative for review and acceptance.

### 2.4.3 DELIVERABLES

- .1 QA Reviews of Design Consultant's Schedule Data and Plans.
- .2 CM Project Execution Schedule and narrative.
- .3 Master Project Schedule and narrative.
- .4 Monthly/Quarterly Master Schedule Reports.

## 2.5 RISK MANAGEMENT SERVICES

### 2.5.1 GENERAL

- .1 Throughout the project life cycle and respective Project Milestones provide Risk Management Services and Deliverables.
  - .1 Refer to Definitions Document for further Risk Management Program detail.
- .2 The Departmental Representative, as part of the PSPC National Project Management system (NPMS) risk management strategy, prepares and is responsible for the project specific Risk Management Plan and Risk Register Profile and Response Plans.
  - .1 Refer to the GP&S and Definition documents for general information regarding project applicable Risk Management Service requirements.

### 2.5.2 SCOPE AND SERVICES

- .1 Collaborate on the planning of the Risk Management Program, review, provide documented commentary and advise the Departmental Representative (D/R) on the D/R Risk Management Plan.
  - .1 Track mitigation actions and results and compile a monthly report.
- .2 Advise on risks and recommend mitigation options.
- .3 Advise on issues of risk that integrate project planning with procurement planning and construction.
- .4 Identify and implement methodologies aimed at mitigating and minimizing the impact of construction activities on occupants and user department operations during construction.
- .5 Implement a claims avoidance program.
- .6 Participate in Risk Management Workshop sessions by the Departmental Representative (D/R) as Lead.
  - .1 Provide documented comment on the D/R Project Risk Management Plan and the Risk Register, including all revisions.

### 2.5.3 DELIVERABLES

- .1 Commentary on the D/R Project Risk Management Plan and the Risk Register.
- .2 Risk Management planning documentation.
- .3 QA Reviews and advisory documentation.
- .4 Monthly Risk Management Report.
- .5 Risk Management Program.



- .1 Quality Management (QM) Services

## **2.6 QUALITY MANAGEMENT SERVICES**

### **2.6.1 GENERAL**

- .1 Throughout the project life cycle and respective Project Milestones provide Quality Management Services and Deliverables.
- .2 Integral to the Project Procedures Manual develop and implement the Quality Management Plan (QMP) including the interrelated processes; QP, QA, and QC.
  - .1 Refer to Definitions Document for further QMP detail.

### **2.6.2 SCOPE AND SERVICES**

- .1 Conduct progress of the QMP.
  - .1 Collaborate on amendments as may be required.
- .2 Conduct Quality Assurance Reviews including participation in reviews of the systems, components, construction tools and techniques of the proposed design and construction.
  - .1 Develop a QA summary Risk Assessment matrix:
    - .1 Risk on Quality and Likelihood;
    - .2 Corresponding level of required mitigation;
    - .3 Establish Sub-Contractor/Own Forces quality and performance requirements and performance monitoring, including quality of deliverables, adherence to schedules and costs include:
      - .1 Industry standard practices,
      - .2 Professional conduct.
  - .3 Provide advice on various options being considered by the Consultant, including:
    - .1 Selection of materials, building systems and equipment,
    - .2 Constructability of the design and details contained in the contract documents,
    - .3 Costing, pricing and bid suitability,
    - .4 Scheduling the Work and Deliverables,
    - .5 Coordination between all design disciplines.
- .4 Attend Design Consultant facilitated Construction Documentation progress review meetings.
- .5 Review the Value Engineering and Life Cycle Costing Report prepared by the Design Consultant.
  - .1 See Required Cost Management Service for related workshop attendance.
- .6 Review and assist the Design Consultant with the development of construction drawings and specifications for each tender package at various stages acceptable to the Departmental representative.
  - .1 As part of QA Plan; conduct technical QA Reviews during Design, Documentation, Implementation/Construction and Delivery Closeout include:
    - .1 Issues tracking through the Issues/Resolutions Log;
    - .2 Project Milestone reviews including Schematic Design and Design Development Reports;
    - .3 Construction Documentation reviews at milestones associated with each



- Tender/Work Package;
- .4 Each Tender Package specific Division 00 and 01;
- .5 Request for Information, Construction, Contemplated Change Notices/Change Orders.
- .7 Compile a Monthly Report by tracking quality management actions and results including:
  - .1 Review and assessment of;
    - .1 Strategy effectiveness and metrics progress and appropriateness associated with the 4 Sections of the Project Procedures Manual (PPM);
      - .1 Project Execution Plan;
      - .2 Project Management Plan;
      - .3 Quality Management Plan; and
      - .4 Risk Management Program.
    - .2 Project Deliverables verification of;
      - .1 Acceptable quality;
      - .2 Delivery on agreed upon schedule and cost including scope and detail appropriate to the respective current phase.
  - .2 Project Deliverables verification of;
    - .1 Acceptable quality;
    - .2 Delivery on agreed upon schedule and cost including scope and detail appropriate to the respective current phase.
- .8 Compile a Post Implementation Report validating if:
  - .1 Project metrics and success criteria are met to realize the intended value;
  - .2 Investment and technical objective are met based on scope and acceptance criteria.

### 2.6.3 DELIVERABLES

- .1 Updated Project Procedures Manual including the Quality Management Plan (QMP);
- .2 QA Reviews - various.
- .3 Information data and narrative submission for Design Consultant project Issues/Resolutions Log.
- .4 Monthly QMP-Report:
  - .1 QMP Progress and Impact;
  - .2 QM current status, planned/actual actions and results.
- .5 Post Implementation Report
  - .1 Project delivery having had reasonably met investment and technical requirements for the project in respect to schedule, cost, scope, functionality, utility, security, claims avoidance and other relevant quality standards.

## 2.7 COMMISSIONING (Cx) MANAGEMENT SERVICES

### 2.7.1 GENERAL



- .1 The purpose of the Commissioning Service is to ensure that a fully functioning project, meeting the Owner's Project Requirements, is delivered to the Client.
  - .1 Commissioning processes and procedures will be based on CSA Z320-11, Canadian Standards Association.
- .2 Cx Management primary objective is to lead the preparation, implementation and submission of Cx requirement, but not limited to, description of:
  - .1 Cx process, including;
    - .1 Cx of site facility; and
    - .2 Site services.
  - .2 Resources required to complete the process.
  - .3 Provision of supporting documentation for review, acceptance and close out.
- .3 ~~Commissioning as defined in this CM TOR is fundamentally the advance field site services for this facility.~~
- .4 Review Consultant's document for deliverables to include the following, but not limited to:
  - .1 OPR
  - .2 BOD.
  - .3 Commissioning Plan.
  - .4 Maintain and update Issues/Resolution Log.

## 2.7.2 SCOPE AND SERVICES



- .1 Lead and prepare a Commissioning Record Checklist – see Definitions
  - .1 Outline deliverables to be assembled and updated over the course of the Design, Construction and Delivery Close Out.
- .2 The Design Consultant will lead and prepare a Commissioning Plan.
- .3 During Construction Documentation (CD):
  - .1 Considering requirement for Professional accountability for the Design and CD and Project Delivery the Design Consultant must sign-off on Cx Specification and Forms
  - .2 Participate in regular schedule bi-weekly design meetings via teleconference, web conferencing or in person as required;
  - .3 Conduct Construction Documentation QA Review at submission milestones and Pre-Tender;
- .4 During Tender period:
  - .1 Participate in developing addenda as may be required.
  - .2 Update and co-ordinate with Design Consultant the Cx Plan and Specifications resulting from addenda.
- .5 During Implementation/Construction:
  - .1 Confirm that sub-contractors' Work is sufficiently complete to warrant scheduling inspections and testing;
  - .2 Undertake actions required to close-out Sub-Contractor and Own Forces contracts including final warranty reviews and contract close-outs;
  - .3 Monitor and report on contract Cx activities,
  - .4 Review and certify verification sheets as they are completed by the contractor,
  - .5 Review commissioning schedule,
  - .6 Witness all tests,
  - .7 Review and comment on test results,
  - .8 Provide advice and recommendations,

### **2.7.3 DELIVERABLES**



- .1 Cx Services Record Checklist.
- .2 OPR/BOD QA Reviews.
- .3 Design and Construction Documentation Milestone Deliverables QA Reviews.
- .4 Commissioning:
  - .1 Issues/Resolutions Log Reviews.
  - .2 Manual.
  - .3 Reports.
  - .4 Progress Report.
  - .5 Responsibility Assignment Matrix.
  - .6 Specifications Sections including:
    - .1 Cx Plan;
    - .2 Static Verification and Functional Performance Testing Forms and Checklists.
  - .7 Meeting Minutes/Site Reports.
  - .8 Submittal Review Comments.
  - .9 Tender Agenda.

## **2.8 CMa TENDERING SERVICES**

### **2.8.1 GENERAL**

- .1 While the delivery of Construction Management Services Contract for the Project is between the Department Representative and the Construction Manager (CM), it is understood that the CM will deliver Construction services called for in the Terms of Reference (TOR) through CM Sub-Contractors and CM Own Forces.
  - .1 CM's Own Forces shall only be permitted for individual work package coordination activities less than \$25,000 value with the specific approval of the Departmental Representative where there is fair value to Canada.
- .2 Ensure selection processes used by the CM to retain Sub-Contractors are fair, open and transparent and that all qualified subcontractors have the opportunity to be considered for the Construction Work.
  - .1 Consider at the minimum three to five bidders.
    - .1 In the event that fewer than three bids are received on any tender package, PSPC reserves the right to require the CM to re-tender the respective tender package, unless prior acceptance has been issued by the Departmental Representative.
  - .2 Coordinate trade definitions with the Construction Association Bid Depository, unless specified.
  - .3 Publicly advertise to industry acceptable methods.
- .3 Review tendering and contracting method with the Departmental Representative and Design Consultant to select the most appropriate procurement method to achieve value for money.
  - .1 Ensure a proposed subcontractor trade is essential to the delivery of the Work result and are pre-qualified prior to being invited to submit tenders.
  - .2 Use standard construction industry documents such as those by Canadian Construction Documents Committee (CCDC) and Canadian Construction Association (CCA).



- .1 Ensure the Crown/PSPC/Departmental Representative or Design Consultant are not a contract entity or a third party or inferred agent.
  - .1 The only subcontract designated entities will be the CM and the Sub-Contractor.
  - .2 Required Departmental Representative or Design Consultant contract interface is to be by means of the CM.
- .4 Provide Departmental Representative with:
  - .1 Sub-Contractor pre-qualification standards of practice and process;
    - .1 Sub-Contractors not at arm's length to CM will be ineligible to submit bids.
  - .2 Advance copies of CM trade Subcontractors contracts;
    - .1 Include copy of intended contract in Division 00.
  - .3 Include Division 00, Instruction to Bidders, and Division 01, General Requirements and all Bidders' Submission Requirements and Bid Submission Forms;
    - .1 As part of the Bid Submission Form requirements include;
      - .1 Construction cost price breakdown table as agreed upon Departmental Representative and Design Consultant; and
      - .2 Listing of all Addenda.
  - .4 Dispute resolution, initiation of subcontract amendments and payments Contract articles.

### 2.8.2 SCOPE AND SERVICES

- .1 For Work other than Work by Own Forces, tender for trade Subcontractors and enter into sub-contract agreements compliant with industry recommended practices and PSPC contract administration practices.
  - .1 Departmental Representative will provide a copy of the PSPC procurement and contract administration practices.
- .2 Support Design Consultant Lead on the development of CMc Sub-Contractor Construction Tender Packages.
  - .1 Collaborate on specifying Sub-Contractor tender specific packages including:
    - .1 Division 00, Instruction to Bidders, Procurement and Contracting Requirements;
      - .1 Specify that requests for information regarding Bid Solicitation be submitted in writing to the CM at least 10 calendar days before Tender Closing,
    - .2 Division 01, General Requirements;
      - .1 Specify those facilities and services being provided to Sub-Contractor(s).
- .3 Develop the list of specific phased Work Tender Packages with the Departmental Representative and Design Consultant.
  - .1 Review all tender packages for long delivery items which may warrant pre-ordering/tender.
    - .1 Items shall be specified by the Consultant complete with documentation, ready for, pre-order/tender by CMa.
  - .2 Propose Tender time periods for review.
    - .1 Based Tender time periods on cost, complexity/risk and market and



- labour conditions.
- .3 Provide a scope narrative for all Tender Packages.
    - .1 Avoid gaps or conflicts between Tender Packages, the Work of the CM's Own Forces and between the Works all of the CM's trades Subcontractors.
  - .4 Lead the, tender and related cost of tendering, tender closing, bid analysis bids and award recommendation submission to Departmental Representative prior to any subcontract award.
    - .1 During Tender collaborate with the Design Consultant on:
      - .1 Pre-tender site visits and documented question/answers responses; and
      - .2 Addenda development;
        - .1 Prepare and issue addenda, in writing, no oral information no later than 7 calendar days before Tender Closing.
    - .2 Pre-Ordered items.
      - .1 Review the Preliminary Engineering report and all tender packages for long delivery items which may warrant pre-ordering; and
      - .2 All pre-ordered items shall be specified by the Design Consultant.
  - .5 Receive and open Tenders at the agreed upon location in the presence of the Departmental Representative.
    - .1 Prepare a bid analysis.
      - .1 Recommend alternate strategies, in the event that the low bid exceeds the accepted Construction Cost Estimate (Class 'A' level) by more than 5%.
    - .2 Re-tender if:
      - .1 No satisfactory reduction can be negotiated with the low bidder; or
      - .2 If the desired price reduction entails significant changes in the scope of work or the character of the design.
  - .6 Re-tendering.
    - .1 Collaborate with Design Consultant and Departmental Representative Tender Package revisions, substantiated by an Estimated Construction Cost.
    - .2 Re-issue the package for tender.
  - .7 Prepare Tender Package summary.
    - .1 Prepare a Tender Package summary and contract award recommendation including:
      - .1 Copy of Bids received, complete with time stamp verification;
      - .2 Witnessed record of the bid opening;
      - .3 Names of all Subcontractors invited and those whom have submitted bids;
      - .4 Tender submission summary including respective bid construction cost amount breakdowns and totals, verification of bid security (if applicable) and addenda listing (as per Bid Submission Form) provided with the bid, information on any tender qualifications or disqualifications; and identification of bidder recommended for contract award;
      - .5 Addenda Records;
      - .6 Question and Answer (Q&A) Records; and
      - .7 Contract award recommendation;



- .1 Provide justification for no award.
- .8 Notify in writing Sub-Contractors who are unsuccessful.
- .9 Confirm readiness as CMc to enter into contracts with qualified Sub-Contractors who submit the lowest-priced compliant tenders.
  - .1 Obtain Departmental Representative approval of the procurement process and the contract award recommendation.
    - .1 Proceed with the preparation of sub-contracts for execution between the CM and Sub-Contractor as the counteract entities.

### **2.8.3 DELIVERABLES**

- .1 Meeting Minutes.
- .2 Consultation/Review Reports.
- .3 Sub-Contractor Pre-Qualification Methodology.
- .4 Sub-Contractor Listings.
- .5 Tender Package(s), complete with respective;
  - .1 Narratives;
  - .2 Division 00;
  - .3 Division 01;
  - .4 Bidder Cost Breakdown Tables;
  - .5 Proposed form of contract; and
  - .6 Dispute Resolution
- .6 Tender Package Work Estimate(s).
- .7 Bid Analysis and Process Format Document.
- .8 Bid Submissions and Opening Records.
- .9 Tender Summary, Bid Analysis and Recommendation.
- .10 Sub-Contractor contracts.
- .11 Detailed schedules and delivery plans.
- .12 Monthly Reports:
  - .1 Planning Progress; and
  - .2 Deliverable to date.



## 3. REQUIRED SERVICES - CMc

### 3.1 GENERAL REQUIREMENTS

#### 3.1.1 GENERAL

- .1 Provide General Construction and related Contract Administration Services.
- .2 Throughout the Construction / Implementation and Delivery Close-Out Phases fulfill the obligations as "General Contractor" (CMc) responsible for Own Forces, Sub-Contractors, suppliers and any maintenance or operational requirements.
  - .1 Ensure CMA Required Services are provided concurrently with the CMc Required Services as required.
- .3 In consultation the Departmental Representative and Design Consultant develop and maintain a partnership, lines of communication and reporting between all members of the project delivery team and stakeholders throughout the project life cycle;
  - .1 Update the Project Procedures Manual (PPM) – see Definitions Document for further PPM related Sections detail.

#### 3.1.2 SUMMARY OF SERVICES

- .1 CMc, Construction Support Services for this project include as follows:
  - .1 Cost Management Services;
  - .2 Schedule Control Services;
  - .3 Risk Control Services;
  - .4 Quality Management Services;
  - .5 Commissioning Services;
  - .6 CM General Contractor Services.

### 3.2 CMc GENERAL CONTRACTOR SERVICES

#### 3.2.1 GENERAL

- .1 Perform all the duties of a Construction/Implementation and Delivery Close-Out General Contractor.
- .2 Manage the Work of the CM's Own Forces and trades Subcontractors and ensure that the Work is carried out in accordance with the requirements of;
  - .1 General Conditions (GCs) and Supplementary Conditions (SCs) of the Contract and as per Division 01, General Requirements document;
  - .2 Tender Package specific Division 01, General Requirements; and
  - .3 Terms of Reference (TOR) and supporting documents.
- .3 Prepare and up-date the Construction Management (CMc) Plan - construction milestone – see Definitions.

#### 3.2.2 SCOPE AND SERVICES

- .1 Notwithstanding the General and Supplementary Conditions of Contract, TOR, Division 01, General Requirements Document (PSPC/CM Division 01) continue providing a safe, operational and coordinated Work site and delivering a well administered and documented Project.
  - .1 Provide equipment and resources as required to perform services.
  - .2 Coordinate, administer and manage all Construction Work and Contracts as



- interdependent parts and no conflicts between the Work of Own Forces and that of Sub-Contractors including all Work/Tender Package specific addenda and authorized change orders.
- .3 Coordinate project access as required to facilitate the Work by Own Forces and Subcontractors.
  - .4 Develop and implement a procedure for review, certification, processing and payment of trade Subcontractors in accordance with the terms and conditions of the CM Agreement.
  - .5 Ensure all test results, documents and manuals are provided by Own Forces and Sub-Contractors,
    - .1 Monitor Design Consultant review process; and
    - .2 Report to Departmental Representative on the Construction and Commissioning efforts.
  - .2 Monitor Construction by CM Own Forces and CM Sub-Contractors:
    - .1 Provide daily monitoring of the Schedule as the Work proceeds;
    - .2 Maintain competent full-time supervisory, quality management and field engineering on Site to monitor and provide general direction to all those associated with the Work for all work shifts as required;
    - .3 Identify unacceptable Work early to avoid delays that might arise as a result of required corrections of deficient Work;
    - .4 Ensure that comprehensive quality management processes are followed daily;
    - .5 Ensure that adequate back-up personnel are available;
    - .6 Ensure Own Forces/Sub-Contractor Work is complete to warrant inspection or testing by the Departmental Representative;
      - .1 Schedule with Departmental Representative; and
      - .2 Direct Own Forces and Sub-Contractors to complete, repair, adjust, or rebuild portions of the Work that does not meet the verification standards;
        - .1 Monitor deficiencies and ensure correction.
  - .3 During the monitoring process – notwithstanding PSPC/CM Division 01:
    - .1 Establish on-Site organization and lines of authority;
    - .2 Coordinate with all CM personnel to schedule and conduct progress meetings at which Sub-Contractors, PSPC, Departmental Representative and Design Consultants can jointly discuss such matters as procedures, progress, problems, risks, costs, and scheduling;
    - .3 Provide daily inspection of all aspects of the Work, documenting matters for action or follow-up by Subcontractors, or referral to the Design Consultant;
    - .4 Review adequacy of Subcontractors personnel and equipment and availability of material and supplies to meet the Schedule;
      - .1 Implement remedial action when requirements of a subcontract
    - .5 Prepare and maintain Issues/Resolution Log affecting schedule, construction estimates, scope, quality, including dates, place, and participants associated with;
      - .1 Construction; and
      - .2 Commissioning.



- .6 Monitor and document health and safety matters daily.
- .4 Provide Health and Safety Program:
  - .1 Remain continually responsible for the development, implementation and maintenance of the Healthy and Safety associated with the project Work;
    - .1 Be the Principal Contractor as defined in the Safety Act of the Northwest Territories;
    - .2 Ensure full compliance with the applicable Occupational Health and Safety Regulations in effect in the Northwest Territories.
  - .2 Provide full health and safety protection afforded under the Canada Labour Code to all visitors to the site, including workers, staff, contractors and the general public;
  - .3 Provide appropriate safeguards to ensure safe protection and security of materials and holdings on the site;
  - .4 Comply with Workplace Hazardous Materials Information System (WHMIS) and all other applicable regulations with respect to hazardous materials to ensure that;
    - .1 Treatment, handling and storage of designated hazardous materials is carried out as per legislated requirements, codes and industry practices.
- .5 Obtain Permits and Approvals to:
  - .1 Remain responsible for obtaining, coordinating and payment of all permits and approvals from local and statutory authorities;
    - .1 Liaise with local and statutory authorities with respect to hoarding, traffic restrictions, services and associated diversions and/or connections,
    - .2 Inform Departmental Representative of their requirements to inform any statutory body via applications or orders,
    - .3 Ensure that all applications are filed and executed successfully, and
    - .4 Log and verify that all necessary approvals have been obtained.
- .6 Provide Post Construction and Warranty Stage deliverables:
  - .1 Coordinate Sub-Contractor activities to provide final As-Built Documents (Operations and Maintenance and Systems Manuals – to form a “Master” O&M Manual, As-built drawings and specifications) as required per subcontract;
    - .1 Assemble Record Documents in whole packages per tender packages, trades or as directed by the Departmental Representative, and
    - .2 Provide copies of Record Documents and updated records to PSPC as directed by the Departmental Representative including compliance to PSPC AutoCAD Standards.
  - .2 Log, review and verify the accuracy of warranties and guarantees;
    - .1 Before completion of work, collect all manufacturer's guarantees, and warranties, complete with relevant contract numbers, and submit to the Departmental Representative for review and acceptance; and
    - .2 Ensure that warranties and guarantees are included in the Operation and Maintenance Manuals.
  - .3 Within three (3) and ten (10) months of the commencement of the warranty period, arrange for an inspection of the facility to determine all deficiencies to be corrected;



- .1 Prepare a deficiency list for review and acceptance by the Departmental Representative and Design Consultant;
  - .1 Monitor and inspect the Work with Departmental Representative and Design Consultant during the warranty period and during seasonal deficiencies and commissioning activities to ensure defects or short comings correction.
  - .2 Provide a schedule indicating when correction of all deficiencies covered under the warranty will be corrected and submit to the Departmental Representative for review and acceptance;
  - .3 Arrange for and correct all identified deficiencies in accordance with the Project Schedule and advise when all deficiencies have been properly corrected;
  - .4 Closeout Own Forces and Sub-Contractor contracts including final warranty review;
    - .1 Ensure seasonal deficiencies and Cx activities are detailed in the Project and Master Schedules;
      - .1 Complete on Schedule with accurate and traceable documentation.
  - .5 Ensure that all project warranty deficiencies are properly corrected in a timely manner.
- .4 Provide information and advice during the post construction evaluation sessions.
- .7 Arrange for of all key CM staff and representatives from the CM's key trade Subcontractors to attend a one-day Post Construction Evaluation session, at a time and place to be determined with the Departmental Representative.
- .8 Deliver As-Built documents to Departmental Representative to produce construction Record documentation.

### 3.2.3 DELIVERABLES

- .1 Refer to "Commissioning (Cx) Services" heading of this Section for further Cx Deliverables.
- .2 Updated Project Procedures Manual associated with CMc Services.
- .3 Construction input to Design Consultant Project Issues/Resolutions Log.
- .4 Construction Issues/Resolution Log.
- .5 Construction Monitoring Reports.
- .6 QA Reports – monthly.
- .7 OPR/BOD update information.
- .8 Daily Inspection and Monitoring Logs.
- .9 Shop Drawings; including all logs and quarterly Reports.
- .10 As-Built documents.
- .11 Operations and Maintenance (O&M) Manual.
- .12 Punch List.
- .13 Update Reporting:
  - .1 Cost Management;
  - .2 Schedule Management;
  - .3 Quality Management;



- .4 Risk Management;
- .5 Waste Management;
- .6 Health and Safety.
- .14 Up-dated construction related documentation, including:
  - .1 Project correspondence;
  - .2 Samples, purchases, materials and equipment;
  - .3 Trade Subcontractors progress status;
  - .4 Health and Safety Plan; and
  - .5 Manufacturers Standard Data (MSD) Sheets.

### **3.3 COMMISSIONING SERVICES – IMPLEMENTATION AND DELIVERY CLOSE OUT PHASES**

#### **3.3.1 GENERAL**

- .1 Coordinate Cx Services with Article 3.2 CMc General Contractor Services:
  - .1 Collaborate with Design Consultant, support Own Force and Sub-Contractor, as may be deemed suitable, to organize and lead testing activities.
- .2 Provide integrated Cx services:
  - .1 Construction through to occupancy, operations and acceptance milestones;
  - .2 Continue engaging Cx Process Manager (CPM), as Lead Cx Team member, to update and implement the Cx Plan.
- .3 Support Design Consultant's Lead on OPR and BOD updates, provide:
  - .1 Consultation reports; and
  - .2 QA Reviews.

#### **3.3.2 SCOPE AND ACTIVITIES**



- .1 Update Commissioning Record Checklist.
- .2 Revise Tender/Work Package specific Cx Plan as necessary.
  - .1 Updated Project specific Cx Plan as necessary.
  - .2 Incorporate Cx Activities into Master Schedule.
- .3 Provide monthly Cx Plan Progress Report.
  - .1 Include:
    - .1 Changes to the OPR and BOD; and
    - .2 RFI and Change Orders impacts on Cx.
- .4 Ensure required Cx Activities are identified in the:
  - .1 Cx Plan components;
    - .1 Ensure information such as; general procedures and submission protocols, labeling protocols, maintenance data requirements and information session are specified and coordinated with PSPC CM Div. 01 General Requirements.
    - .2 PSPC/CM Division 01 General Requirements (Div. 01) Own Forces; and
    - .3 CM/Sub-Contractor Division 01 General Requirements (Div. 01).
- .5 Update and implement the Quality Control Plan – refer to Quality Management Plan (QMP) Definition.
  - .1 Perform quality control function, particularly in the areas of ongoing design reviews for constructability and inspections.
- .6 Develop and maintain a Construction Checklist to track various contract Work results and completion.
  - .1 Construction Checklist – refer to Definitions Document;
- .7 Conduct and document site visits and attend site construction meetings to assist in identifying discrepancies and remedies.
  - .1 Coordinate Cx Activities of Own Forces and Sub-Contractors and their sub-trades.
- .8 Update Cx Issues/Resolutions Log.
  - .1 Review and comment on Design Consultant Project Issues / Resolutions Log for a coordinated project delivery.
- .9 Assist Design Consultant with managing the Own Forces and Sub-Contractors' execution and contract Closeout Submissions, such as, manuals, warranties, extended warranties, and manufacturer's guarantees.
  - .1 Verify submittals such as:
    - .1 Coordination drawings, shop drawings, Manual(s), product samples, schedules and any other project submittals; and
    - .2 Co-ordinate review comments with the Design Consultant.
- .10 Review and Meetings.
  - .1 Distribute minutes to Departmental Representative and Design Consultant for any further redistribution as may be required.
  - .2 Per Tender/Work Package, conduct on-site pre-construction commissioning meetings with the Cx Team including the consultant team and appropriate contractors. Agenda to include:
    - .1 Commissioning Issues/Resolutions Log including;



- .1 Construction Checklist;
- .3 Tender/Work Package specific Cx Plan;
  - .1 Compare CPM with Sub-Contractors' Cx Plans.
- .4 Review Design Consultant OPR and BOD updates and provide commentary.
- .5 Coincidental with construction meetings, organize and lead regularly scheduled on-site bi-weekly commissioning meetings including:
  - .1 Field reviews complete with reports verifying installation of systems and assemblies in accordance with OPR and Cx Plan;
  - .2 Conduct on-site bi-weekly Cx Team meetings.
- .11 Testing and Verification.
  - .1 Oversee the process, in collaboration with the Design Consultant, Own Forces and the Sub-Contractors.
    - .1 Ensure protocol, procedures and documented verification is in compliance with the OPR, BOD and Cx Plan.
  - .2 Participate in, assist with and verify results and reports of all Static Verification and Functional Performance Testing of all to be commissioned.
    - .1 Provide verification of and sign-off on final Cx Reports and compile into a comprehensive Cx Manual upon Project completion;
  - .3 Submit for Cx Team review, any proposed changes to previously accepted forms from the Cx Plan and/or Own Forces /Sub-Contractor construction Specifications.
  - .4 Verify submittals from Own Force and Sub-Contractor, at each construction phase; Tender/Work Package.
  - .5 Deferred Testing.
    - .1 Coordinate deferred seasonal commissioning for those systems that have been functionally tested and/or turned over where retesting and re-commissioning is required during the opposite season.
    - .2 Witness on site deferred testing as per the Commissioning Plan.
- .12 Training:
  - .1 Lead, coordinate and verify training requirement.
    - .1 Document training of User Department/Operations Staff.
    - .2 Collect lessons learned data, analysis and recommendations;
      - .1 Refer to Article, Facility Turnover, for further detail.
  - .2 Assist the coordination between the Design Consultant and the Sub-Contractor with their provision of draft Manuals or complete Manuals as available for the purposes of the training sessions.
  - .3 Collaborate with the PSPC Cx Advisor to oversee and evaluate the Sub-Contractor's training sessions.
- .13 Substantial Performance.
  - .1 Collaborate with Design Consultant and Departmental Representative to determine the number of commissioned Substantial Performance milestones;
  - .2 For each case, lead and facilitate Cx Team's compilation of sign-off Cx Reports into Cx Manual.
- .14 Warranty Period and Completion.



- .1 In collaboration with Design Consultant and Departmental Representative,
  - .1 Oversee, evaluate and document post occupancy:
  - .2 Update and finalize Cx Report(s).
- .2 Prepare a Final, CM and Design Consultant sign off, Cx Report at end of warranty period.
  - .1 Compile Report(s) into a Comprehensive Cx Manual.
- .3 Collaborate with the Departmental Representative/PSPC Cx Advisor on the development of PSPC Cx Evaluation Report.
  - .1 Develop and present Cx related material.
  - .2 Attend and assist facilitating and on-site Work Shop.
    - .1 Design Consultant remains accountable for Work Shop presentation deliverables/submittals.
- .15 Facility Turnover.
  - .1 Lead and facilitate Cx Team's Facility Turnover.
  - .2 Lessons Learned:
    - .1 Collaborate with Design Consultant to arrange a Lessons Learned Work shop;
      - .1 On-site Workshop days two (2).
    - .2 Develop and present Cx related material;
      - .1 Provide electronic and hard copy Training Manuals;
        - .1 Refer to PSPC/CM Division 01, General Requirements Document, Section 01 78 00, Close-Out Submittals for further detail.
    - .3 Attend and assist facilitating Work Shop(s).
    - .4 Design Consultant remains Work Shop Lead.

### 3.3.3 DELIVERABLES



- .1 Commissioning Record Checklist.
- .2 Cx Plan Progress Reports.
- .3 Cx Plan.
- .4 Quality Control Plan (QC Plan).
- .5 Cx Reports:
- .6 Cx Manual:
- .7 Construction Checklist.
- .8 Review documentation:
  - .1 Site visit;
  - .2 Consultation Reports;
  - .3 QA Reviews;
- .9 Cx Issues/Resolutions Log and supporting narratives.
- .10 Construction cost estimate.
- .11 Cx Risk Assessment and Matrix.
- .12 Cx meeting minutes.
- .13 Training Manual (hard copy and electronic).
- .14 Lessons Learned input documentation.



## 4. ROLES AND RESPONSIBILITIES MATRIX

### 1.2 GENERAL

#### 1.2.1 GENERAL

- .1 The Project Team is responsible for a Collaborative Project Delivery (CPD) to assure that through an integrated process all of the steps in the delivery process are completed and accountable and the facility objectives are met.
- .2 The Roles & Responsibilities Matrix (R&R Matrix) on the following pages is a services and deliverables summary interpretation of the respective team members, and:
  - .1 Not to be at the exclusion of other associated interdependencies, initiatives, resourcing and communication requirements of respective service category TORs to carry out codependent Required Services.
- .3 At the project Pre-Design Partnering Workshop, at which the Departmental Representative is Lead, the summary R&R Matrix using the CPD approach is expanded in detail by the Project Team for each Project Milestone throughout the project life cycle.
- .4 Design Consultant as Lead, during the design and construction phases updates the R&R Matrix and is included in the CM PPM. Expanded Detail includes:
  - .1 Project delivery and tasks throughout the project milestones;
  - .2 New key Project Team members, and;
  - .3 Responsibility Assignment Matrix.
- .5 Maintain R&R Matrix updates in PPM.

#### 1.2.2 R&R MATRIX SUMMARY

Roles and Responsibilities Matrix - Summary						
<b>LEGEND</b>	<b>A</b>	Accepts	Acceptance authority, sign-offs on the Deliverables provided by Lead.			
	<b>L</b>	Leads	Responsible and accountable for achieving the completed Deliverable.			
	<b>V</b>	Verify	Confirm the accuracy or completeness of the Deliverable.			
	<b>S</b>	Supports	Provide subject matter expertise and resources to complete the Deliverable.			
	<b>P</b>	Participate	Take part in activities/deliverables such as meetings and workshops.			
	<b>I</b>	Informed	Being informed by Lead of Deliverable progress.			
	<b>NR</b>	No Role				
	<b>DR</b> Departmental Representative			<b>DC</b> Design Consultant	<b>CM</b> Construction Mgr.	
				<b>DR</b>	<b>DC</b>	<b>CM</b>
<b>PD</b>	<b>R&amp;R Matrix Common to Preliminary Design</b>					
PD	1		Site Visit and Meeting with User Department	L	P	P
PD	2		Project Procedures Manual (PPM) Development	A	L	S
PD	3		R&R Matrix - Expanded Detail Development	A	L	S



**Roles and Responsibilities Matrix - Summary**

<b>LEGEND</b>		<b>A</b> Accepts	Acceptance authority, sign-offs on the Deliverables provided by Lead.			
		<b>L</b> Leads	Responsible and accountable for achieving the completed Deliverable.			
		<b>V</b> Verify	Confirm the accuracy or completeness of the Deliverable.			
		<b>S</b> Supports	Provide subject matter expertise and resources to complete the Deliverable.			
		<b>P</b> Participate	Take part in activities/deliverables such as meetings and workshops.			
		<b>I</b> Informed	Being informed by Lead of Deliverable progress.			
		<b>NR</b> - No Role				
		<b>DR</b> Departmental Representative <b>DC</b> Design Consultant <b>CM</b> Construction Mgr.				
			<b>DR</b>	<b>DC</b>	<b>CM</b>	
PD	4		Cx Team Formation and Scope Meeting	A	L	S
PD	5		Cx Team - Responsibility Assignment Matrix Development	I	L	V/S
PD	7		Cx Risk Assessment Matrix Development	A	L	V
PD	8		Owner Project Requirements (OPR) Development	A	L	V
PD	10		Existing Conditions/Documentation- Review & Acceptance	V	A	A
PD	11		Preliminary Design Report and Project Conditions Acceptance	I	L	V
<b>LC</b>	<b>R&amp;R Matrix Ongoing and Common Tasks to Project Life Cycle</b>					
LC	1		Collaborative Project Delivery (CPD) - QM Workshops	P	L	S
LC	2		Project Procedures Manual (PPM)	A/P	L	S
LC	3		Project Issues/Resolutions Log	A	L	V
LC	4		Cost Planning/VE/LCC Workshops	A	L	S/P
LC	5		Master Cost Plan and Cash Flows	A/P	V	L
LC	6		Construction Cost Estimates	A	L	V
LC	7		Master Schedule	A/P	V	L
LC	8		Project Execution Plan	A	V	L
LC	9		Risk Management Program/Plan	L	S	S
LC	10		Risk Management Workshops	L	S	S
LC	11		QA Reviews Meetings	A	L	S
LC	12		QA/QC Review Criteria Development	A	V/S	L



### Roles and Responsibilities Matrix - Summary

LEGEND	<b>A</b> Accepts		Acceptance authority, sign-offs on the Deliverables provided by Lead.		
	<b>L</b> Leads		Responsible and accountable for achieving the completed Deliverable.		
	<b>V</b> Verify		Confirm the accuracy or completeness of the Deliverable.		
	<b>S</b> Supports		Provide subject matter expertise and resources to complete the Deliverable.		
	<b>P</b> Participate		Take part in activities/deliverables such as meetings and workshops.		
	<b>I</b> Informed		Being informed by Lead of Deliverable progress.		
	<b>NR</b> - No Role				
	<b>DR</b> Departmental Representative <b>DC</b> Design Consultant <b>CM</b> Construction Mgr.				
			DR	DC	CM
LC	13	Owner Project Requirements (OPR)	A	L	S
LC	14	Basis of Design (BOD)	I	L	S
LC	15	Building Specifications – Cx related in Technical Sections	I	L	V/S
LC	16	Division 01 Cx Specifications	I	L	V/S
LC	17	Cx Issues/Resolutions Log	A	L	V
LC	18	Cx Team Workshops	P	L	S/P
LC	19	Cx Team, Responsibility Assignment Matrix	I	L	V/S
LC	20	Cx Meetings	P	L	S/P
LC	21	Cx Scope/Risk Assessment Matrix	A	L	V
LC	22	Cx Plan Development	A/P	L	V
LC	23	Cx Report and Cx Manual Development	A/P	L	V
LC	24	Master O&M Manual Development O&M and Systems	A/P	L	V
<b>DC</b> <i>R&amp;R Matrix Common to Construction Delivery Close Out</i>					
DC	1	Subcontractor Tender, Bid and Contract award	A/P	V/S	L
DC	2	Onsite Meetings and Workshops	P	V/S	L
DC	3	RFI, CCN and C/O,	A	L	S
DC	4	Construction Checklist – (Cx) Start-up	I	S	L
DC	5	OPR & BOD Updates	A/P	L	S
DC	6	Cx Reports	A	V/S	L
DC	7	Cx Manual	A	V/S	L
DC	8	Cx Evaluation Report	L	S	S
DC	9	As-Built Drawings and Specifications	I	S	L
DC	10	Record Drawings and Specifications	A	L	S



**Roles and Responsibilities Matrix - Summary**

LEGEND	<b>A</b> Accepts		Acceptance authority, sign-offs on the Deliverables provided by Lead.			
	<b>L</b> Leads		Responsible and accountable for achieving the completed Deliverable.			
	<b>V</b> Verify		Confirm the accuracy or completeness of the Deliverable.			
	<b>S</b> Supports		Provide subject matter expertise and resources to complete the Deliverable.			
	<b>P</b> Participate		Take part in activities/deliverables such as meetings and workshops.			
	<b>I</b> Informed		Being informed by Lead of Deliverable progress.			
	<b>NR</b> - No Role					
	<b>DR</b> Departmental Representative <b>DC</b> Design Consultant <b>CM</b> Construction Mgr.					
			<b>DR</b>	<b>DC</b>	<b>CM</b>	
DC	11		Master O&M Manual (O&M and Systems Manuals and SOP)	A	V/S	L
DC	12		Div. 01, Delivery Closeout Status Report	A	V	L
DC	13		Training	A	V/S	L
DC	14		Move Tender/CM Subcontractor	A/P	V/S	L
DC	15		Furniture installation	A/L	V/S	S
DC	16		Building Components and Connectivity (BCC)	A/L	S/S	S







## Construction Management Services

# TERMS OF REFERENCE DEFINITIONS

## CCG Wharf Repairs

For:

Department of Fisheries (DFO)

Canadian Coast Guard (CCG)

Norman Wells, Northwest Territories

March 28, 2017



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## 1 DEFINITIONS

### 1.1 GENERAL

#### 1.1.1 PURPOSE

- .1 Document Definitions:
  - .1 Definition of words and phrases in the Terms of Reference (TOR), Definitions, Division 01 – General Requirements, and General Procedures and Standards (GP&S) Documents to:
    - .1 Expand the detail associated with services and deliverables addressed in the above Documents; and
    - .2 Ensure a clear understanding of the project scope, procedures, and Quality performance requirements.

#### 1.1.2 DEFINITIONS

- .1 Acceptance:
  - .1 A formal action taken by an assigned person with authority (contractual or otherwise) to declare that some aspect of the project is permitted to proceed.
- .2 Accepts (as per TOR Roles and Responsibilities Matrix):
  - .1 The acceptance authority signs off on the documentation for Deliverable/Work results provided by Lead.
- .3 Activity Identifiers vs. Activity Codes
  - .1 Activity Identifiers are unique codes assigned to each of the project activities to differentiate activities from each other as well as for referencing purposes.
  - .2 Activity Codes are not unique. The same code may be applied to a group of multiple similar project activities so that
    - .1 They may be filtered-out of the project plan for further analysis;  
or
    - .2 Grouped for project costing and planning purposes, such as:
      - .1 Reimbursable costs, or;
      - .2 Cost/schedule reporting.
- .4 Basis of Design (BOD):
  - .1 Refers to CSA Z320 Article 3, Definitions.
  - .2 A dynamic narrative document throughout the Project Milestones, recording the rationale for decisions and confirming to the Project Team design conformance to the ideas, concepts and criteria considered important to the owner as contained in the Owner Performance Requirements (OPR) - OPR see Definition;
  - .3 In the Owner Performance Requirements (OPR) - OPR see Definition;
    - .1 As the Design Consultant BOD also outlines the intended systems for the project, in the case of a CM project delivery, the CM Cx Process Manager using a CM compliance evaluation/tracking matrix confirms BOD's compliance to the OPR.
  - .4 Documents the primary thought processes and assumptions behind design and implementation decisions.
  - .5 Text and graphics are organized to facilitate future use as a building reference document;



- .1 O&M Manual describes “what” components/systems have been selected, the BOD describes “why” and “how” the design achieves the performance requirements of the OPR, and;
- .2 BOD and OPR are components of the Cx Manual;
  - .1 OPR, refer to Definition for further detail.
- .6 Includes:
  - .1 Summary;
    - .1 Project’s conceptual framework;
    - .2 Compliance with OPR statement;
      - .1 New Owner directives; and
    - .3 Decisions rationale made throughout the specific Project Milestone;
  - .2 Design assumptions, such as:
    - .1 Anticipated future changes not included in the project; and
    - .2 Selected assembly and system performance;
  - .3 A narrative description of and statement of purpose for the selected components, assemblies, systems and methods, including:
    - .1 Areas served by respective components, assemblies and systems; and
      - .1 Illustrations of system configurations, including single line and plan drawings of each system;
  - .4 Design options and analysis considered during;
    - .1 Life cycle costing and value engineering workshops; and
    - .2 Development of sustainable features and strategies;
  - .5 Calculations and option analysis matrixes, included by discipline;
    - .1 Connected or related loads and system capacities; and
    - .2 Design criteria and the applicable codes/standards used, in calculations;
  - .6 Special features or unique supply items/sources, general control strategies, sequences, and reset schedules, such as:
    - .1 Building Components and Connectivity (BCC) requirements;
      - .1 BCC – refer to Definition for further reference;
    - .2 Seasonal switch-over procedures;
    - .3 Emergency procedures during a fire condition, power or equipment failure, including:
      - .1 Reference to Standard Operating Procedures (SOP) requirements; and
        - .1 SOP– refer to Definition for further reference,
    - .7 Interfaces with existing systems; and
    - .8 Maintenance issues.
- .5 Basis of Estimate (BOE):
  - .1 A “living” document throughout the project design, construction process and project life cycle.



- .2 Prepared and updated to facilitate the understanding, assessment and validation of the estimated value breakdowns, independent of any other supporting documentation.
- .3 Includes:
  - .1 Level of consensus between concurrent/third party estimates;
  - .2 Estimate methodology;
  - .3 Basis of pricing - cost data sources, and allowances;
  - .4 Description of information obtained and used in the estimate including the date received;
  - .5 Notable assumptions, exclusions and inclusions;
  - .6 Listing of items/issues carrying notable risks;
  - .7 Opportunities, and any deviations from standard practices,
  - .8 Record of pertinent communications and agreements that have been made between the estimator and other project stakeholders,
  - .9 Major changes relative to previous estimates, and
  - .10 Significant market events that may have an effect on the costs.
  - .11 Estimate reconciliation;
    - .1 With last submission;
    - .2 Variance related to:
      - .1 Change Orders;
      - .2 Work Package estimate and;
      - .3 Estimate Construction Cost and;
    - .3 Any other relevant information.
- .6 Biddability:
  - .1 Collaborative development of strategies to facilitate clear and competitive bids to avoid construction claims and extra contract administrative service costs.
  - .2 Includes reviews to analyze the completeness, correctness, compatibility (to project requirements), clarity, and consistency of the collection of plans, specifications, clauses, forms, schedules, and other documents and references comprising the total solicitation package and the planned contract; also
    - .1 See QA Review Definition - Design Quality Indicators (DQI).
- .7 Budget:
  - .1 Built using Cost Estimates and the Project Schedule.
  - .2 Provides a view of how much the project is estimated to cost both in total and periodic terms.
  - .3 Determines the cost performance baseline for use in cost management variance analysis such as, determining earned performance value.
  - .4 Is aligned with funding limits to ensure funding availability/appropriation.
  - .5 Also refer to, Estimated Construction Cost definition.
- .8 Building Components and Connectivity (BCC);
  - .1 Also refer to Sub-Project Definition.
  - .2 BCC cost is not included in the Estimated Construction Cost.
  - .3 Includes Information Technology (IT), Multi-Media (MM), Integrated Security Systems (ISS), furniture, systems furniture, selected built-in furniture and equipment procured by PSPC.



- .4 PSPC is responsible for the purchase and installation of any new Building Components as and when required.
- .5 Under typical building construction conditions, using a General Contractor (GC) or Construction Manager (CM), the PSPC procured installers and suppliers at the construction site are subject to the coordination and safety overview of the GC/CM.
- .6 Shared Services Canada (SSC) is responsible for the supply, installation and commissioning of IT and related systems.
- .9 "Canada", "Crown"/"Her Majesty":
  - .1 Her Majesty the Queen in right of Canada.
- .10 Collaborative Project Delivery (CPD):
  - .1 The CPD approach promotes and facilitates knowledge collaboration between design and construction professionals and subject matter experts to create optimal design and construction solutions and methodologies and achieve an appropriate, timely and fiscally responsible Quality project delivery;
    - .1 Recognizing that project success is tied to all Project Team members' success in the integrated process;
      - .1 CPD process starts at Pre-Design Departmental Representative as Lead Partnering Session and the Design Consultant, as Lead, project start-up meeting early in Schematic Design;
        - .1 CPD as an interactive process continues throughout the project life cycle
    - .2 CPD objectives are for an early formation of an integrated Project Team;
      - .1 Design Consultant and Construction Manager are selected through separate processes, but in close succession.
    - .3 Joint Project Team goals include:
      - .1 Ownership and focus on Quality including, Owner Project Requirements (OPR), Basis of Design (BOD) as well as budget and schedule performance,
      - .2 Focus on optimizing the design and construction as a whole to fulfill the PSPC Stewardship Excellence Protocol Principles,
      - .3 Mutual support for the Project Procedures and Quality Management Plans,
      - .4 Leveraging Value Engineering, Life Cycle Costing and commissioning skills,
      - .5 Potential for early starts in the construction sequence, as the design proceeds, and
      - .6 Creation of an innovative learning environment.
  - .11 Commissioning Advisor (PSPC):
    - .1 PSPC Commissioning Advisor, on behalf of the Departmental Representative and as part of the project contract administration, is responsible for the oversight of the development, implementation and evaluation of the Commissioning Process.
    - .2 Completes the final Commissioning (Cx) Evaluation Report.
  - .12 Commissioning Evaluation Report:
    - .1 A Cx Manual component.



- .2 Prepared by the PSPC Commissioning Advisor at end of Project Delivery stage, close-out phase.
- .3 A debriefing report, including aspects such as:
  - .1 A complete assessment of the project,
  - .2 Lessons learned,
  - .3 Variances between the actual and planned levels of performance,
  - .4 A listing of components and systems not commissioned and the reasons, and
  - .5 Recommended follow-up actions including Re-commissioning.
- .13 Commissioning (Cx) Manual:
  - .1 Refer to CSA Z320 Article 4.9.2, Commissioning manual.
  - .2 Includes recommendations for Re-commissioning frequency by equipment type and system,
  - .3 Requires Cx Process Manager sign-off at a Construction Contract Substantial Performance and Completion (final) milestones.
- .14 Commissioning (Cx) Plan:
  - .1 Refer to CSA Z320 Article 4.2.3 Commissioning Plan.
  - .2 A dynamic document throughout the project life cycle.
    - .1 As early as Pre-Design the Cx scope, associated risks and budget are defined and accepted.
    - .2 The CM Cx Process Manager, in collaboration with the Design Consultant, outline a plan to execute the scope.
      - .1 Initially, the Plan addresses the selection of Cx Team, activities, roles and responsibilities, schedule, and deliverables for the remainder of Pre-Design milestone.
      - .2 Ongoing Plan development is carried out through iterative reviews and as part of the CPD process, interactive workshop and meetings to ultimately become the complete plan including construction and occupancy phases of the project.
  - .3 CM project specific Cx plan, to also be included in the Division 01 of the specifications; specific to Subcontractors and Work by Own Forces.
- .15 Commissioning (Cx) Process:
  - .1 Refer to CSA Z320 Article 4, Commissioning Process.
  - .2 A dynamic document throughout the project life cycle.
  - .3 The process by which the design and construction documents (plans, sections, specifications, BOD, etc.) are confirmed to be consistent with each other; includes the commissioning requirements and the OPR.
  - .4 During the Cx design reviews the Design Consultant is ultimately responsible for the project design and final decisions regarding the designs expected performance;
    - .1 Other supporting Project Team members such as the Cx Process Manager, unless otherwise stated, will only make recommendations, and observations during the design review.
- .16 Commissioning Process Manager (CPM):
  - .1 The CPM's overall responsibilities include managing the Commissioning Activities to demonstrate that the installed components, systems and overall facility meet the requirements of the OPR and the facility design. Includes Cx;



- .1 Sequencing,
- .2 Means and methods,
- .3 Documentation and related sign-offs; and
- .4 Manuals.
- .2 Requires a unique combination of engineering, design fundamentals and building operations knowledge including: energy systems design, installation and operation, commissioning planning and process management, hands-on field experience with energy systems performance, interaction, start-up, balancing, testing, troubleshooting, operation and maintenance procedures, and energy systems automation and controls.
- .3 Assumes the role of "Commissioning authority/commissioning provider" identified in CAN/CSA Z320-11.
- .4 Assumes the role of an "independent Commissioning Authority" and "Commissioning Authority" as per the LEED for New Construction and Major Renovations Rating System specific to the project.
- .17 Commissioning Record Checklist:
  - .1 Outlines the deliverables to be assembled and updated over the course of the Design, Construction and Delivery Close Out.
  - .2 Cx Record Checklist may include sections such as:
    - .1 Commissioning Plan,
    - .2 Commissioning Schedule,
    - .3 Owner's Project Requirements (OPR),
    - .4 Basis of Design (BOD),
    - .5 Project Team,
    - .6 Design QA Review compiled reports,
    - .7 Project Issues/Resolutions Logs,
    - .8 Cx Issues/Resolutions Logs,
    - .9 Commissioning meeting minutes,
    - .10 Commissioning specifications,
    - .11 Coordination drawings,
    - .12 Testing and inspection procedures,
    - .13 System start-up plans,
    - .14 Construction checklists,
    - .15 Inspection reports,
    - .16 Test reports,
    - .17 Commissioning test certifications,
    - .18 Training plans,
    - .19 Training documentation – electronic and hard copy,
    - .20 Deferred testing documentation,
    - .21 Post-construction review/re-inspection report,
    - .22 Systems Manual,
    - .23 Operations and Maintenance Manual, and
    - .24 Re-commissioning Manual.
- .18 Commissioning Report:
  - .1 A Cx Manual Component (at Construction Contract Substantial Performance and Completion – final/post Warranty) milestones;
    - .1 Requires CPM sign-off and Design Consultant verification at Substantial Performance and Completion.
  - .2 Cx Report (at Substantial Performance) based on;



- .1 Final BOD and OPR,
- .2 Final performance spreadsheets – OPR values to actuals,
- .3 Final performance spreadsheets: component, systems and integrated systems - design values to actuals,
- .4 Final training sessions,
- .5 Post occupancy changes,
- .6 Deferred commissioning, and
- .7 Current information not available or incomplete at Interim Acceptance/Substantial Performance.
- .3 Final Commissioning Report (prior to end of Warranty Period) includes:
  - .1 Final Cx Evaluation Report – produced by PSPC Cx Advisor,
  - .2 Updated Cx Report from Substantial Performance,
  - .3 Post-Occupancy test results and evaluations, and
  - .4 Updated Issues/Resolutions Log – highlighting documented Cx resolutions.
- .4 All progressive/interim acceptance require all Project Team members to sign-off.
- .19 Commissioning Risk Assessment:
  - .1 Cx Risk Assessment aligns the rigor of the Commissioning Process with the following 2 risk items associated with Architectural and Engineering systems:
    - .1 Building: function and performance as outlined in PSPC Stewardship Excellence Protocols Principles, and
    - .2 Deliverables: deficiencies, such as, inaccurate as-built documentation, ineffective owner/occupant training, lack of documented system performance testing, and lack of comprehensive systems manuals
  - .2 Cx Risk Assessment is often summarized in a matrix and accompanied by a basis of assessment narrative;
  - .3 Premise of Cx Risk Assessment is to identify:
    - .1 Building type and the intended use as a guide for Cx risk associated with the intended building systems, and
    - .2 How the performance of each system will affect the performance of all other systems, and how non-performance in the building have a negative impact on function and operational confidence.
- .20 Commissioning Scope:
  - .1 Conducted by a Cx Team.
  - .2 An integrated developmental process of determining the level of Cx effort based on scope, rigor, OPR, building operation and function, including:
    - .1 Cx prioritization; and
    - .2 Cx Risk Assessment.
- .21 Commissioning Team (Cx Team):
  - .1 Live document throughout project life cycle.
  - .2 Objective is for interdisciplinary collaboration to ensure the Cx Process is completed and the facility criteria has been achieved.
  - .3 Cx Team composition is first identified and defined at Pre-Design followed by an integrated development of a Cx Process and the assignment of Cx roles and responsibilities and corresponding services and deliverables;



- .1 Refer to Roles and Responsibilities Matrix Definition;
  - .1 Offers expanded roles and responsibilities to address project delivery and commissioning tasks;
- .4 Size and membership varies depending on the project size, complexity and phase of design and construction.
- .5 Team make-up may consist of a:
  - .1 Departmental Representative,
  - .2 User Department Operating Personnel,
  - .3 Design Consultant(s) (dependant on TOR, including Consultant's Cx Process Manager),
  - .4 CMA/c Cx Process Manager), and
  - .5 Subcontractor(s) (and related sub-trades and suppliers).
- .22 Constructability:
  - .1 The extent to which the design of the building facilitates the ease of construction, which is subject to the overall requirements for the completed building project.
  - .2 The effective and timely integration of construction knowledge into the conceptual planning, design, construction, and field operations of a project to achieve project goals and building performance at the optimal level by:
    - .1 A Quality project delivery process which also meets the project objectives in the best possible time and accuracy at the most cost-effective levels; and
    - .2 A balance of various project, environmental and market constraints.
- .23 Construction Checklist:
  - .1 Also known as Contractor's Cx "systems readiness checklist".
  - .2 Ensures specified equipment is provided, undergone Static Verification, properly installed, initially Started-up and checked out in preparation for full operation and Functional Performance testing.
- .24 Construction Cost Estimate:
  - .1 Refer to the GP&S Document, Cost Management article, for further Construction Cost Estimate detail.
  - .2 Construction Cost Estimate as compared to Budget – see Definition.
  - .3 Estimates cost of the work associated with the overall project at each Project Milestone, Subcontractor tender packages, Work by CM Own Forces, Division 01 General Requirements and other supporting activities within the project lifecycle.
  - .4 Cost breakdown estimating format as per CIQS best practice;
    - .1 During Design, CSC/CSI ASTM UniFormat II – to 4<sup>th</sup>/5<sup>th</sup> level of definition.
    - .2 During Construction Documentation, CSC/CSI MasterFormat - Divisional and Sectional detail using CIQS best practice.
  - .5 In all cases, include Basis of Estimate (BOE) – see Definition.
  - .6 Refer to GP&S Cost Management for further detail.
- .25 Construction Manager (CM):
  - .1 Under separate contracts the Departmental Representative retains a Design Consultant and a Construction Manager simultaneously.



- .2 CM is a subject matter expert in construction implementation, closeout services and delivery all the while, throughout the project lifecycle providing multi-disciplinary advisory, project oversight and reporting services.
- .3 Remuneration for CM services may have one or more 'fixed price' components (CMA) and one or more 'cost reimbursement' components (CMc).
- .4 The CM contract, notwithstanding being specified otherwise, includes two (2) functional service types under one contract:
  - .1 CM, in an Advisory consulting capacity (CMA),
    - .1 Is not held responsible for technical design defects and does not assume any contractual responsibilities or duties of the Design Consultant(s),
    - .2 Works alongside the Design Consultant as a team member, sharing experience (for example, constructability and sequencing) as the design evolves, taking responsibility for the budget and schedule within the limits as established by the Departmental Representative, and
    - .3 Tenders construction trade packages,
      - .1 In the case of PSPC requirement to use mandatory Departmental Procurement Instruments (to procure, for example, furniture and equipment) CM provides procurement [and installation] support.
  - .2 CM, Semi-at-Risk in a General Contractor capacity (CMc),
    - .1 Notwithstanding the limited Work by Own Forces, CM engages Subcontractors to perform the Work however, the Departmental Representative retains full control of the project scope and budget.
- .26 Construction Manager as Advisor (CMA):
  - .1 CM as Advisor is a form of Construction Management under which the CM acts as an advisor and support to the Departmental Representative during Pre-Design, Design, Construction and Closeout by maintaining a working relationship with the Departmental Representative, User Department, the Design Consultant(s), construction subcontractors, and other consultants supporting the Departmental Representative.
    - .1 CMA and CMc roles remain interrelated during Construction/ Implementation and Delivery/Closeout Phases.
- .27 Construction Manager as Contractor (CMc):
  - .1 See Semi-At-Risk;
    - .1 CMc and CMA roles remain interrelated during Construction/ Implementation and Delivery/Closeout Phases.
- .28 Construction Management (CM) "Plan":
  - .1 Refer to Project Procedures Manual (PPM) Definition;
    - .1 CM collaboratively as Lead, develops and maintains the PPM.
- .29 Constant dollar estimate:
  - .1 This is an estimate expressed in terms of the dollars of a particular base fiscal year;
    - .1 It includes no provisions for inflation.



- .2 Cash Flow over a number of fiscal years may also be expressed in constant dollars of the base year including no allowance for inflation in the calculation of costs;
  - .1 Current Dollar Estimate – see Definitions;
- .30 Construction Manager's (CM)/Advisory CMA Fixed Fee:
  - .1 Refer to Contract Documents: Supplementary Conditions (SCs) and General Condition (GCs).
  - .2 Typically associated with CMA Required Services.
  - .3 Typically compensation is paid out in arrears, in a fixed monthly fee.
- .31 Construction Manager's (CM)/Contractor CMc Percentage Fee:
  - .1 Refer to Contract Documents: Supplementary Conditions (SCs) and General Condition (GCs).
  - .2 Typically associated with CMc Required Services.
  - .3 Typically compensation is paid out in arrear for each progress claim submitted in accordance with the GCs.
- .32 Construction Manger Project Manager (CM/PM):
  - .1 CM designated CM/PM to coordinate interface with Departmental Representative, Design Consultant and CM own disciplines.
  - .2 Includes direct management of and/or provision of assistance in all key actions required to deliver the project, from advising on forms of contract, procurement options, managing risk, monitoring and reporting on the Work progress throughout the project life cycle.
- .33 Consultant Team:
  - .1 An architectural or engineering firm and their sub-consultants (the Design Consultant), professionals and advisors with whom PSPC has contracted to provide other services on this project.
- .34 Current Dollar Estimate:
  - .1 Budget Year Dollars is also to be referred to as Nominal dollars.
  - .2 An estimate based on costs arising in each Fiscal Year (FY, ending March 31) of the project schedule.
  - .3 Escalated to account for inflation and other economic factors affecting the period covered by the estimate.
  - .4 Costs and benefits across all periods should initially be tabulated in Budget Year Dollars for the following reasons:
    - .1 Form in which financial data is usually available,
    - .2 Tax adjustments are accurately and easily made in budget year dollars, and
    - .3 Enables during analysis the construction a realistic picture over time, taking into account changes in relative prices.
  - .5 Constant Dollar Estimate – see Definitions.
- .35 Departmental Representative (DR):
  - .1 The person designated in the Contract, or by written notice to the Contractor/Consultant, to act as the Departmental Representative for the purposes of being a Contract entity.
- .36 Design Development (DD):
  - .1 Specific to Design Consultant and Construction Management (CM) project contracts.



- .2 Subsequent to the Design Consultant's Schematic Design (SD), Design Development continues to further enhance SD deliverable details to DD levels of accuracy and acceptance and is a process and method to include:
  - .1 Design coordination and resolution of all major components associated with disciplines such as, architectural, civil, structural, mechanical, and electrical;
  - .2 Preparation of outline project specifications including an initial Cx focused testing procedures and check sheets/forms document related to (as per CAN/CSA Z320);
    - .1 Static Verification,
    - .2 Start-up, and
    - .3 Functional Performance Testing.
  - .3 Preliminary modeling and simulations (such as energy analysis and daylight simulation); and
  - .4 Updating construction and commissioning cost estimates.
- .3 The Design Consultants Design Report is of sufficient detail to assist Cx Process Manager with the ongoing development of the initial Cx Plan that also updates:
  - .1 Commissioning activities based on risk and complexity, and;
  - .2 Construction Cx cost.
- .4 Design Consultant DD Report must be signed-off by the Departmental Representative prior to proceeding with Construction Documentation.
- .37 Division 00, Procurement and Contracting Requirements:
  - .1 Instructions to bidders prepared by CMA in collaboration with the Departmental Representative and Design Consultant for each Subcontractor Tender Package.
  - .2 Prepared using the PSPC/NRC, National Master Specifications (NMS) latest data base version.
    - .1 NMS Division 00 compliments Canadian Construction Documents (CCDC).
    - .2 Modified as required for other forms of Sub-Contract agreements.
  - .3 Includes Articles such as:
    - .1 Site Assessment;
    - .2 Bid Enclosure Requirements;
    - .3 Security Deposits;
    - .4 Performance Assurances; and
    - .5 Insurances.
- .38 Division 01, General Requirements – Sub-Contracts:
  - .1 Prepared by CMA in collaboration with the Departmental Representative and Design Consultant for each Subcontractor Tender Package.
  - .2 Prepared using the PSPC/NRC, National Master Specifications (NMS) latest data base version.
  - .3 Sub-Contract Division 01 is aligned with the Work results associated with "PSPC/CM Division 01".
- .39 Estimated Construction Cost:
  - .1 The Budget identified in the TOR or subsequently in writing by the Departmental Representative:



- .1 Also stated as "Construction Cost Estimate" or "Construction Cost Limit".
- .40 Facility Turnover:
  - .1 Refer to CSA Z320 Article 4.7, Facility Turnover Activities.
- .41 Functional Space Program:
  - .1 May be included in the RFP or may be a Pre-Design deliverable stating the end state functional and operational goals.
  - .2 Defines the design problem by determining the details for achieving the goals. Goals may include, but are not limited to, design considerations regarding:
    - .1 Architecture: Area needs, adjacencies, circulation, acoustics, health and safety, personal forecasts, user characteristics, organizational structure, budget and costs and project schedule;
    - .2 Engineering: HAVC, plumbing, electrical, security, and communications.
  - .3 One of Three Program Levels of effort are use based on complexity and risk:
    - .1 Level 1 Program is used for small, relatively simple or repetitive types of projects where the standard requirements are well understood;
    - .2 Level 2 Program is used for larger projects with some degree of complexity; and
    - .3 Level 3 Program is used for major projects and projects with a high degree of complexity.
  - .4 Program Level selection and the associated level of detail is also determined by Cx complexity and risk, providing further supporting information to the OPR development.
- .42 Informed (as per Roles and Responsibilities Matrix):
  - .1 Being informed by the Lead of Work progress.
- .43 Interim acceptance:
  - .1 Refer to CSA Z320 Article 4.6, Interim Acceptance;
  - .2 Interim Acceptance will be synonymous with Substantial Completion as GC's of the Construction and Consultant Contract.
- .44 Issues/Resolution (I/R) Log:
  - .1 The I/R Log contains description of project issues and/or variances ranging from specifics such as with the Owner Project Requirements (OPRs) to general design and construction and related processes and deliverables;
    - .1 On an ongoing basis the log maintains status of current/ongoing and resolved issues; and
    - .2 CM Cx I/R Log provides integral information to the Design Consultant project I/R Log.
  - .2 Issues are identified and tracked as encountered during all design phases, construction and operations of the facility;
  - .3 The I/R Log is also included as an item in:
    - .1 The meeting Design and Construction agenda; and
    - .2 The monthly construction phase report on the Cx Plan.
  - .4 For more information on what needs to be documented refer to ASHRAE Guideline, The Commissioning Process.



- .45 Leads (as per Roles and Responsibilities Matrix):
  - .1 Facilitates activity and is accountable for the resulting final documentation Delivery/Work results.
- .46 Life Cycle Costing (LCC)
  - .1 Life Cycle Costing methodology, used during investment analysis and planning, design, construction and procurement, employs a comprehensive economic comparison of competing options.
    - .1 Comparison of competing options is be made between ideas similar in nature defined to satisfy the same basic function or set of functions.
  - .2 LCC interpretation, as related to competing options assessment;
    - .1 The sum of the present values of associated with investment costs, capital costs, installation costs, energy costs, operating costs, maintenance costs, and disposal costs, over the lifetime of the project.
  - .3 Refer to industry standard practices for measuring life cycle costs of building and building systems such as, ASTM Standards.
  - .4 Also refer to Value Engineering (Assessment) definition.
- .47 Master Cost and Cash Flows Plan:
  - .1 Component of each updated Project Procedures Manual;
    - .1 Integral to the Cost Plan is a follow-up development of Cash Flows.
  - .2 An authoritative Master to which all Cost Estimates and Cost Plan/Flows roll up and are coordinated;
  - .3 In the case of the CM project delivery method, the CM is Lead on the Master Cost and Cash Flow Plan, which is collaboratively produced and updated, based on input by respective service category providers such as the Design Consultants and Construction Managers (CM) own project specific cost and projects.
    - .1 Mutually substantiates CM's and Departmental Representative's Budget.
  - .4 The Cost Plan itemizes a breakdown of major components such as:
    - .1 Construction Work, including:
      - .1 CM Subcontractor Tender/Own Forces packages including:
        - .1 Cx cost breakdowns
      - .2 Service category provider fees for disciplines such as Design Consultant and Construction Management;
      - .3 Risk Allowances, as may be identified in the Departmental Representative's Risk Management Plan;
      - .4 User Department's costs;
      - .5 Ancillary costs;
      - .6 Taxes; and
      - .7 Escalation.
  - .5 Cash Flows;
    - .1 Reflects the expected expenditure schedule for each major Cost Plan component in relation to the project Master Schedule encompassing the Design and Construction schedules.
      - .1 Enables Earned Value Analysis.



- .2 For projects with a multiple year duration, the Cost Plan and Cash Flow are presented in both constant dollars (without escalation) and in current dollars (escalated for inflation, i.e. constant dollars x appropriate cost indices for the year that the expected expenditures/spending will occur).
  - .1 See Definitions for Constant and Current Dollars.
- .48 Master Schedule (Master Project Schedule):
  - .1 Component of each updated Project Procedures Manual;
  - .2 An authoritative project schedule to which all other schedules roll up and are coordinated;
  - .3 In the case of CM project delivery, the CM is Lead on the Master Schedule, which is collaboratively produced and updated based on input by service category providers such as the Design Consultant and Construction Manager (CM) using their own project specific Schedules.
    - .1 Mutually substantiates CM's and Departmental Representative's Schedule as agreed upon through an integrated collaborative process.
  - .4 Prepared and tracked using Microsoft Project:
    - .1 Detailed network diagrams, with work breakdown structures and Key milestones listings;
    - .2 Critical Paths for all key activities, with key milestone dates and lead times for each activity;
      - .1 Gantt Charts require Departmental Representative's agreement;
    - .3 An anticipated start and completion dates for all design and construction activities, linked by interdependent activities that must be completed prior to the start of a subsequent activity; and
    - .4 Separate schedules for each tender package.
- .49 Move Plan:
  - .1 Identifies move tasks, dependencies, and task duration;
  - .2 Explores potential move optimization and risk minimization; and
  - .3 Includes phasing, specific timeline/Gantt chart, order and process for relocations, hoteling (office) and final moves.
- .50 Move Process:
  - .1 Requires coordination with the User Department's processes and protocols, including:
    - .1 Move specific resources and a Roles and Responsibilities matrix,
    - .2 Move activities and logistics associated with:
      - .1 Pre-Move - supply of boxes, packing, data labeling requirements, etc.
      - .2 Move Day - preventative operational downtime logistics,
      - .3 Post Move – unpacking and walkthroughs, and
      - .4 IT Moves – equipment/infrastructure disconnect/reconnect.
    - .3 Meeting Schedule,
    - .4 Checklists,
    - .5 Occupational Health and Safety as per the Canada Labour Code, and
    - .6 Compliance with the CMc/Contractor site specific safety plan.
- .51 National Project Management System (NPMS)



- .1 NPMS is Public Works and Government Services Canada's (PSPC) project management framework for Real Property projects.
  - .1 It defines key principles and provides the directives, roadmaps, deliverables and tools needed to successfully deliver projects on scope, on time and on budget.
  - .2 The website provides guidance, tools, templates and supporting documents for PSPC management teams, project teams, consultants and other governmental clients in Real Property.
    - .1 <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>
- .52 Operation and Maintenance Manual(s) (O&M):
  - .1 Developed throughout the project lifecycle.
  - .2 Produced by the Construction Manager/Contractor and is part of the CPD integrated process and is supported by the Design Consultant and Departmental Representative.
  - .3 Requires Cx Process Manager sign-off at contract Substantial Performance.
  - .4 Prepared using product information report forms/data provided by Subcontractors, Own Forces and information from other sources as required.
  - .5 Refer to Division 01 General Requirements document for further detail.
- .53 Owner Project Requirements (OPR):
  - .1 Refer to CSA Z320 Article 3, Definitions.
  - .2 Developed by "the Owner" - PSPC/USER Department prior to Design or by Design Consultant during the Pre-Design Project Milestone.
  - .3 Text and graphics are organized to facilitate future use as a building reference document; and
    - .1 BOD and OPR are components of the Cx Manual;
      - .1 BOD, refer to Definition for further detail.
  - .4 A dynamic document throughout the project lifecycle that defines the Owner's values and end goals; their ideas, concepts and end state quantifiable and measurable performance benchmarks/criteria by usage, by systems and/or by occupancy classification associated with topics such as:
    - .1 Project Program – pertinent Functional (Space) Program extracts, such as;
    - .2 Basic facility data (such as, area, number of stories Occupancy and construction type(s)), user/area usage schedules, restrictions and limitations, expandability, flexibility and durability (life span). Environmental and Sustainability Goals including;
      - .1 LEED certification, CO<sub>2</sub> monitoring, resource reuse.
    - .3 Energy Efficiency Goals including;
      - .1 Measures affecting lighting and HVAC energy efficiency such as orientation shading, ventilation and renewable power.
    - .4 Indoor Environmental Quality Requirements regarding;
      - .1 Lighting, temperature and humidity, acoustics, air quality, ventilation and filtration, controls adjustability, after hours accommodation, natural daylighting, ventilation and views.



- .5 Equipment and system Expectations, such as;
  - .1 Levels of quality, reliability, flexibility, maintenance, complexity and target efficiencies, building system technologies regarding manufactures, acoustics, vibration, degree of integration, automation and functionality for controls load shedding and demand and response energy management.
  - .6 Building Occupant and O&M Personal Expectations,
    - .1 Building operation description and by whom and at what capability, level of training and orientation for occupants and O&M staff, and;
  - .7 CM Cx Process Manager Information;
    - .1 Name of Agency/Firm and contact person(s) and address name, address and personal contact.
- .5 Starting with the Pre-Design project milestone the OPR is the foundation of the Commissioning Process- an integral part of Commissioning.
  - .1 Working through the various other project milestones is supported by the BOD documenting that the various decisions, concepts, designs, calculations, and product selections to meet the OPR.
- .54 Own Forces (Work by Own Forces):
  - .1 Referenced in the Supplementary Conditions (SC to the GCs) of the Bid Solicitation Documents (RFP) and establishes limits to the value of individual construction work packages for which the CM is allowed to submit tenders:
    - .1 Intent is to limit Own Forces to Construction/Implementation and Delivery Closeout; advisory, coordination and services as a CMc - "general contractor".
    - .2 CMc Own Work Force are not subject to competitive bidding and often include conducting limited amounts of construction not included in the Subcontractor's Work, such as temporary facilities and services (e.g. hoarding, temporary heat, site office, power, water, security, hoisting, etc.) clean-up, miscellaneous cutting, patching, blocking, and other similar work when permitted by the Departmental Representative.
- .55 Participate (as per Roles and Responsibilities Matrix):
  - .1 Take part in activities/deliverables such as, meetings and workshops.
- .56 Partnering Session Workshop(s):
  - .1 Workshop(s), by the Departmental Representative, as Lead, which includes the Project Team and other stakeholders;
    - .1 Within the Workshop various members will be required to lead specific Deliverables of the Workshop.
    - .2 Within the Workshop various members will be required to Lead specific Workshop deliverables as agreed upon by consensus, concluding with a review of the Project Procedures Manual – see Definitions.
    - .3 Other topics include:
      - .1 Role and responsibilities matrix;
      - .2 Rules of engagement;
      - .3 Communication plan;



- .4 Project status, goals, objectives, elements, scope, funding, and preliminary schedule;
  - .5 Deliverables plan;
  - .6 Measures of percentage complete and delivered;
  - .7 Issues tracking and documentation systems;
  - .8 Project risks and the initial risk management plan,
  - .9 Review of existing available documentation and project site conditions,
  - .10 Schedule of biweekly (or as otherwise determined by Departmental Representative) project and milestone meetings, and
  - .11 Communication and document control plan.
- .57 Permits and Fees:
- .1 Refer to Contract Documents: General Conditions (GCs).
- .58 Preliminary Project Description (PPD/PPDFormat™):
- .1 Refer to GP&S Document for further detail.
  - .2 During Design, is the framework for supporting the development of Outline Specifications and corresponding Elemental Cost Breakdowns;
    - .1 Required levels of detail dependant of minimum required cost estimate accuracies per Project Milestone deliverables;
      - .1 Refer to GP&S Document, article Cost Management for further detail.
  - .3 A live document during Schematic Design (SD) and Design Development (DD) Project Milestones;
    - .1 Integral content to the SD and DD Reports, and
    - .2 Facilitates an audit trail through to Construction Documentation (CD).
  - .4 The Uniformat II structure on which the PPD narrative and corresponding elemental/component cost estimate is based on – PPDFormat, is an opportunity for early interdisciplinary conceptualization of baseline building systems, construction systems, assemblies and components organized in an industry standard sequence;
    - .1 PPD narratives based in on respectively specified UniFormat Level of Detail for SD and DD Project Milestones satisfy the requirements for Outline Specifications Deliverables, including;
      - .1 Commissioning Specifications.
    - .2 PPDFormat also coordinates with MasterFormat thereby, a link to CD specifications and MasterFormat Divisional/Sectional cost estimate breakdowns.
- .59 Project Execution Plan (PEP):
- .1 Component of Project Procedures Manual (PPM) – refer to Definition.
  - .2 Live document throughout the project life cycle.
  - .3 Plan is structured to reflect project phases and respective Project Team members' required service category – service categories such as: Design Consultant or Construction Manager.
  - .4 Tracks project progress, to Post Occupancy, and is assessed against the PEP.



- .5 Establishes how the work will be executed, monitored, and controlled based on the remaining performance monitoring PPM Sections.
- .6 PEP may include:
  - .1 Staffing and the related management plan;
  - .2 Roles, Responsibilities and Authorities;
    - .1 Developed as part of a Partnering Workshop Session and concluded in a summary matrix.
  - .3 Document control systems and distribution matrix – also refer to project QMP and QC Plan Definitions;
  - .4 Change management;
  - .5 Mentoring and reporting strategies;
  - .6 Cost plan, management and tracking procedures and alternative cost evaluation strategies;
  - .7 Risk analysis and procedures for inputs into the Departmental Representative's Risk Management Plan;
  - .8 Project schedule including:
    - .1 Master schedules and milestone deliverables;
    - .2 Work Breakdown Structure (WBS);
    - .3 Phase/sequencing of construction;
    - .4 Design Consultant required services and performance;
    - .5 Div. 01 Work – from start of Construction/Implementation to Close Out;
    - .6 Site mobilization, site facilities, and site work verification;
    - .7 Subcontractors' Work and Work by Own Forces including:
      - .1 Submission and final Close Out procedures and deliverables.
    - .8 Contracting, procurement, and delivery methods including:
      - .1 Subcontractors Tender Packages, including project manual/specifications Div. 00 and Div. 01 (multiple contracts/fast-track construction);
      - .2 Specialty Subcontractors;
      - .3 RFI, C/O Issues and Resolutions tracking;
      - .4 Advance procurement; and
      - .5 LEED Certification
    - .9 Working within Government and outside governance and approval agencies;
    - .10 Administrative systems and procedures (on and off site);
    - .11 PSPC/Departmental Representative accounting practices;
    - .12 Health and Safety preparedness and management;
    - .13 Environmental Polices;
    - .14 Quality Assurance strategies
      - .1 Refer to project QMP/QA Plan and QA Review Definitions;
    - .15 Commissioning (Cx) Plan
      - .1 Refer to Cx Plan Definition;



- .16 Partial/Total Substantial Performance (Occupancy) project evaluation strategy including compliance with updated Owner Project Requirements (OPR), and;
- .17 Meeting information.
- .60 Project Management Plan (PMP):
  - .1 Component of the Project Procedures Manual (PPM) – refer to Definition.
  - .2 Live project interface document throughout the project life cycle.
    - .1 In the case of a CM project, the CM designates a CM own Project Manager (CM/PM) to interface with the Departmental Representative Design Team and CM own disciplines.
    - .2 Project Management progress is assessed against the PMP;
  - .3 PMP is structured to reflect project phases and respective Project Team’s service category required Deliverables – actual or virtual.
    - .1 Service categories such as: Design Consultant or Construction Manager (CMA/c).
  - .4 Establishes project Quality Control, set up with:
    - .1 Task management, processes, and procedures;
    - .2 Monitoring systems and reporting for early identification and registration of deviations and/or trends related to Quality Matrixes.
  - .5 Creates an opportunity to monitor other Project Team members’ management processes and procedures including:
    - .1 Departmental Representative’s PMP.
  - .6 PMP may include:
    - .1 As part of Project Oversight service, Periodic Project Review Documentation (PPRD) – high level, total project depiction/documentation including:
      - .1 Project quality and current performance status in comparison to the start of project including major changes;
      - .2 Risk management: risks mitigated and risks remaining towards project completion.
      - .3 Issues/resolution log management: issues resolved and issues remaining towards forecasted project completion.
    - .2 Resource management: people, tools and others;
    - .3 Communication protocol: co-ordination, leadership, communication lines/channels, communication type, and reporting approach;
    - .4 Claims management: towards equitable resolutions and minimal disruptions;
    - .5 Scope and change management: achieving project delivery and facility feature requirements;
    - .6 Time management: master and detailed design/construction activities milestone deliverable schedules – updated to include slippage, recovery and claims avoidance;
    - .7 Budget and cost management: monitoring, tracking and projecting;
    - .8 Risk management: methods of identifying and evaluating risk including risk indexes (probability/consequence), mitigation actions, progress tracking and contingency planning;
    - .9 Quality management: quality design and delivery;
    - .10 Procurement management: means of delivery;



- .11 Issues/resolution management: log development and maintenance;
- .12 Construction Delivery Close Out (as per Division 01) Project Management Control System; and
- .13 Meetings: preconstruction, progress and special meetings.
- .7 For further detail, refer to - QC Methodologies and Tools and QC Processes and Metrics definitions.
- .61 Project Milestones:
  - .1 Refer to General Procedures and Standards (GP&S) Document(s);
    - .1 Section 2: Project Administration;
      - .1 For CM – Article, Project Management and;
      - .2 For Design Consultant – Article, Project Milestones.
- .62 Project Oversight (PO):
  - .1 A Quality Assurance reporting program of partnering relationships, monitoring, evaluating and communicating the overall project performance on a scheduled basis to provide confidence in the project Quality delivery to meet the Owner Project Requirements (OPR) and be completed on time and on budget;
    - .1 Primary Deliverable - Project Oversight Reports (POR);
    - .2 Refer to GP&S Document for further report related detail.
  - .2 Stands separate from other management functions with no direct, front line responsibility for successful delivery.
  - .3 Acts in a check-and-balance or feedback for typical project management services such as Cost Management, Schedule Management, Quality Management, Risk Management, Contract Management and specialty Services such as Procurement Management and Cx Management.
    - .1 Point of view - Project Management versus, Project Overview;
      - .1 Project Management – detailed task level view;
        - .1 Active management of task actions and interactions
        - .2 Project Overview – product deliverable and process view;
          - .1 Ensuring interactions are managed towards an effective and efficient delivery.
  - .4 Determining levels of Design Consultant and CM respective Oversight is a collaborative Project Team effort, including:
    - .1 Reporting/Review structure, including;
      - .1 Requirement for validation;
    - .2 Informational demands, including;
      - .1 Required tools to perform Oversight, and;
      - .2 Dependent on cost, schedule risk and complexity;
    - .3 Reporting frequency;
  - .5 Governed by defined roles and responsibilities and management services and processes.
    - .1 Design Consultant, as Lead, first Oversight deliverable is the Roles and Responsibilities Matrix, followed by;
      - .1 POR's;
    - .2 CM, as Lead, first Oversight deliverable is the Project Procedures Manual (PPM), followed by;



- .1 POR's.
- .63 Project Procedures Manual (PPM):
  - .1 Critical to a Collaborative Project Delivery (CPD) – see Definitions.
  - .2 Live document throughout the project life cycle;
    - .1 Mutually enforced, collaboratively monitored and amended by the Project Team as required for an effective project delivery, which includes:
      - .1 Procedures for continuous process monitoring and Quality improvement;
      - .2 Initial and amended PPMs requires Departmental Representative's Acceptance.
        - .1 Supports Departmental Representative's project governance associated with the Project Charter and Project Plan – see NPMS Definitions.
  - .3 Initial PPM is an output of a Partnering Session:
    - .1 Departmental Representative is the Patterning Session Lead;
    - .2 Sections of the PPM are collaboratively produced with the Project Team based on respective service category provider's own internal corporate PPMs and initially proposed project and discipline specific PPMs.
  - .4 In the case of a CM project, the CM Leads PPM development and is responsible for updates;
  - .5 Automates day to day interactions throughout the project life cycle involving project management, advisory and construction services;
    - .1 Sets Project Team terms of reference and realm of operations;
    - .2 Ensures planning and execution are carried out to achieve a Quality project;
    - .3 General focus includes, policies, legislation, procedures, standards of practice and basic systems and measures for evaluating performances, linked to various task elements of the Plans and Deliverables.
  - .6 An authoritative project specific manual to which all other management process, respective discipline procedures, practices, tools and deliverables roll up and are coordinated to ensure an integrated project specific delivery process.
  - .7 PPM Sections:
    - .1 Project Management Plan (PMP) (see Definitions);
      - .1 Contains topics used in the PEP
        - .1 Establishes project control, and set up with, procedures, systems, monitoring and reporting for early identification and registration of deviations and/or trends.
    - .2 Project Execution Plan (PEP) (see Definitions);
      - .1 Deals with the day to day activities and schedule in an effort to execute the PMP.
        - .1 Establishes how the Work (Design and Construction) will be executed, monitored and controlled.
    - .3 Quality Management Plan (see Definitions);



- .1 Approach to Quality measurement and control.
- .4 Risk Management Program (see Definitions);
  - .1 Collaborative project team effort with the (D/R) to develop the D/R Risk Management Plan.
- .64 Project Team:
  - .1 Typically includes:
    - .1 Departmental Representative; and
    - .2 Project Delivery Stage services category Team entities such as, Design Consultant and Construction Manager who may be separately but concurrently in contract with Departmental Representative to be part of an integrated delivery process.
  - .2 Team may also include:
    - .1 Independent third parties also in contract with PSPC; and
    - .2 User Department and Operational personnel.
- .65 Purpose and Need:
  - .1 TOR article.
  - .2 Project's Purpose and Need is defined to enable consultant / contractor to set the framework and understand expected evaluation standards during the exploration and development of design alternatives.
- .66 PSPC Cx Advisor:
  - .1 Government commissioning liaison amongst all project stakeholders and reports to the Departmental Representative;
  - .2 A Cx Team member;
  - .3 Provides due diligence overview; and
  - .4 Responsible for delivering the Final Cx Evaluation Report.
- .67 Quality:
  - .1 The degree to which the Work meets or exceeds the Project requirements and expectations.
- .68 Quality Assurance (QA) Reviews:
  - .1 QA Reviews of Project Milestone submissions are scope and activities associated with the QA Plan – see QMP Definition;
    - .1 Design Consultant remains professionally accountable for Consultant required milestone submissions during the project life cycle; and
    - .2 QA Reviews are an advisory service to the project team and stakeholders where respective submission/deliverable accountabilities remain in effect as per contractual conditions or other forms of commitment.
  - .2 QA Reviews, supported by commentary, conclude with a risk assessment associated with design and documentation Quality, and include:
    - .1 Verification parameters to confirm at the onset of a review whether deliverables are appropriately scoped and detailed with respect to current milestones or phase submissions.
  - .3 QA Reviews focus on Quality Indicators (QI) associated with Design (DQI) and Delivery (QDI).
  - .4 Design Quality Indicators (DQI):
    - .1 3 Aspects of DQI:
      - .1 Functionality – design utility;



- .2 Build Quality – design performance, and;
- .3 Impact – project contextual interactivity (such as cultural, market, environmental conditions/factors);
  - .1 Project impact on context; and
  - .2 Context impact on project.
- .2 Each DQI aspect is applied to each of the PSPC 7 Stewardship Excellence Protocols Principles (see Definitions)
  - .1 As each DQI Aspect is applied to the Protocol Principles, each Aspect is also assessed against the same 6 characteristics:
    - .1 Conceptual Integrity;
    - .2 Functionality;
    - .3 Operability;
    - .4 Constructability;
    - .5 Biddability; and
    - .6 Claims Prevention.
- .5 Quality Delivery Indicators (QDI);
  - .1 Focus on documentation delivery
    - .1 Submitted documentation is assessed against 6 characteristics:
      - .1 Clarity;
      - .2 Completeness;
      - .3 Compliance;
      - .4 Consistency;
      - .5 Correctness; and
      - .6 Traceability.
- .69 Quality Management Plan (QMP):
  - .1 Component of the Project Procedures Manual (PPM) – refer to Definition;
    - .1 The Plan is structured to reflect project phases and respective Project Team’s required service categories such as, Design Consultant or Construction Manager.
  - .2 Project progress, to Post Occupancy, is assessed against the QMP;
  - .3 Live document throughout the project life cycle;
  - .4 Integral to Project Oversight services.
  - .5 Establishes how quality is to be managed and gauged and how the process will be improved throughout the project life cycle;
    - .1 Includes procedures for continuous process monitoring and quality improvement, and;
    - .2 As part of the QP process/activity, Consultants and Contractors may develop their respective disciplinary PMPs and QMPs in mutual support of each other processes and in support of the Departmental Representative’s PMP.
  - .6 Identifies/confirms, quantifiable and measureable quality related performance requirements to be achieved for both the management of the project/process and the management of the product, outcome, or deliverable;



- .7 Determines acceptance methods for:
  - .1 Deliverables being produced to quality/performance levels and
  - .2 Design, procurement, and construction processes being managed and delivered in an effective and appropriate manner.
- .8 Consists of four (4) continuously interrelated processes that are applicable to respective service categories supporting plans and their accompanying details to be linked to the respective tasks/deliverables;
  - .1 Quality Planning (QP):
    - .1 Process of identifying/confirming quality requirements and/or standards for the project and deliverables, and documenting how the project will demonstrate compliance;
    - .2 Process of reviewing project processes and supporting deliverables and detailing their corresponding quality standards in the Quality Assurance (QA) and Quality Control (QC) of the QMP;
    - .3 Process of establishing, for example, Quality related standards, metrics, checklists and problem remediation strategies, and;
    - .4 Deliverables, such as: Quality Metrics and Scope, Cost, Schedule, Risk Management Plan(s), and baseline performance narratives.
      - .1 Refer to TOR for project specific related Deliverables.
  - .2 Quality Assurance (QA) Plan:
    - .1 Procedures for conducting all Design and Construction reviews.
    - .2 Process of identifying, assessing, responding to, monitoring and controlling project Quality;
    - .3 Process of iterative reviews, providing confidence that quality requirements are being fulfilled and confirming the Quality Control (QC) programs effectiveness;
    - .4 Process of establishing, for example, data collection, distribution and response structure for planning data collection, and;
    - .5 Deliverables, such as: Design and Construction QA Review commentaries and risk to Quality assessment, Site Reviews/Inspections and Issues/Resolution Logs.
      - .1 QA Review – see Definitions.
      - .2 Refer to TOR for project specific related Deliverables.
  - .3 Quality Control (QC) Plan:
    - .1 Process of developing procedures, systems, and controls to address and mitigate negative impacts due to unexpected conditions internal and external to the project;
    - .2 Process of monitoring project deliverables to verify that the deliverables are of acceptable quality, completeness and correctness;
    - .3 Process for records maintenance and retrieval, and;



- .4 Deliverables, such as schedules, QC Tools and Methodologies, QC Metrics, Guidelines (for routine technical activities - reviews, testing, inspections and action) and QC Reporting.
  - .1 Refer to TOR for project specific related Deliverables.
- .4 Independent Verification and Validation Plan (IV&VP);
  - .1 Process of evaluating project and deliverables by an independent third party, to confirm they meet specified requirements (verification), and meet the needs of the intended target performance/audience (validation);
  - .2 Process for high risk and complex projects, and;
  - .3 For deliverables, refer to TOR if project is determined to be high risk and complex.
- .70 Quality Control (QC) Methodologies and Tools:
  - .1 QC Tools and Methodologies involves the consideration of:
    - .1 Availability of construction materials and cost comparisons;
    - .2 Project costs and expenditures;
    - .3 Project schedule and progress;
    - .4 Construction and constructability methods and available skill levels;
    - .5 Scope and quality of design, construction materials and systems overview;
    - .6 Alternative approaches to completing the work;
    - .7 Issues/Resolution logs;
    - .8 Risk Assessment/Impact on Quality Matrixes;
    - .9 Change and Change Order control;
    - .10 Life Cycle Cost analysis;
    - .11 Sustainability strategies;
    - .12 Commissioning strategies;
    - .13 Value Engineering;
    - .14 Risk Management, and;
    - .15 Claims Avoidance.
- .71 Quality Control (QC) Processes and Metrics document:
  - .1 QC Processes and Metrics forecast and evaluate management process and deliverable quality;
  - .2 QC Processes and Metrics application involve:
    - .1 Development of project activities to be executed;
    - .2 Description of procedures, roles and responsibilities, and levels of authority;
    - .3 Documentation: Type, outline formats and corresponding reporting schedules.
  - .3 QC Processes, and Metrics are applied to:
    - .1 Project Management program;
    - .2 Monitoring project and reporting (as per a schedule);
    - .3 Records management: Collection, maintenance, storage, tracking and retrieval;
    - .4 Implementation of a Quality Assurance program;
    - .5 Preparation, updating, monitoring and maintenance of the Master documents:



- .1 Schedules, Cost Plans, Cash Flow Progress Payment and Change Orders.
  - .6 Update, monitor and maintain the Cost Plan, Progress Payments, Change Orders and Cash Flow;
  - .7 Communication management as directed by the Departmental Representative between project delivery team participants based upon the documented roles, responsibilities and authority of team members, and a listing of meetings, frequency and type;
  - .8 Correspondence, reports and performance records management;
  - .9 Electronic correspondence distribution;
  - .10 Shop Drawings distribution and review processes;
  - .11 The Tender Package/Own Forces Contracts and Change Orders review and approval processes; and
  - .12 Maintenance of the Issues/Resolution log throughout the project life cycle recording participants, and the date and location of all decisions affecting schedule, budget, scope, or quality.
- .72 Risk Management (RM) Program/Plan:
- .1 A component of the Project Procedures Manual (PPM);
  - .2 Departmental Representative (D/R) as Lead, initiates and maintains a RM Program to be in compliance with PSPC National Project Management System (NPMS) requirement for a D/R RM Plan.
  - .3 The objective of the Plan is to develop a methodology to improve risk management by:
    - .1 Establishing risk policies to ensure acceptable levels of non-compliance as per D/R RM Plan;
    - .2 Focusing on external and internal risk parameters, and;
    - .3 Articulating an approach/framework to identifying risk and its impact in advance and managing the risk with the goal of reducing, transferring or avoiding risk where appropriate.
  - .4 Program and Plans are collaboratively monitored and amendments are proposed to the D/R by the Project Team as required for an effective project delivery.
- .73 Roles and Responsibility Matrix (R&R Matrix):
- .1 A Partnering Session output which is incorporated in the Project Procedures Manual (PPM);
    - .1 Design Consultant acts as Lead on the development and is responsible for completing updates throughout the Project life cycle.
      - .1 Every version requires the Departmental Representative's acceptance.
    - .2 Mutually enforced, collaboratively monitored, and amended by the Project Team as required for an effective project delivery.
  - .2 Establishes pre-construction, construction and project delivery closeout roles and responsibilities. Requires an understanding of:



- .1 Contractual and functional links, lines of communication and related activities, project team consensus building, review processes, data gathering, documentation of deliverables, and methods for identifying responsible parties in conditions of overlapping/parallel activities.
  - .3 Includes assignment specific matrixes such as a Commissioning Responsibility Assignment Matrix.
  - .4 The R&R Matrix, a summary of services and deliverables is not at the exclusion of overall contractually Required Services.
- .74 Schematic Design (SD):
- .1 Specific to Design Consultant and Construction Management (CM) project contracts;
  - .2 Subsequent to the Pre-Design development of the Functional Program (FP) and Owner's Project Requirements (OPR), SD provides an opportunity for Project Team QA Reviews, and a method to fully investigate and fine tune the design before beginning Design Development (DD);
  - .3 SD detail includes preliminary selection of assemblies, systems and load calculations;
  - .4 Consultant's SD Report is completed with sufficient detail to facilitate the Project Team with further Project Procedures Manual development.
- .75 Semi-at-Risk (CMA/c Contracts)<sup>1</sup> :
- .1 Common and unique PSPC/NPMS term for CM Contracts involving CMc Required Services;
  - .2 CMc safely facilitates and coordinates project:
    - .1 Implementation/Construction, Delivery Close Out Work, Subcontractors and Own Forces Work to maximize quality, limit the schedule, and prioritize costs;
  - .3 CMc, in contract with multiple Subcontractors and Suppliers is:
    - .1 Responsible for the Project Execution Plan (related to, Implementation, Delivery and Close Out phases) including construction means, methods, sequences and procedures to ensure quality performance and delivery, and;
    - .2 Accountable for contracting risks inherent in each of the sub-contracts and assumes responsibility for the respective performance, much as a general contractor would under the traditional methods of design/bid/build;
      - .1 Basis of payment associated with Sub-Contracts or Own Forces Work is as a cost reimbursement.
  - .4 The CMA provides oversight on CMc Work including:
    - .1 Project management and planning, cost management, time management, risk management, quality management, contract administration, safety management and claims prevention.
- .76 Standard Operating Procedures (SOP);
- .1 Systems Operations Manual component.
  - .2 Procedures are to meet the Canada Labour Code requirement of "every employer" (User Department) by way of "a qualified person to set out, in writing, instructions for operations, inspections, testing, clearing and maintenance" of various components, systems and integrated systems.



- .1 Updated throughout the building lifecycle for continued safe and consistent work practices.
- .2 Capable of being the basis for the development of Departmental policies.
- .3 Includes site specific:
  - .1 Equipment, chemicals and other concerns such as life safety compliance, emergency provisions/procedures, security, access, sustainability and the environment.
  - .2 Series of flow charts designed to model the actions, activities and network of interconnected activities associated with systems and related operations and maintenance.
- .77 Stewardship Excellence Protocol Principles:
  - .1 PSPC Real Property Branch oversight tool to:
    - .1 Define Quality of its real property solutions; and
    - .2 Guide the design, delivery and management of its assets.
  - .2 Seven (7) Protocol Principles:
    - .1 Creativity and Technical Competence;
      - .1 Create solutions in accordance with good design principles with an ingenious and productive team.
    - .2 Functional Suitability;
      - .1 Appropriate for use and place. Fit-for-purpose solutions.
    - .3 Whole-of-Life Performance;
      - .1 Enhanced long-term economic advantage and value.
    - .4 Health, Safety and Security;
      - .1 Healthy, safe and comfortable workplace.
    - .5 Inspiring and Attractive;
      - .1 Expression of civic significance, cultural values and sense of place.
    - .6 Appropriate Innovation; and
      - .1 Ingenious solutions in response to current and future needs and changing uses.
    - .7 Sustainable and Enduring;
      - .1 Environmentally responsive, timeless and durable solutions.
- .78 Sub-Project:
  - .1 User Department/Departmental Representative project work completed by a Departmental Service Provider requiring a coordinated delivery in a main capital works project, for example:
    - .1 IT works, Furniture delivery and installation;
      - .1 Refer to Building Components and Connectivity (BCC) in Definitions.
    - .2 If work takes place in the same space and time as capital works then capital work's health and safety plan governs Sub-Project work.
- .79 Supports (as per Roles and Responsibilities Matrix):
  - .1 Provides subject matter expertise and resources to complete the required services and deliverables to achieve the Work results.
- .80 Systems:
  - .1 Refer to CSA Z320 Article, 5 Specific systems.



- .81 Systems Operations Manual (SOM) (Systems Descriptions/Systems Manual):
  - .1 Developed throughout the project lifecycle.
  - .2 Refer to CSA Z320 Article 3, Definitions;
  - .3 Extend the CSA Definition to include in emergency conditions as a mode of operation.
  - .4 Normally produced by the Construction Manager/Contractor and as part of the CPD integrated process with Support by the Design Consultant and Departmental Representative.
    - .1 Requires Cx Process Manager sign-off at contract Substantial Performance.
  - .5 Standard Operating Procedures (SOP) document is a component of (SOM) – see SOP Definition.
- .82 Value Engineering (VE)
  - .1 Value Engineering (Assessment) methodology, as related to competing options assessment, emphasizes the return-on-investment aspect of decision making in terms of LCC to maintain or improve on desired levels of capability and performance during planning, design, construction and procurement.
    - .1 When the options satisfy the required function, then the best value option is identified by comparing the first costs and life-cycle costs of each alternative.
  - .2 Refer to industry standard practices for value methodologies associated with buildings and building systems such as, SAVE and ASTM Standards.
  - .3 Also refer to Life-Cycle Costs definition.
- .83 Verify (as per Roles and Responsibilities Matrix):
  - .1 Confirm the accuracy or completeness of Work and the results.
- .84 Work:
  - .1 Refer to Contract Documents: General Conditions (GCs).
- .85 Work Breakdown Structure (WBS):
  - .1 Integral to the Master Schedule and Project Execution Plan – see Definitions.

----- END -----



## Construction Management (CM) Services

- CMa (Advisory Services)
- CMc (Construction Services)

# DIVISION 01

# GENERAL REQUIREMENTS

## CCG Wharf Repairs

For:

Department of Fisheries and Oceans  
(DFO)

Canadian Coast Guard (CCG)

Norman Wells, Northwest Territories

March 28, 2017



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## 1. DIVISION 01 – GENERAL REQUIREMENTS

### 1.1 GENERAL

#### 1.1.1 MASTERFORMAT

- .1 Division 01, General Requirements are structured using MasterFormat 2016 Section title numbering system.

#### 1.1.2 DIVISION 01 – CM AS “GENERAL” CONTRACTOR (CMc)

- .1 Perform the Work in accordance with contract documents including, Division 01 requirements below.

#### 1.1.3 DIVISION 01 – CM AS CMc, TENDERING FOR SUB-CONTRACTORS

- .1 Division 01 directed at Sub-Contractor(s)/Sub-Trade(s);
  - .1 Lead and prepare, in collaboration with the Departmental Representative and Design Consultant, Sub-Contractor Tender Package specific Division 01.
  - .2 Prepare Division 01 requirements using the PSPC/NRC, National Master Specifications (NMS) latest data base version.

### 1.2 01 11 00 – SUMMARY OF WORK

#### 1.2.1 WORK SEQUENCE

- .1 Maintain fire access/control.

#### 1.2.2 WORK BY OTHERS

- .1 Co-operate with other Contractors in carrying out their respective works and carry out instructions from the Departmental Representative.
- .2 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor report promptly to the Departmental Representative in writing any defects which may interfere with proper execution of Work.
- .3 Contractors within the construction site will also be subject to the coordination and safety overview of the CMc.

#### 1.2.3 CONSTRUCTION MANAGER USE OF PREMISES

- .1 Restricted use of site and premises as directed by the Departmental Representative until Substantial Performance.
- .2 Limit use of premises for Work, and for storage.
- .3 Utilize indicated Laydown Area for all storage, all vehicle and equipment parking, and all site offices and trailers.
- .4 Maintain Laydown Area to prevent dusting and mud.
- .5 Make good Laydown Area to original condition, composition, nature and character upon completion of Work.
- .6 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

#### 1.2.4 THE DEPARTMENTAL REPRESENTATIVE FURNISHED ITEMS

- .1 Construction Manager Responsibilities:
  - .1 Disassemble, ship and reassemble all items being relocated;
  - .2 Arrange for replacement of damaged, defective or missing items;



- .3 Designate submittals and delivery date for each product in progress schedule;
- .4 Review shop drawings, product data, samples, and other submittals. Submit to the Departmental Representative notification of observed discrepancies or problems anticipated due to non-conformance with Contract Documents;
- .5 Receive and unload products at site;
- .6 Inspect deliveries jointly with the Departmental Representative; record shortages, and damaged or defective items;
- .7 Handle products at site, including uncrating and storage;
- .8 Protect products from damage, and from exposure to elements;
- .9 Assemble, install, connect, adjust, and finish products;
- .10 Provide installation inspections required by public authorities; and
- .11 Repair or replace items damaged by the Construction Manager or subcontractor on site.

### **1.2.5 EXISTING SERVICES**

- .1 Provide alternative routes for personnel, pedestrian and vehicular traffic.
- .2 Submit schedule to and obtain approval from the Departmental Representative for any shut-down or closure of facility and docking services. Adhere to approved schedule and provide notice to affected parties.
- .3 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .4 Provide traffic control in the event of one lane access.
- .5 Where unknown services are encountered, immediately advise the Departmental Representative and confirm findings in writing.
- .6 When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .7 Record locations of maintained, re-routed and abandoned service lines.
- .8 Construct barriers in accordance with Section 01 56 00.
- .9 Provide and maintain for purposes of the Work access road within construction area for the Construction Manager's own construction vehicles, equipment and material access.

### **1.2.6 DOCUMENTS REQUIRED**

- .1 Maintain at job site one copy of each of the following documents:
  - .1 Contract Drawings;
  - .2 Specifications;
  - .3 Addenda;
  - .4 Shop Drawings;
    - .1 Schedule and log, complete with commentary, of shop drawing submissions/re-submissions for each Own Forces/Tender Package,
    - .2 Reviewed shop drawing,
    - .3 List of Outstanding shop drawings,
  - .5 Change Orders;



- .6 Other Modifications to Contract;
- .7 Field Test Reports;
- .8 Copy of Approved Work Schedule;
- .9 Health and Safety Plan and other safety related documents including daily documentation of health and safety matters;
- .10 Material and Safety Data Sheets;
- .11 Labour conditions and Wage Schedules;
- .12 Material and Labour Bonds;
- .13 Manufacturers' applicable instructions;
- .14 Municipal and Territorial Permits;
- .15 Other documents as specified.

### **1.3 01 14 00 – WORK RESTRICTIONS**

#### **1.3.1 ACCESS AND EGRESS**

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, territorial and other regulations.

#### **1.3.2 SPECIAL REQUIREMENTS**

- .1 Check in at indicated Check Point at all times of entry and exit from the Work Site and Laydown areas.
- .2 Coordinate delivery of materials with barge delivery schedules unless otherwise approved by the Departmental Representative.
- .3 Carry out work at times as directed by governing authorities with minimum disturbance to pedestrian, vehicular traffic and operations.
- .4 Submit schedule in accordance with Section 01 32 15.
- .5 Ensure that the Construction Manager Own Forces and personnel employed on site become familiar with and abide by regulations including safety, fire, traffic and security regulations.
- .6 Keep within limits of Work and ingress and egress access.
- .7 Keep within limits of Site.

#### **1.3.3 SECURITY**

- .1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.

### **1.4 01 29 00 – PAYMENT PROCEDURES**

#### **1.4.1 APPLICATION FOR PROGRESS PAYMENT**

- .1 Submit to Department Representative, at least 14 days before first application for payment a Cost Breakdown in detail as directed by the Department Representative for parts of Work, aggregating total amount of each Contract Amount, so as to facilitate evaluation of applications for payment. After approval by the Department Representative the Cost Breakdown will be used as basis for progress payments.
- .2 Support claims for products delivered to Place of Work but not yet incorporated into Work by such evidence as the Department



Representative may reasonably require to establish value and delivery of products.

## **1.5 01 29 83 – PAYMENT PROCEDURES: TESTING LABORATORY SERVICES**

### **1.5.1 APPOINTMENT AND PAYMENT**

- .1 Obtain and pay for services of an accredited inspection/testing laboratory for:
  - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities;
  - .2 Inspection and testing performed exclusively for the Construction Manager's convenience;
  - .3 Commissioning performance testing and verification;
  - .4 Mill tests and certificates of compliance;
  - .5 Tests specified to be carried out by the Construction Manager.
- .2 Where tests or inspections by an accredited testing laboratory reveal Work not in accordance with contract requirements pay costs for additional tests or inspections as required by the Departmental Representative to verify acceptability of corrected work.
- .3 Inspection/testing agencies engaged by the Construction Manager shall be reviewed by and be acceptable to the Departmental Representative.
- .4 The Departmental Representative, at the Departmental Representative's expense may also engage inspection/testing agencies as may be deemed required.

### **1.5.2 CONSTRUCTION MANAGER'S RESPONSIBILITIES**

- .1 Provide, for the Construction Manager's and the Departmental Representative's inspection/testing agencies, labour, equipment and facilities to:
  - .1 Provide access to Work to be inspected and tested;
  - .2 Facilitate inspections and tests;
  - .3 Make good Work disturbed by inspection and test;
  - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples;
  - .5 Notify the Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of tests;
  - .6 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory;
  - .7 Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by the Departmental Representative.

## **1.6 01 31 19 – PROJECT MEETINGS**

### **1.6.1 ADMINISTRATIVE**

- .1 Schedule and administer project meetings throughout the progress of the work.



- .1 Schedule separate and/or combined Own Forces and Sub-Contractor meetings as required.
- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting four days in advance of meeting date to the Departmental Representative.
- .4 Provide physical space and make arrangements for meetings.
- .5 Preside at meetings.
- .6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
- .7 Reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants and, affected parties not in attendance and the Departmental Representative.
- .8 Representative of the Construction Manager, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

### 1.6.2 PRECONSTRUCTION MEETING

- .1 Within 7 days after each Contract award, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 The Departmental Representative, the Construction Manager, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3 Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include:
  - .1 Appointment of official representative of participants in the Work;
  - .2 Schedule of Work: in accordance with Section 01 32 15;
  - .3 On-site organization, lines of authority and communication;
  - .4 Shop Drawing Log, schedule of submission of samples, colour chips, product data. Submit submittals in accordance with Section 01 33 00;
  - .5 Commissioning;
  - .6 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00;
  - .7 Delivery schedule of specified equipment in accordance with the applicable Section;
  - .8 Site security in accordance with Section 01 56 00.
  - .9 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements;
  - .10 The Departmental Representative provided products;
  - .11 Record drawings in accordance with Section 01 33 00;
  - .12 Maintenance manuals in accordance with Section 01 78 00;



- .13 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00;
- .14 Monthly progress claims, administrative procedures, photographs, hold backs;
- .15 Appointment of inspection and testing agencies or firms;
- .16 Insurances, transcript of policies.

### 1.6.3 PROGRESS MEETINGS

- .1 During course of Work schedule separate construction and commissioning progress meetings every two weeks.
- .2 The Construction Manager, major Subcontractors involved in Work and the Departmental Representative are to be in attendance.
- .3 Notify parties minimum 5 days prior to meetings.
- .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 2 days after meeting.
- .5 Agenda to include the following items such as:
  - .1 Review, approval of minutes of previous meeting;
  - .2 Review of Work progress since previous meeting;
  - .3 Field observations, problems, conflicts;
  - .4 Problems which impede construction schedule;
  - .5 Review of off-site fabrication delivery schedules;
  - .6 Corrective measures and procedures to regain projected schedule;
  - .7 Revision to construction schedule;
  - .8 Progress schedule, during succeeding work period;
  - .9 Review submittal schedules: expedite as required;
  - .10 Commissioning;
  - .11 Maintenance of quality standards;
  - .12 Review proposed changes for effect on construction schedule and on completion date;
  - .13 Review of Health and Safety matters including daily log updates;
  - .14 Other business.

## 1.7 01 32 15 – CONSTRUCTION PROGRESS SCHEDULES

### 1.7.1 GENERAL

- .1 Use a project management control system based on Critical Path Method (CPM) and Bar (GANTT) Chart techniques as may be required and agreed upon by the Departmental Representative to achieve project Work demands.
- .2 Scheduled reviews by the Departmental Representative shall not mean approval of detail inherent in the schedule. This responsibility lies with the Construction Manager.

### 1.7.2 DEFINITIONS

- .1 Master Plan: summary-level schedule that identifies major activities and key milestones.
- .2 Project Plan: formal, approved document used to guide both Project



execution and Project control. Primary uses of Project plan are to document planning assumptions and decisions, facilitate communication among stakeholders, and document approved scope, cost, and schedule baselines. Project plan may be summary or detailed.

- .3 Project Schedule: planned dates for performing activities and planned dates for meeting milestones.
- .4 Risk: uncertain event or condition that, if it occurs, has positive or negative effect on Project's objectives.
- .5 Work Breakdown Structure (WBS): deliverable-oriented grouping of project elements that organizes and defines total Work scope of Project. Each descending level represents increasingly detailed definition of Project Work.

### 1.7.3 SYSTEM DESCRIPTION

- .1 Construction Progress Schedule (Project Time Management): describes processes required to ensure timely completion of Project. These processes ensure that various elements of Project are properly coordinated. It consists of planning, time estimating, scheduling, progress monitoring and control.
- .2 Project monitoring and reporting: as Project progresses, keep team aware of changes to schedule, and possible consequences. In addition to Bar Charts and CPM networks, use narrative reports to provide advice on seriousness of difficulties and measures to overcome them.
- .3 Narrative reporting begins with statement on general status of Project followed by summarization of delays, potential problems, corrective measures and Project status criticality.

### 1.7.4 SCHEDULE REQUIREMENTS

- .1 Ensure Master Plan and Detail Schedule are practical and remain within specified Contract duration.
- .2 Acceptance of Master Plan and Detail Schedule showing scheduled Contract duration shorter than specified Contract duration does not constitute change to Contract. Duration of Contract may only be changed through bilateral Agreement.
- .3 Consider Master Plan and Detail Schedule showing Work completed in less than specified Contract duration, to have float.
- .4 Calculate dates for completion milestones from Plan and Schedule.
- .5 Delays to non-critical activities, those with float may not be basis for time extension.
- .6 Allow for and show Master Plan and Detail Schedule adverse weather conditions normally anticipated. Specified Contract duration has been predicated assuming normal amount of adverse weather conditions.
- .7 Provide necessary crews and manpower to meet schedule requirements for performing Work within specified Contract duration. Simultaneous use of multiple crews on multiple fronts on multiple critical paths may be required.
- .8 Arrange participation on and off site of Construction Manager's Contractors, Own Forces and suppliers, as required by the Departmental Representative for purpose of network planning, scheduling, updating and progress monitoring. Approvals by the Departmental Representative of original



networks and revisions do not relieve Construction Manager from duties and responsibilities required by Contract.

- .9 Substantial Performance Certificate and Completion Certificate as defined times of completion are of essence of this contract.
  - .1 In advance certifying Own Forces and Sub-Contractors' respective contracts, prepare lists of incomplete and deficient items, "punch list";
    - .1 Schedule completion of items; and
    - .2 Provide the Departmental Representative with respective lists.
  - .2 In advance of project Work, Substantial Performance and Completion Certifications prepare "punch lists";
    - .1 Schedule completion of items; and
    - .2 Provide the Departmental Representative with respective lists.

### 1.7.5 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00.
- .2 Submit preliminary construction progress schedule and Commissioning Schedule within 14 days of contract award to the Departmental Representative for review.
- .3 Coordinate with the Departmental Representative's project schedule.
- .4 After review, revise and resubmit schedule to comply with revised project schedule.
- .5 During progress of Work revise and resubmit as directed by the Departmental Representative.
- .6 Submit to the Departmental Representative Project Control System for planning, scheduling, monitoring and reporting of project progress.
- .7 Submit Project Control System to the Departmental Representative for approval; failure to comply with each required submission, may result in progress payment being withheld in accordance with Federal Government's Terms of Payment.
  - .1 Refer to article "Progress monitoring and reporting" of this specification Section for frequency of Project control system submittals.
- .8 Submit Project planning, monitoring and control system data as required by the Departmental Representative in the following form:
  - .1 CD files as specified here in original scheduling software containing schedule and cash flow information, labelled with data date, specific update, and person responsible for update;
  - .2 Master Plan Bar Chart;
  - .3 Construction Detail schedule Bar Chart;
  - .4 Listing of project activities and tender packages including milestones and logical connectors, networks from Project start to end. Sort activities by activity identifier and accompany with descriptions. List early and late start and finish dates together with durations, codes and float time;
  - .5 Criticality report listing activities and milestones with days total float;
  - .6 Progress report in early start sequence, listing for each trade or tender package, activities due to start, underway, or finished within two



months from monthly update date. List activity identifiers, description and duration.

#### **1.7.6 QUALITY ASSURANCE**

- .1 Use experienced personnel, fully qualified in planning and scheduling to provide services from start of construction to Final Certificate, including Commissioning.

#### **1.7.7 PROJECT MEETING**

- .1 Meet with the Departmental Representative within 5 working days of each Award of Sub-Contract or Own Forces date, to establish Work requirements and approach to project construction operations.

#### **1.7.8 WORK BREAKDOWN STRUCTURE (WBS)**

- .1 Prepare construction Work Breakdown Structure (WBS) within 5 working days of Award of Sub-Contract or Own Forces date.

#### **1.7.9 PROJECT MILESTONES**

- .1 Project milestones include:
  - .1 Award;
  - .2 Submissions such as shop drawings and samples;
  - .3 Mock-ups;
  - .4 Permits;
  - .5 Mobilization and demobilization;
  - .6 Demolition;
  - .7 Tender Packages/Own Forces Work;
  - .8 Superstructure such as steel;
  - .9 Concrete Work;
  - .10 Earthwork;
  - .11 Commissioning;
    - .1 Components,
    - .2 Systems,
    - .3 Integrated Systems,
    - .4 Final Commissioning Report,
  - .12 Training;
  - .13 Partial Interim and Interim Certificate(s) of Completion;
  - .14 Final Certificate Completion.

#### **1.7.10 MASTER PLAN**

- .1 Structure and base construction progress / networks system on WBS coding.
- .2 Prepare comprehensive construction Master Plan and dependent Cash Flow Projection within 5 working days of finalizing agreement proceed with construction.
  - .1 Master Plan will be used as baseline;
    - .1 The Departmental Representative will review and return revised baseline within 10 working days.
- .3 Reconcile revisions to Master Plan and Cash Flow Projections with previous



baseline to provide continuous audit trail.

- .4 Initial and subsequent Master Plans will include:
  - .1 CD containing schedule and cash flow information, clearly labeled with data date, specific update, and Construction Manager's person responsible for update;
  - .2 Bar chart identifying coding, activity durations, early/late and start/finish dates, total float, completion as percentile, current status and budget amounts;
  - .3 Network diagram showing, activity sequencing (logic), total float, early/late dates, current status and durations;
  - .4 Actual/projected monthly cash flow: expressed annually and monthly and shown in both graphical and numerical form.

#### **1.7.11 DETAIL SCHEDULE**

- .1 Provide detailed project schedules within 5 working days of agreement to proceed with construction, showing activity sequencing, interdependencies and duration estimates. Include listed activities as follows:
  - .1 Shop drawings;
  - .2 Samples;
  - .3 Approvals;
  - .4 Procurement;
  - .5 Construction;
  - .6 Installation;
  - .7 Site works;
  - .8 Testing;
  - .9 Commissioning and acceptance.
- .2 Relate Detail Schedule activities to basic activities and milestones developed and approved in Master Plan.
- .3 Insert Change Orders in appropriate and logical location of Detail Schedule. After analysis, clearly state and report to the Departmental Representative for review effects created by insertion of new Change Order.

#### **1.7.12 REVIEW OF THE CONSTRUCTION DETAIL SCHEDULE**

- .1 Allow 10 workdays for review by the Departmental Representative of proposed construction Detail Schedule.
- .2 Upon receipt of reviewed Detail Schedule make necessary revisions and resubmit to the Departmental Representative for review within 5 workdays.
- .3 Promptly provide additional information to validate practicability of Detail Schedule as required by the Departmental Representative.
- .4 Submittal of Detail Schedule indicates that it meets Contract requirements and will be executed generally in sequence.

#### **1.7.13 COMPLIANCE WITH DETAIL SCHEDULE**

- .1 Comply with reviewed Detail Schedule.
- .2 Proceed with significant changes and deviations from scheduled sequence of activities that cause delay, when agreed by the Departmental Representative.



- .3 Identify activities that are behind schedule and causing delay. Provide measures to regain slippage.
  - .1 Construction delays affecting project schedule will not constitute justification for extension of contract completion date.
- .4 In the event of a request for Contract extension, submit as per a pre-agreed upon scheduled review periods to the Departmental Representative, justification, project schedule data and supporting evidence for extension to Construction Manager's Contract or Construction Manager's Contractors' completion date, or partial or interim acceptance milestone date when required. Include as part of supporting evidence:
  - .1 Written submission of proof of delay based on revised activity logic, duration and costs, showing time impact analysis illustrating influence of each change or delay relative to approved contract schedule;
  - .2 Prepared schedule indicating how change will be incorporated. Demonstrate perceived impact based on date of occurrence of change and include status of construction at that time;
  - .3 Other supporting evidence requested by the Departmental Representative.

#### **1.7.14 CONSTRUCTION PROGRESS MONITORING AND REPORTING**

- .1 On ongoing basis, Detail Schedule on job site must show "Progress to Date". Arrange participation on and off site of Construction Manager's Own Forces, Contractors and suppliers, as, and when necessary, for purpose of network planning, scheduling, updating and progress monitoring. Inspect Work with the Departmental Representative at least once monthly to establish progress on each current activity shown on applicable networks.
- .2 Update and reissue project Work Breakdown Structure and relevant coding structures as project develops and changes.
- .3 Perform Detail Schedule update monthly with status dated (Data Date) on last working day of month. Update to reflect activities completed to date, activities in progress, logic and duration changes, [Also include Work progress regarding:
  - .1 Construction;
    - .1 Own Forces Work,
    - .2 Sub-Contractors' Works,
- .4 Submit to the Departmental Representative copies of updated Detail Schedule.
- .5 Requirements for monthly progress monitoring and reporting are basis for progress payment request.
- .6 Submit monthly written report based on Detail Schedule, showing Work to date performed, comparing Work progress to planned, and presenting current forecasts. Report must summarize progress, defining problem areas and anticipated delays with respect to Work schedule, and critical paths. Explain alternatives for possible schedule recovery to mitigate any potential delay. Include in report:
  - .1 Invoicing Summary;
    - .1 Billing section broken down by tender package and itemized by trade,



- .2 Expenditures to date (including all change orders) in a format that compares the original budgets for each trade with the expected costs, including contingencies;
- .2 Description of progress and review of status of critical activities;
- .3 Cost Section – refer to TOR Section 2;
- .4 Schedule – refer to TOR Section 2;
- .5 Risk – refer to TOR Section 2;
- .6 Quality – refer to TOR Section 2;
- .7 Health and Safety;
- .8 Issues/Resolutions Log related to Construction/Implementation and Commissioning activities.
- .9 Daily Log, including site and documentation activities, quantities of materials received verification and record of Work progress through daily photographs and narrative reports. Record the following:
  - .1 Unusual weather conditions relative to Work progress;
  - .2 Materials and equipment deliveries;
  - .3 Daily activities and major Work done through all shifts of Work;
  - .4 Start, stop or completion of activities through all shifts of Work;
  - .5 Presence of inspection and testing firms, tests taken, results;
  - .6 Unusual Site conditions experienced;
  - .7 Significant developments, remarks, email or other correspondence, etc.
  - .8 Reports, instructions from appropriate authorities response actions;
  - .9 Strength on-Site by each Sub-Contractor and the;
  - .10 Status of Contractors' completion date and milestones;
  - .11 Safety inspections and reports;
  - .12 If work is based on unit prices, measure and record the quantities for verification of monthly progress claims and the Final Certificate of Measurement;
  - .13 Pending items and status of: permits, shop drawings, Change Orders, possible time extensions.

## **1.8 01 33 00 – SUBMITTAL PROCEDURES**

### **1.8.1 ADMINISTRATIVE**

- .1 Submit to the Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to the Departmental Representative.



This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

- .6 Notify the Departmental Representative in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are coordinated.
- .8 Construction Manager's responsibility for errors and omissions in submission is not relieved by the Departmental Representative's review of submittals.
- .9 Construction Manager's responsibility for deviations in submission from requirements of Contract Documents is not relieved by the Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.
- .11 Unless otherwise stated, ensure 4 reviewed copies of all submissions are available to be retained by the Departmental Representative.

### **1.8.2 SHOP DRAWINGS AND PRODUCT DATA**

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other product data which are to be provided by Construction Manager to illustrate details of a portion of Work.
- .2 Submit shop drawings bearing stamp and signature of qualified professional registered or licensed in Northwest Territories certifying as checked correct for construction.
  - .1 Submit in addition to specified number of hard copies in electronic pdf version. Confirm number of copies required by Agencies.
  - .2 Verify shop drawings include PSPC Project Number and are recorded in sequence of O&M and Systems Manuals.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow 10 working days for the Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as the Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify the Departmental Representative in writing of revisions other than those requested.



- .7 Accompany submissions with transmittal letter, containing:
  - .1 Date;
  - .2 Project title and number;
  - .3 Construction Manager's name and address;
  - .4 Identification and quantity of each shop drawing, product data and sample;
  - .5 Other pertinent data.
- .8 Submissions include:
  - .1 Date and revision dates;
  - .2 Project title and number;
  - .3 Name and address of:
    - .1 Construction Manager,
    - .2 Supplier,
    - .3 Manufacturer.
  - .4 Construction Manager's stamp, signed by Construction Manager's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents;
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Fabrication,
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances,
    - .3 Setting or erection details,
    - .4 Capacities,
    - .5 Performance characteristics,
    - .6 Standards,
    - .7 Operating weight,
    - .8 Relationship to adjacent work.
- .9 After the Departmental Representative's review, distribute copies.
- .10 Submit 6 prints of shop drawings for each requirement requested in specification Sections and as the Departmental Representative may reasonably request.
- .11 Submit 6 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by the Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit 6 copies of test reports for requirements requested in specification Sections and as the Departmental Representative may reasonably request.
  - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
- .13 Submit 6 copies of certificates for requirements requested in specification Sections and as the Departmental Representative may reasonably request.
  - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material



- attesting that product, system or material meets specification requirements.
- .2 Certificates must be dated after award of project contract complete with project name.
  - .14 Submit 6 copies of manufacturer's instructions for requirements requested in specification Sections and as the Departmental Representative may reasonably request.
    - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
  - .15 Submit 6 copies of Manufacturer's Field Reports for requirements requested in specification Sections and as the Departmental Representative may reasonably request.
    - .1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
  - .16 Submit 6 copies of Operation and Maintenance Data for requirements requested in specification Sections and as the Departmental Representative may reasonably request.
  - .17 Delete information not applicable to project.
  - .18 Supplement standard information to provide details applicable to project.
  - .19 If upon review by the Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
  - .20 The review of shop drawings by the Departmental Representative is for sole purpose of ascertaining conformance with general concept.
    - .1 This review shall not mean that the Departmental Representative approves detail design inherent in shop drawings, responsibility for which shall remain with Construction Manager submitting same, and such review shall not relieve Construction Manager of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
    - .2 Without restricting generality of foregoing, Construction Manager is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

### 1.8.3 SAMPLES

- .1 Submit for review samples in triplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to the Departmental Representative's site office.
- .3 Notify the Departmental Representative in writing, at time of submission of deviations in samples from requirements of the Construction Manager's specifications.



- .4 Where colour, pattern or texture is criterion, submit manufacturer's full range of samples.
- .5 Adjustments made on samples by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which the Departmental Representative may require, consistent with Construction Manager's drawings and specifications.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

#### **1.8.4 MOCK-UPS**

- .1 Erect mock-ups in accordance with 01 45 00.

#### **1.8.5 PROGRESS PHOTOGRAPHS**

- .1 Submit labeled progress photographs.
- .2 Each submission:
  - .1 Prints sizes from electronic format, 200 x 300 mm;
  - .2 Electronic format on CD.
- .3 Print Type: semi-matt colour with binding margin at one end.
- .4 Paper: single weight, not mounted.
- .5 Number of prints required: 3 sets.
- .6 Identification, print copy and electronic format: name and project number, viewpoint and date of photograph.
- .7 Viewpoints: interior and exterior locations: viewpoints determined by the Departmental Representative.
- .8 Frequency: twice monthly and with each progress statement.

### **1.9 01 35 43 – ENVIRONMENTAL PROCEDURES**

#### **1.9.1 DEFINITIONS**

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

#### **1.9.2 SUBMITTALS**

- .1 Submittals: in accordance with Section 01 33 00.
- .2 Prior to commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by the Departmental Representative. Environmental Protection Plan is to present



comprehensive overview of known or potential environmental issues which must be addressed during construction.

- .3 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .4 Environmental protection plan, include:
  - .1 Name of person responsible for ensuring adherence to Environmental Protection Plan;
  - .2 Name and qualifications of person responsible for training site personnel;
  - .3 Descriptions of environmental protection personnel training program;
  - .4 Erosion control plan which identifies type and location of erosion controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion control plan, Federal, Provincial, and Municipal laws and regulations;
  - .5 Drawings showing locations of proposed temporary excavations or embankments for haul roads, material storage areas and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site;
  - .6 Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plans include measures to minimize amount of mud transported onto paved public roads by vehicles or runoff;
  - .7 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas;
  - .8 Spill Control Plan: including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance;
  - .9 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris;
  - .10 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off project site;
  - .11 Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials;
  - .12 Waste water management plan that identifies methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water;
  - .13 Biological resources and wetlands plan that defines procedures for identifying and protecting biological resources and wetlands;
  - .14 Pesticide treatment plan: to be included and updated, as required.



### **1.9.3 FIRES**

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

### **1.9.4 DISPOSAL OF WASTES**

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

### **1.9.5 DRAINAGE**

- .1 Provide erosion and sediment control plan that identifies type and location of erosion and sediment controls to be provided. Include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .2 Storm Water Pollution Prevention Plan (SWPPP) to be substituted for erosion and sedimentations control plan.
- .3 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .4 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .5 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

### **1.9.6 POLLUTION CONTROL**

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

### **1.9.7 NOTIFICATION**

- .1 The Departmental Representative will notify Construction Manager in writing of observed noncompliance with Federal, Territorial or Municipal environmental laws or regulations, permits, and other elements of Construction Manager's Environmental Protection plan.
- .2 Construction Manager: after receipt of such notice, inform The Departmental Representative of proposed corrective action and take such action for approval by The Departmental Representative.
- .3 The Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Construction Manager for such suspensions.

## **1.10 01 41 00 – REGULATORY REQUIREMENTS**

### **1.10.1 REFERENCES AND CODES**



- .1 Perform Work in accordance with applicable codes, acts, regulations and standards including amendments up to tender closing date and other codes of territorial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
  - .1 Contract documents;
  - .2 Specified standards, codes and referenced documents.

### **1.10.2 HAZARDOUS MATERIAL DISCOVERY**

- .1 Asbestos: demolition of spray or trowel-applied asbestos is hazardous to health. Stop work immediately when material resembling spray or trowel-applied asbestos is encountered during demolition work. Notify the Departmental Representative.
- .2 PCB: Polychlorinated Biphenyl: stop work immediately when material resembling Polychlorinated Biphenyl is encountered during demolition work. Notify the Departmental Representative.
- .3 Mould: stop work immediately when material resembling mould is encountered during demolition work. Notify the Departmental Representative.

## **1.11 01 45 00 – QUALITY CONTROL**

### **1.11.1 INSPECTION**

- .1 Provide Daily inspection documentation of all aspects of the Sub-Contractors' related Work.
  - .1 Document matters for action, follow-up or referral to the Departmental Representative.
  - .2 Include photographs to document issues and associated corrections.
- .2 Allow the Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .3 Give at minimum, 3 working days' notice requesting inspection if Work is designated for special tests, inspections or approvals by the Departmental Representative instructions, or law of Place of Work.
- .4 If Construction Manager covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .5 The Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, the Departmental Representative shall pay cost of examination and replacement.

### **1.11.2 INDEPENDENT INSPECTION AGENCIES**

- .1 Notwithstanding the testing responsibilities of the Construction Manager, the Departmental Representative will conduct re-testing where deemed necessary.



- .1 Independent Inspection/Testing Agencies will be engaged by the Departmental Representative for purpose of inspecting and/or testing portions of Work.
- .2 Cost of such services will be borne by the Departmental Representative.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by the Departmental Representative at no cost to the Departmental Representative. Pay costs for retesting and re-inspection.

### **1.11.3 ACCESS TO WORK**

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

### **1.11.4 PROCEDURES**

- .1 Notify appropriate agency and the Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

### **1.11.5 REJECTED WORK**

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by the Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Work damaged by such removals or replacements promptly.
- .3 If in opinion of the Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, the Departmental Representative will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by the Departmental Representative.

### **1.11.6 REPORTS**

- .1 Submit 4 copies of inspection and test reports to the Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested.



### **1.11.7 TEST AND MIX DESIGNS**

- .1 Furnish test results and mix designs as requested by the Departmental Representative.
- .2 Include for tests and mix designs as specified.
- .3 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by the Departmental Representative and may be authorized as recoverable.

### **1.11.8 MOCK-UPS**

- .1 Prepare mock-ups for Work specifically requested in specifications.
- .2 Construct in locations acceptable to the Departmental Representative.
- .3 Prepare mock-ups for the Departmental Representative review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, the Departmental Representative will assist in preparing schedule fixing dates for preparation.
- .6 Mock-ups may remain as part of Work.

### **1.11.9 MILL TESTS**

- .1 Submit mill test certificates as requested by the Departmental Representative.

## **1.12 01 51 00 – TEMPORARY UTILITIES**

### **1.12.1 INSTALLATION AND REMOVAL**

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use.

### **1.12.2 DEWATERING**

- .1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

### **1.12.3 WATER SUPPLY**

- .1 Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal.

### **1.12.4 TEMPORARY HEATING**

- .1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.
- .2 Provide temporary heat and ventilation in enclosed areas as required to:



- .1 Facilitate progress of Work.
- .2 Protect Work and products against dampness and cold.
- .3 Prevent moisture condensation on surfaces.
- .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
- .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .3 Maintain strict supervision of operation of temporary heating to:
  - .1 Conform to applicable codes and standards;
  - .2 Enforce safe practices;
  - .3 Prevent abuse of services;
  - .4 Prevent damage to finishes;
  - .5 Vent direct-fired combustion units to outside.
- .4 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

#### **1.12.5 TEMPORARY POWER AND LIGHT**

- .1 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
- .2 Provide temporary power for electric cranes and other equipment as required.
- .3 Provide and maintain temporary lighting throughout project.
- .4 Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of the Departmental Representative provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract. Replace lamps which have been used for more than 3 months.

#### **1.12.6 TEMPORARY COMMUNICATION FACILITIES**

- .1 Provide and pay for temporary telephone, fax, data, e-mail, internet access hook up, lines, equipment necessary for own use.

#### **1.12.7 FIRE PROTECTION**

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

### **1.13 01 52 00 – CONSTRUCTION FACILITIES**

#### **1.13.1 REFERENCES**

- .1 Canadian Standards Association (CSA International):
  - .1 CSA-A23.1/A23.2-09 (2014), Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete;
  - .2 CSA-0121-09 (R2014), Douglas Fir Plywood;
  - .3 CAN/CSA-S269.2-M87 (R2003), Access Scaffolding for Construction Purposes;



.4 CAN/CSA-Z321-96(R2006), Signs and Symbols for the Occupational Environment.

.2 Master Painters Institute (MPI)

### **1.13.2 SUBMITTALS**

.1 Provide submittals in accordance with Section 01 33 00.

### **1.13.3 INSTALLATION AND REMOVAL**

.1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Construction Manager, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.

.2 Identify areas which have to be graveled to prevent tracking of mud.

.3 Indicate use of supplemental or other staging area.

.4 Provide construction facilities in order to execute work expeditiously.

.5 Remove from site all such work after use.

### **1.13.4 SCAFFOLDING**

.1 Scaffolding in accordance with CAN/CSA-S269.2.

.2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, and temporary stairs.

### **1.13.5 HOISTING**

.1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.

.2 Hoists cranes to be operated by qualified operator.

### **1.13.6 SITE STORAGE/LOADING**

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

### **1.13.7 CONSTRUCTION PARKING**

.1 Parking is restricted to indicated Laydown Area.

.2 Make good damage to roads used for project site access.

.3 Provide and maintain adequate access to project site.

.4 Clean site access areas/routes where used by Construction Manager's equipment.

### **1.13.8 OFFICES**

.1 Provide a separate site office for the Departmental Representative's use, lockable, complete with keys, furnishings and equipment.

.2 Provide site office heated to 22 degrees C, lighted 750 lux and ventilated and air conditioned:

.1 Site office, 24/7/365 occupancy, of sufficient size to at the minimum accommodate site meetings for 12 people, a furnished drawing laydown table and a serviced kitchenette;

.2 Provide at the minimum 3 serviced and operational voice/data outlets;

.3 One outlet in each enclosed office;



- .4 One outlet in the meeting area;
  - .5 Provide data line speed as best locally available;
  - .6 Provide and maintain operational a site office scanner/fax machine;
  - .7 Scanner capacity/bed to accommodate at the minimum a 279mm x 430mm page size.
- .3 Provide additional site offices as required to accommodate Construction Manager's operation.
  - .4 Subcontractors to provide their own offices as necessary. Direct location of these offices.
  - .5 Provide in each site office facility, marked and fully stocked first-aid cases in readily available locations.
  - .6 Locate all site office facilities in indicated Laydown Area.
  - .7 Make site good after decommissioning facilities.

#### **1.13.9 EQUIPMENT, TOOL AND MATERIALS STORAGE**

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

#### **1.13.10 SANITARY FACILITIES**

- .1 Provide sanitary facilities for work force and the Departmental Representative in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

#### **1.13.11 CONSTRUCTION SIGNAGE**

- .1 No construction advertisement signs, other than health and safety, warning and instructional signs, are permitted on site.
- .2 Maintain approved signs and notices in good condition for duration of project, and dispose of offsite on completion of project or earlier if directed by the Departmental Representative.

#### **1.13.12 PROTECTION AND MAINTENANCE OF TRAFFIC**

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by the Departmental Representative.
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .4 Protect traveling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Construction Manager: responsible for repair of damage to roads caused by construction operations.



- .7 Construct access and haul roads necessary.
- .8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- .9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .10 Dust control: adequate to ensure safe operation at all times.
- .11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by the Departmental Representative.
- .12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- .13 Provide snow removal during period of Work.
- .14 Remove, upon completion of work, haul roads designated by the Departmental Representative.

#### **1.13.13 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

### **1.14 01 56 00 – TEMPORARY BARRIERS AND ENCLOSURES**

#### **1.14.1 INSTALLATION AND REMOVAL**

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

#### **1.14.2 HOARDING FENCE**

- .1 Erect temporary site enclosures using purpose made, 1.8m high, modular, prefinished metal mesh, self-supporting, interlocking fencing.
- .2 Provide lockable truck entrance gate(s) and pedestrian door(s) as required and conforming to applicable traffic restrictions on adjacent streets and sites roadways. Equip gates with locks and keys.
- .3 Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law and directed by the Departmental Representative.
- .4 Maintain enclosure in clean condition.
- .5 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.
- .6 Fence and secure separately the Lay down and Work site areas.

#### **1.14.3 GUARD RAILS AND BARRICADES**

- .1 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.
- .2 Provide as required by governing authorities.

#### **1.14.4 WEATHER ENCLOSURES**

- .1 Design enclosures to withstand wind pressure and snow loading.

#### **1.14.5 DUST TIGHT SCREENS**



- .1 Provide dust tight screens or insulated partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- .2 Maintain and relocate protection until such work is complete.

#### **1.14.6 ACCESS TO SITE**

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.
- .2 Maintain access in broom clean condition.

#### **1.14.7 PUBLIC TRAFFIC FLOW**

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

#### **1.14.8 FIRE ROUTES**

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

#### **1.14.9 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY**

- .1 Protect surrounding private and public property including laydown, site office facilities and parking areas from damage during performance of Work.
- .2 Be responsible for damage incurred.

### **1.15 01 61 00 – COMMON PRODUCT REQUIREMENTS**

#### **1.15.1 QUALITY**

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with the Departmental Representative based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions.

#### **1.15.2 AVAILABILITY**

- .1 Immediately upon signing Contract(s), review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify the Departmental



Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

- .2 In event of failure to notify the Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, the Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

### **1.15.3 STORAGE HANDLING AND PROTECTION**

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth..
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, lumber and on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of the Departmental Representative.

### **1.15.4 TRANSPORTATION**

- .1 Pay costs of transportation of products required in performance of Work.
- .2 The Departmental Representative will pay for transportation cost of products supplied by the Departmental Representative. Unload, handle and store such products.

### **1.15.5 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify the Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, to allow for the Departmental Representative's review of the next course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes the Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

### **1.15.6 QUALITY OF WORK**

- .1 Ensure Quality of Work is of highest standard, executed by workers



experienced and skilled in respective duties for which they are employed. Immediately notify the Departmental Representative if required Work is such as to make it impractical to produce required results.

- .2 Do not employ anyone unskilled in their required duties. The Departmental Representative reserves the right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with the Departmental Representative whose decision is final.

#### **1.15.7 Co-ORDINATION**

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

#### **1.15.8 REMEDIAL WORK**

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

#### **1.15.9 FASTENINGS**

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

#### **1.15.10 FASTENINGS – EQUIPMENT**

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas, or as required by specification Section
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

#### **1.15.11 PROTECTION OF WORK IN PROGRESS**

- .1 Prevent overloading of Work. Do not cut, drill or sleeve load bearing



structural member, unless specifically indicated without written approval of the Departmental Representative.

## **1.16 01 71 00 – EXAMINATION AND PREPARATION**

### **1.16.1 QUALIFICATIONS OF SURVEYOR**

- .1 Qualified registered land surveyor, licensed to practice in Place of Work, acceptable to the Departmental Representative.

### **1.16.2 SURVEY REFERENCE POINTS**

- .1 Existing base horizontal and vertical control points are designated on drawings.
- .2 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
- .3 Make no changes or relocations without prior written notice to The Departmental Representative.
- .4 Report to the Departmental Representative when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- .5 Require surveyor to replace control points in accordance with original survey control.

### **1.16.3 SURVEY REQUIREMENTS**

- .1 Establish two permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
- .2 Establish lines and levels, locate and lay out, by instrumentation.
- .3 Stake for grading, fill, material placement and other design features.
- .4 Stake slopes and berms.

### **1.16.4 EXISTING SERVICES**

- .1 Before commencing work, establish location and extent of service lines in area of Work and notify The Departmental Representative of findings.

### **1.16.5 LOCATION OF EQUIPMENT AND FIXTURES**

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform the Departmental Representative of impending installation and obtain approval for actual location.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by The Departmental Representative.

### **1.16.6 RECORDS**

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.



- .3 Record locations of maintained, re-routed and abandoned service lines.

#### **1.16.7 SUBMITTALS**

- .1 Submit name and address of Surveyor to the Departmental Representative.
- .2 On request of the Departmental Representative, submit documentation to verify accuracy of field engineering work.
- .3 Submit certificate signed by surveyor certifying those elevations and locations of completed Work that conform and do not conform to Contract Documents.

### **1.17 01 73 03 – EXECUTION REQUIREMENTS**

#### **1.17.1 SUBMITTALS**

- .1 Submittals: in accordance with Section 01 33 00.
- .2 Submit written request in advance of cutting or alteration which affects:
  - .1 Structural integrity of elements of project;
  - .2 Integrity of weather-exposed or moisture-resistant elements;
  - .3 Efficiency, maintenance, or safety of operational elements;
  - .4 Visual qualities of sight-exposed elements;
  - .5 Work of the Departmental Representative or separate Construction Manager.
- .3 Include in request:
  - .1 Identification of project;
  - .2 Location and description of affected Work;
  - .3 Statement on necessity for cutting or alteration;
  - .4 Description of proposed Work, and products to be used;
  - .5 Alternatives to cutting and patching;
  - .6 Effect on Work of Owner or separate Construction Manager;
  - .7 Written permission of affected separate Construction Manager;
  - .8 Date and time work will be executed.

#### **1.17.2 MATERIALS**

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00.

#### **1.17.3 PREPARATION**

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

#### **1.17.4 EXECUTION**

- .1 Execute cutting, fitting, and patching including excavation and fill to



- complete Work.
- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Remove samples of installed Work for testing.
- .6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .7 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .9 Restore work with new products in accordance with requirements of Contract Documents.
- .10 Fit Work airtight through surfaces.
- .11 Remove all excess excavation and fill and all other material to off-site.

## **1.18 01 74 11 – CLEANING**

### **1.18.1 PROJECT CLEANLINESS**

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Departmental Representative or other Construction Managers.
- .2 Remove waste materials from site at regularly scheduled times or dispose of as directed by the Departmental Representative. Do not burn waste materials on site.
- .3 Clear snow and ice from access to site in designated areas only.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Provide and use marked separate bins for recycling. Refer to Section 01 74 21.
- .7 Dispose of waste materials and debris off site.
- .8 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

### **1.18.2 FINAL CLEANING**

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste materials from site at regularly scheduled times or dispose of as directed by The Departmental Representative. Do not burn waste materials on site.
- .5 Make arrangements with and obtain permits from authorities having



- jurisdiction for disposal of waste and debris.
- .6 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
  - .7 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
  - .8 Remove dirt and other disfiguration from exterior surfaces.
  - .9 Clean and sweep , areaways.
  - .10 Sweep and wash clean paved areas.
  - .11 Remove debris and surplus materials from accessible concealed spaces.
  - .12 Remove snow and ice from access to site.
  - .13 Complete cleaning prior to commissioning of systems and integrated systems.

## **1.19 01 74 21 – CONSTRUCTION DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

### **1.19.1 WASTE MANAGEMENT GOALS**

- .1 Prior to start of Work conduct meeting with the Departmental Representative to review and discuss PSPC's waste management goals.
- .2 PSPC's waste management goal 75 percent of total project waste to be diverted from landfill sites. Provide the Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
- .3 Accomplish maximum control of solid construction waste.
- .4 Preserve environment and prevent pollution and environment damage.

### **1.19.2 DEFINITIONS**

- .1 Demolition Waste Audit (DWA): relates to actual waste generated from project.
- .2 Inert Fill: inert waste - exclusively asphalt and concrete.
- .3 Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .4 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .5 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .6 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .7 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
  - .1 Salvaging reusable materials before demolition stage, for resale, reuse on current project or for storage for use on future projects.
  - .2 Returning reusable items including pallets or unused products to vendors.



- .8 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .9 Separate Condition: refers to waste sorted into individual types.
- .10 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
- .11 Waste Audit (WA): detailed inventory of material on site. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or repair project. Indicates quantities of reuse, recycling and landfill. Refer to Schedule A.
- .12 Waste Management Co-ordinator (WMC): Construction Manager Representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.
- .13 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. Refer to Schedule B. WRW is based on information acquired from WA (Schedule A).

### 1.19.3 DOCUMENTS

- .1 Maintain at job site, one copy of following documents:
  - .1 Waste Audit.
  - .2 Waste Reduction Workplan.
  - .3 Material Source Separation Plan.
  - .4 Schedules completed for project.

### 1.19.4 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00.
- .2 Prepare and submit following prior to project start-up:
  - .1 Submit 2 copies of completed Waste Audit (WA): Schedule A.
  - .2 Submit 2 copies of completed Waste Reduction Workplan (WRW): Schedule B.
  - .3 Submit 2 copies of completed Demolition Waste Audit (DWA): Schedule C.
  - .4 Submit 2 copies of Materials Source Separation Program (MSSP) description.
- .3 Submit before final payment summary of waste materials salvaged for reuse, recycling or disposal by project using deconstruction/disassembly material audit form.
  - .1 Provide receipts, scale tickets, waybills, and show quantities and types of materials reused, recycled or disposed of.
  - .2 For each material reused, sold or recycled from project, include amount in tones or quantities by number, type and size of items and the destination.
  - .3 For each material land filled or incinerated from project, include amount of material and identity of landfill, incinerator or transfer station.

### 1.19.5 WASTE AUDIT (WA)

- .1 Conduct WA prior to project start-up.



- .2 Prepare WA: Schedule A.
- .3 Record, on WA - Schedule A, extent to which materials or products used consist of recycled or reused materials or products.

#### **1.19.6 WASTE REDUCTION WORKPLAN (WRW)**

- .1 Prepare WRW prior to project start-up.
- .2 WRW should include but not limited to:
  - .1 Destination of materials listed.
  - .2 Deconstruction/disassembly techniques and sequencing.
  - .3 Schedule for deconstruction/disassembly.
  - .4 Location.
  - .5 Security.
  - .6 Protection.
  - .7 Clear labeling of storage areas.
  - .8 Details on materials handling and removal procedures.
  - .9 Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill.
- .3 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
- .4 Describe management of waste.
- .5 Identify opportunities for reduction, reuse, and recycling of materials. Based on information acquired from WA.
- .6 Post WRW or summary where workers at site are able to review content.
- .7 Set realistic goals for waste reduction, recognize existing barriers and develop strategies to overcome these barriers.
- .8 Monitor and report on waste reduction by documenting total volume and cost of actual waste removed from project.

#### **1.19.7 DEMOLITION WASTE AUDIT (DWA)**

- .1 Prepare DWA prior to project start-up.
- .2 Complete DWA: Schedule C.
- .3 Provide inventory of quantities of materials to be salvaged for reuse, recycling, or disposal.

#### **1.19.8 COST REVENUE ANALYSIS WORKPLAN (CRAW)**

- .1 Prepare CRAW: Schedule D.

#### **1.19.9 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)**

- .1 Prepare MSSP and have ready for use prior to project start-up.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by The Departmental Representative.
- .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
- .4 Provide containers to deposit reusable and recyclable materials.
- .5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
- .6 Locate separated materials in areas which minimize material damage.



- .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
  - .1 Transport to approved and authorized recycling facility or to users of material for recycling.

#### **1.19.10 STORAGE HANDLING AND PROTECTION**

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

#### **1.19.11 DISPOSAL OF WASTES**

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil, paint thinner into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
  - .1 Number and size of bins.
  - .2 Waste type of each bin.
  - .3 Total tonnage generated.
  - .4 Tonnage reused or recycled.
  - .5 Reused or recycled waste destination.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

#### **1.19.12 USE OF SITE AND FACILITIES**

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

#### **1.19.13 SCHEDULING**

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



progress of Work.

**1.19.14 APPLICATION**

- .1 Do Work in compliance with WRW.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

**1.19.15 CLEANING**

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

**1.19.16 DIVERSION OF MATERIALS**

- .1 From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by the Departmental Representative and consistent with applicable fire regulations.
  - .1 Mark containers or stockpile areas.
  - .2 Provide instruction on disposal practices.
- .2 On-site sale of salvaged, recovered, reusable, recyclable materials is not permitted.
- .3 Demolition Waste:

Material Type	Recommended Diversion %	Actual Diversion %
	80	[_____]
	100	[_____]
Metals	100	[_____]
Rubble	100	[_____]
Wood (uncontaminated)	100	[_____]
Other		

- .4 Construction Waste

Material Type	Recommended Diversion %	Actual Diversion %
Cardboard	100	[_____]
Plastic Packaging	100	[_____]
Rubble	100	[_____]
Steel	100	[_____]
Wood (uncontaminated)	100	[_____]
Other		[_____]

**1.19.17 WASTE AUDIT (WA)**

- .1 Schedule A - Waste Audit (WA):

1	2	3	4	5	6	7
Material	Material	Estimated	Total	Generation	%	%



Category	Quantity Unit	Waste %	Quantity of Waste (unit)	Point	Recycled	Reused
Wood and Plastics Material Description Off-cuts Warped Pallet Forms Plastic Packaging Cardboard Packaging Other						
Wood Metal Other						

**1.19.18 WASTE REDUCTION WORKPLAN (WRW)**

.1 Schedule B:

1 Material Category	2 Person(s) Responsible	3 Total Quantity of Waste	4 Reused Amount (units) Project Actuals	5 Recycled Amount (units) Actuals	6 Material(s) Destination
Wood and Plastics Material Description Chutes Warped Pallet Forms Plastic Packaging Cardboard Packaging Other:					



## **1.20 01 77 00 – CLOSEOUT PROCEDURES**

### **1.20.1 INSPECTION AND DECLARATION**

- .1 Construction Manager's Inspection: Construction Manager and Sub Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
  - .1 Notify the Departmental Representative in writing of satisfactory completion of Construction Manager's Inspection and that corrections have been made.
  - .2 Request the Departmental Representative Inspection.
- .2 Completion: submit written certificate that following have been performed:
  - .1 Work has been completed and inspected for compliance with
    - .1 Contract Documents.
    - .2 Local authorities having jurisdiction.
    - .3 Local services/utility providers.
  - .2 Defects have been corrected and deficiencies have been completed.
  - .3 Equipment and systems have been tested and adjusted and are fully operational.
  - .4 Certificates required by Authorities Having Jurisdiction have been submitted.
  - .5 Operation of systems have been demonstrated to the Departmental Representative's operational personnel.
  - .6 Work is complete and ready for final inspection.
- .3 Final Inspection: when items noted above are completed, request final inspection of Work by the Departmental Representative and Construction Manager. If Work is deemed incomplete by the Departmental Representative, complete outstanding items and request re-inspection.

### **1.20.2 WARRANTY INSPECTION**

- .1 In the case of one year warranty, conduct joint inspections six (6) and ten (10) months after Interim Certificate of Completion. In the case of each extended warranty, conduct joint inspections in four (4) periods as agreed by the Departmental Representative.
- .2 Immediately prior to end of warranty period(s) the Departmental Representative and Construction Manager shall make a joint final inspection of the remedial Work noted two (2) months prior to end of warranty(s) and reported within the two (2) during remedial work.

## **1.21 01 78 00 – CLOSEOUT SUBMITTALS**

### **1.21.1 SUBMITTALS**

- .1 Submittals: in accordance with Section 01 33 00.
- .2 Prepare instructions and data using personnel experienced in maintenance and operation of described products.



- .3 Copy will be returned after final inspection, with the Departmental Representative's comments.
- .4 Revise content of documents as required prior to final submittal.
- .5 Two weeks prior to Substantial Performance of the Work, submit to the Departmental Representative;
  - .1 Four final copies plus electronic copies of operating and maintenance manuals in English.
  - .2 Four copies plus electronic copies of final Commissioning Report.
- .6 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.
- .7 Furnish evidence, if requested, for type, source and quality of products provided.
- .8 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .9 Pay costs of transportation.

### 1.21.2 ELECTRONIC SUBMITTALS

- .1 Submit number of hard copies specified for each type and format of submittal and in also submit in electronic format as pdf files and also in MS Word, Excel, Project as may be appropriate and in AutoCAD dwg files all on CD R/W or USB.
- .2 The Departmental Representative will provide one electronic set of drawings, schedules and specifications for as-built drawing and specification purposes.
  - .1 Drawings are in AutoCAD.
  - .2 Specifications are in MS Word
  - .3 Amendments are in MS Word.
- .3 Transfer as-built information from marked up set of documents to electronic format.
  - .1 Provide plotted or printed as specified.
- .4 As-built topographical and site surveys in AutoCAD and pdf format.

### 1.21.3 FORMAT

- .1 Organize data as instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by components, systems, integrated systems, under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts.
- .7 Text: manufacturer's printed data, or typewritten data.



- .8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .9 Provide 1:1 scaled CAD files in pdf and dwg format.
- .10 On project completion submit to the Departmental Representative 4 electronic pdf copies on CD R/W and 4 paper copies in binders of Operations and Maintenance and Systems Descriptions Manual.
  - .1 Organize manuals into industry standard maintenance manual tabs with links in index to each descriptive section describing the component or maintenance procedure.
  - .2 Organize files into MasterFormat 2016 numbering system.
  - .3 Label disk "Operational and Maintenance Data", project name, date, names of Construction Manager, subcontractors, consultants and sub consultants.
  - .4 Include scanned guarantees, bonds, diagrams and drawings.
  - .5 Organize contents into applicable sections of work to parallel specification break-down. Mark each section by labeled tabs (navigation buttons).
  - .6 Ensure all content is legible.

#### **1.21.4 CONTENTS – EACH VOLUME**

- .1 Table of Contents: provide title of project;
  - .1 Date of submission; names.
  - .2 Addresses, and telephone numbers of the Department Representative and Construction Manager with name of responsible parties.
  - .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
  - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00.
- .6 Demonstration and Training: refer to Section 01 79 00.
  - .1 Submit to the Departmental Representative 4 electronic copies on DVD R/W of demonstration and training sessions.

#### **1.21.5 AS-BUILT SPECIFICATIONS AND SAMPLES**

- .1 Maintain, in addition to requirements in General Conditions, at site for the Departmental Representative one record copy of:
  - .1 Contract Drawings;
  - .2 Specifications;
  - .3 Addenda;
  - .4 Change Orders and other modifications to Contract;



- .5 Reviewed shop drawings, product data, and samples;
- .6 Field test records;
- .7 Inspection certificates;
- .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by the Departmental Representative.
- .6 The Departmental Representative may furnish additional drawings and specifications to clarify Work.
  - .1 Such documents become part of Contract Document.
  - .2 Include such documents in As-Built submission.
- .7 Turn over, at completion, with all as-built information:
  - .1 Drawings;
    - .1 4 electronic copies of drawings in AutoCAD file format 2013,
    - .2 4 sets of printed as-built drawings,
    - .3 1 pdf copy.
  - .2 Specifications in Master format 2016;
    - .1 4 electronic copies of specifications in MS Word 2013,
    - .2 4 sets of printed as-built specifications,
    - .3 1 pdf copy.
- .8 Submit to the Departmental Representative one copy of drawings and specifications for review prior to final submission.

#### **1.21.6 RECORDING ACTUAL SITE CONDITIONS**

- .1 Record information on set of black line opaque drawings, and in copy of Specifications Documents.
- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
  - .1 Measured depths of elements in relation to main datum;
  - .2 Field changes of dimension and detail;
  - .3 Changes made by change orders;
  - .4 Details not on original Contract Drawings;
  - .5 References to related shop drawings and modifications.
- .5 Specifications: mark each item to record actual construction, including:
  - .1 Manufacturer, trade name, and catalogue number of each product



- actually installed, particularly optional items and substitute items;
- .2 Changes made by Addenda and change orders.

- .6 Other Documents: maintain manufacturer's certifications, guarantees, inspection certifications, field test records, required by individual specifications sections.

#### **1.21.7 FINAL SURVEY**

- .1 Submit final site survey certificate in accordance with Section 01 71 00 certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

#### **1.21.8 MATERIALS AND FINISHES**

- .1 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .2 Moisture-Protection and Weather-Exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Additional Requirements: as specified in individual specifications sections.

#### **1.21.9 SPARE PARTS**

- .1 Provide spare parts.
- .2 Provide items of same manufacture and quality as items in Work.
- .3 Deliver to site as directed; place and store.
- .4 Receive and catalogue items. Submit inventory listing to the Departmental Representative. Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

#### **1.21.10 MAINTENANCE MATERIALS**

- .1 Provide maintenance and extra materials.
- .2 Provide items of same manufacture and quality as items in Work.
- .3 Deliver to site as directed; place and store.
- .4 Receive and catalogue items. Submit inventory listing to the Departmental Representative. Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

#### **1.21.11 SPECIAL TOOLS**

- .1 Provide special tools.
- .2 Provide items with tags identifying their associated function and equipment.
- .3 Deliver to site as directed; place and store.
- .4 Receive and catalogue items. Submit inventory listing to the Departmental Representative. Include approved listings in Maintenance Manual.

#### **1.21.12 STORAGE, HANDLING AND PROTECTION**

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and



labels intact.

- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and to satisfaction of the Departmental Representative.

### 1.21.13 WARRANTIES AND BONDS

- .1 Develop warranty management plan to contain information relevant to Warranties.
- .2 Submit warranty management plan, 60 days before planned pre-warranty conference, to the Departmental Representative approval.
- .3 Warranty management plan to include required actions and documents to assure that the Departmental Representative receives warranties to which it is entitled.
- .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
- .5 Submit, warranty information made available during construction phase, to the Departmental Representative for approval prior to each monthly pay estimate.
- .6 Assemble approved information in binder and submit upon acceptance of work. Organize binder as follows:
  - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
  - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
  - .3 Obtain warranties, manufacturers' guarantees and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
  - .4 Verify that documents are in proper form, contain full information, and are notarized.
  - .5 Co-execute submittals when required.
  - .6 Retain warranties and bonds until time specified for submittal.
- .7 Except for items put into use with the Departmental Representative permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .8 Include information contained in warranty management plan as follows:
  - .1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Construction Managers, subcontractors, manufacturers or suppliers involved.
  - .2 Listing and status of delivery of Certificates of Warranty for extended warranty items..
  - .3 Provide list for each item and feature of construction or system indicating:
    - .1 Name of item;



- .2 Location where installed;
- .3 Name and phone numbers of manufacturers or suppliers;
- .4 Names, addresses and telephone numbers of sources of spare parts;
- .5 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates;
- .6 Cross-reference to warranty certificates as applicable;
- .7 Starting point and duration of warranty period;
- .8 Summary of maintenance procedures required to continue warranty in force;
- .9 Cross-Reference to specific pertinent Operation and Maintenance manuals;
- .10 Organization, names and phone numbers of persons to call for warranty service;
- .4 Construction Manager's plans for attendance of the various required post-construction warranty inspections.
- .9 Respond in a timely manner to oral or written notification of required construction warranty repair work.
- .10 Written verification will follow oral instructions. Failure to respond will be cause for the Departmental Representative to proceed with action against Construction Manager.

#### **1.21.14 PRE-WARRANTY CONFERENCE**

- .1 Meet with the Departmental Representative, to develop understanding of requirements of this section. Schedule meeting prior to contract completion, and at time designated by the Departmental Representative.
- .2 The Departmental Representative will establish communication procedures for:
  - .1 Notification of construction warranty defects.
  - .2 Determine priorities for type of defect.
  - .3 Determine reasonable time for response.
- .3 Provide name, telephone number and address of licensed and bonded company that is authorized to initiate and pursue construction warranty work action.
- .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

### **1.22 01 91 13 – GENERAL COMMISSIONING (CX) REQUIREMENTS**

#### **1.22.1 GENERAL**

- .1 Refer to TOR Part 2 for Commissioning Requirements

### **1.23 01 91 41 – DEMONSTRATION AND TRAINING**

#### **1.23.1 GENERAL**

- .1 Refer to TOR Section 3 for Demonstration and Training Requirements.



**1.24 01 91 31 - COMMISSIONING (CX) PLAN**

**1.24.1 GENERAL**

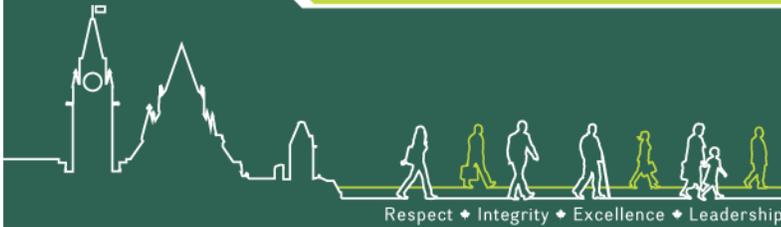
.1 Refer to TOR Part 2 for Commissioning Requirements

**1.25 01 91 33 - COMMISSIONING FORMS**

**1.25.1 GENERAL**

.1 Refer to TOR Part 2 for Commissioning Requirements

----- END-----



Serving  
**GOVERNMENT,**  
Serving  
**CANADIANS.**

## Construction Management Services

- CMA (Advisory Services)
- CMc (Construction Services)

# GENERAL PROCEDURES & STANDARDS

## CCG Wharf Repairs

For:

Department of Fisheries and Oceans  
(DFO)

Canadian Coast Guard (CCG) Norman

Wells, Northwest Territories

March 28, 2017



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## 1. INTRODUCTION

### 1.1 GENERAL PROCEDURES AND STANDARDS (GP&S)

#### 1.1.1 GENERAL

- .1 GP&S have been developed to:
  - .1 Facilitate a consistent, well-documented CM process reflecting industry best practices and performance standards; and
  - .2 Ensure compliance with federal government standards, PSPC Policies and Treasury Board directives.

#### 1.1.2 DOCUMENT HARMONIZATION AND ORDER OF PRECEDENCE

- .1 GP&S, TOR, Division 01-General Requirements and Definitions documents are complementary and are equally integral to project delivery.
  - .1 TOR takes precedence.
- .2 TOR describes project-specific requirements, services and deliverables while the GP&S outlines with minimum standards, procedures and performance common to all projects.

#### 1.1.3 KEY LINKS

- .1 National Project Management System (NMPS)
  - .1 <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>
  - .2 PSPC project delivery and terminology is defined in the NPMS.
- .2 National Master Specifications (NMS)
  - .1 [http://www.nrc-cnrc.gc.ca/eng/publications/nrc\\_pubs/nms/nms\\_index.html](http://www.nrc-cnrc.gc.ca/eng/publications/nrc_pubs/nms/nms_index.html)
  - .2 Develop specifications to the latest version of the NMS data base.
- .3 Code of Conduct for Procurement - Context and purpose of the Code
  - .1 <http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>
  - .2 Provide Work in an honest, fair and comprehensive manner.

### 1.2 PROJECT DELIVERY

#### 1.2.1 GENERAL REQUIREMENTS

- .1 Obtain written authorization from the Departmental Representative before proceeding to the next milestone or phase of work.
- .2 Coordinate all services with the Departmental Representative.
- .3 Deliver project utilizing best practices in support of User Department needs, respecting the approved financial budget, schedule, scope and quality.
- .4 Provide continuous and comprehensive documentation of the project at all stages of the project implementation.
- .5 Ensure continuity of key personnel and team with an in-depth understanding and collective "buy-in" of the project requirements for the life of the project.

#### 1.2.2 SERVICE DELIVERY

- .1 Submittals
  - .1 Submit various Reports, Sketches, Drawings, Specifications and Progress Schedules and Payment and Manuals at key project milestones.
    - .1 Content and level of detail shall be specific to the expectations relative



- to a milestone and not in advance of a milestone.
- .2 Construction budget/estimate level of accuracy shall reflect the scope and accuracy consistent with the expectations relative to a milestone and not in advance of a milestone.
- .3 All work submitted to the Departmental Representative will be reviewed for;
  - .1 Design and documentation performance quality;
  - .2 Conformance to Owner Project Requirements (OPR), and
  - .3 Constructability, biddability and claims avoidance.
- .2 Provide written responses to review comments.
- .2 Computer Aided Design (CAD)
  - .1 Develop project drawings on a CAD drawing system acceptable to PSPC standards:
    - .1 Web site, <http://www.tpsgc-pwgsc.gc.ca/biens-property/cdao-cadd/index-eng.html>;
    - .2 Furnish digital files in addition to multiple sets of prints for all submissions. Additional prints and/or mylars are required when submitting Final Compliance Documents;
    - .3 Make provision for automatic take-offs to be derived directly from the CAD drawing files. These shall be used to prepare final estimates.
  - .3 Specifications and Cost Estimates
    - .1 During the Schematic Design and Design Development milestones, development of outline specification and cost estimates are to be structured to Uniformat II detail Level 4.
    - .2 During Construction Documentation, Tender and Close Out milestones, development of specifications and cost estimate are to be structured to National Research Council/ PSPC/ National Master Specifications, MasterFormat.
    - .3 National Master Specification (NMS)
      - .1 The National Research Council of Canada (NRC) has assumed ownership of the National Master Specification (NMS) from Public Works and Government Services Canada (PSPC).
      - .2 NMS is intended for use by the federal government, other public organizations and the private sector in the preparation of construction and renovation contract documents.
      - .3 Contact NRC for the re-branded latest version of PSPC NMS User Guide and specification development framework.
        - .1 The Guide reflects honest, fair and comprehensive conduct for both public and private sectors.

### **1.2.3 PROCUREMENT OF GOODS AND SERVICES**

- .1 PSPC contracting requirements
  - .1 Code of Conduct for Procurement applies to all goods and services tenders issued by the CM in compliance to the TOR.

### **1.2.4 INDUSTRY STANDARD PRACTICES**

- .1 Review the tender work packages to confirm completeness and that the procurement method will achieve value for money and meet the schedule.



- .2 Use standard Construction Association practices for tendering for the project area. Include the use of:
  - .1 CCDC standard contracting documents;
  - .2 Public advertisement to the industry using provincially/territorially acceptable advertisement methods or where:
    - .1 Justified for value for money, an invitation to three to five bidders experienced in the work,
    - .2 Limited trades or suppliers are proven, the Departmental Representative with the approval of the Contracting Authority, may authorize pre-qualified or sole source tenders.



## 2. PROJECT ADMINISTRATION

### 2.1 GENERAL

- .1 Project Administration provides background information and expectations associated with the design process and deliverables.

#### 2.1.2 PROJECT MANAGEMENT

- .1 PSPC administers the project on behalf of Canada and exercises control over the Design, Implementation and Close Out phases of Project Delivery.
- .2 This project is to be organized, managed and delivered in a collaborative manner.
- .3 The PSPC Project Team, the Consultant, the CM and the User Department teams will be required to work together during the Design, Implementation and Close Out phases of Project Delivery.

### 2.2 LANGUAGE

- .1 Construction documents must be prepared in English.

### 2.3 MEDIA

- .1 The CM shall not respond to any media inquiry.
- .2 Direct all media requests to the Departmental Representative.

### 2.4 PROJECT MANAGEMENT

#### 2.4.1 NATIONAL PROJECT MANAGEMENT SYSTEM

- .1 PSPC uses the National Project Management System (NPMS) for management and delivery of its real property projects to align with the Federal Government review and approvals processes. Refer to the PSPC NPMS web site for more details:
  - .1 Web site, <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>.

#### 2.4.2 DESIGN STAGE – PROJECT MILESTONES

- .1 Pre-design Process:
  - .1 The purpose of this process is to analyze project requirements including codes, regulations, programming, sustainability, cost, time management and risk to demonstrate a full understanding of the project;
  - .2 The Pre-Design documents become guiding documents utilized throughout the project to guide the delivery.
- .2 Schematic Design Process:
  - .1 The purpose of this process is to explore different design options and to analyze them against the project requirements;
  - .2 Typically, the Schematic Design will be in sufficient detail to illustrate and communicate the project characteristics, and would provide a detailed review and analysis of the project requirements including all updates and amendments to ensure all requirements are fully integrated into the Schematic Design;
  - .3 Out of this process the Schematic Design is accepted and authorization to proceed to Design Development is based on the accepted Schematic Design;



- .4 The Departmental Representative, in concert with others choose a preferred option to be further developed;
- .5 The approved Schematic Design become guiding documents and will be utilized throughout the project to guide the delivery.
- .3 Design Development Process:
  - .1 The purpose of this process is to further develop the design option selected for refinement during the Schematic Design process;
  - .2 Typically, the Design Development documents consist of drawings and other documents to describe the scope, quality and cost of the project in sufficient detail to facilitate design approval, confirmation of code compliance, detailed planning of construction and project approval;
  - .3 This design is used as the basis for preparation of construction documents;
  - .4 The approved Design Development documents become guiding documents and are utilized throughout the project to guide the delivery.
- .4 Construction Document Process:
  - .1 The purpose of this process is to translate design development documents into construction drawings and specifications, for use by the contractor to determine a cost for the work;
  - .2 Refer to TOR for Construction Documents QA Review submission milestones.

#### **2.4.3 IMPLEMENTATION PHASE – PROJECT MILESTONES**

- .1 Commissioning Process:
  - .1 Commissioning Process: refer to CAN/CSA Z320-11;
  - .2 Commissioning is a quality assurance process, in which the functional requirements and the operational requirements (Owner Project Requirements – OPR) of the project are tested, verified and proven to function as intended;
  - .3 Commissioning Process deliverables occur progressively throughout the project life cycle as per milestones detailed in TOR Part 2 Required Services.
- .2 Construction Contract Procurement Process:
  - .1 The purpose of this process is to obtain and evaluate bids/proposals from qualified contractors to construct the work, as per the Construction Contract Documents and to award the construction contract according to government regulations.
- .3 Construction Contract Administration Process:
  - .1 The purpose of this process is to construct the work in compliance with the Construction Contract Documents and to direct and monitor all necessary or requested changes to the scope of work during construction, commissioning and closeout.

#### **2.4.4 DELIVERY CLOSEOUT PHASE – PROJECT MILESTONES**

- .1 Post Construction Process:
  - .1 Ensure the orderly completion and recording of project and contract required documents and deliverables; and
  - .2 Liaise with Public Works and Government Services Canada and other agencies as appropriate to close out the project.



## 2.5 COST MANAGEMENT

### 2.5.1 GENERAL

- .1 Construction cost estimates are prepared and submitted to PSPC by the Design Consultant Team Quantity Surveyor at various times throughout the project lifecycle milestones. For project milestones refer to Section 2 Project Administration, article Project Management.
  - .1 Typically, PSPC Pre-Design Estimated Construction Costs are Class D, +/- 20%:
    - .1 No more than a 20% design contingency allowance.
  - .2 Prior to proceeding with a Consulting/Construction project delivery contract, as part of the Pre-Design Report process, confirm that the PSPC Estimate is acceptable to proceed with the Work.
- .2 Provide directly corresponding estimate comparisons to that of the Design Consultant using the same format structure and trade division/work results breakouts.
- .3 Include with each Elemental cost estimate breakdown a Basis of Estimate (BOE), complete with back-up showing items of work, quantities, unit prices and amounts during:
  - .1 Schematic Design, Class C, +/- 15% – UniFormat II Elemental breakdown to Level 4 detail;
  - .2 Design Development, Class B +/- 10% – UniFormat II Elemental breakdown to Level 5 detail; and
  - .3 Construction Documentations (at 50% complete documentation) Class B to A +/- 10% to 5% – Master Format, NMS Divisional/Sectional break down for;
    - .1 Overall project estimate; and
    - .2 Each Sub-Contractor Tender Package or Own Forces Work Package;
      - .1 Pre-Tender (99%-100% complete documentation, (Class A, +/- 5%) – Master Format, NMS Divisional/Sectional break down for;
      - .2 Overall project estimate; and
      - .3 Each Sub-Contractor Tender Package or Own Forces Work Package;
  - .4 Request for Information (RFI) Contemplated Change Notice (CCN and Change Orders C/O) events.
- .4 In addition to Design Consultant and/or Construction Manager cost estimates, PSPC may have independent cost estimates performed to compare cost estimates.

## 2.6 ROLES AND RESPONSIBILITIES

### 2.6.1 CONSTRUCTION MANAGER (CM)

- .1 The CM shall:
  - .1 Assign staff or engage the services of Specialist Consultants to provide the required services outlined in TOR Part 2, Advisory and Support Services;
  - .2 Complete the Work outlined in TOR Part 2 General Contractor Work using the CM's Own Forces and the CM's contracted Sub-Trades;
  - .3 Ensure continuity of key personnel and dedicate a working team for the life of this project;



- .4 Submit in writing, to the Departmental Representative for review and acceptance;
  - .1 The respective names, addresses and confirmation of qualifications of individuals and/or firms engaged to provide Services for this Project, who were not identified in the CM's response to the RFP, and
  - .2 Proposed changes to the roles of persons to be employed by the CM or firms to be contracted by the CM to provide the Services and Work for the Project and shall include the names, addresses, qualifications and experience of the proposed individual(s) or firm(s).

### 2.6.2 THE CM TEAM

- .1 The CM's Key Personnel shall be located in the immediate surrounding area of the project site for the period of their involvement in the Project.
- .2 The CM team shall:
  - .1 Have complete and collective understanding of the project requirements, including scope, budget and scheduling objectives; and
  - .2 Work to ensure a collaborative and cooperative team approach with knowledgeable and timely input and contribution by all project team members.

### 2.6.3 PSPC

- .1 PSPC will:
  - .1 Be responsible to deliver the project;
  - .2 Manage the internal stakeholders of PSPC and the User Department;
  - .3 Manage internal resources to Quality Assure the project deliverables;
  - .4 Provide authorizations to the CM and Consultant on various tasking;
  - .5 Ensure Integrated Design Review Sessions are organized at various stages of the project, as required;
    - .1 Smaller sub-projects may only require reviews at 50%/66% and 100%.
  - .6 Manage the project and contracts with the Consultant and the CM.

### 2.6.4 THE PSPC TEAM

- .1 The PSPC Departmental Representative:
  - .1 Is the PSPC Project Manager or delegated Deputy Project Manager assigned to administer the Project;
  - .2 Is responsible for the day-to-day management of the project and for overseeing its progress and delivery, on behalf of PSPC;
  - .3 Is the representative for all project contract services and, as such, will be the CM's single point of contact for all project direction;
  - .4 Is the liaison amongst and between the Construction Manager, the Consultant, Public Works and Government Services Canada and the User Departments; and
  - .5 Is responsible for conveying all requirements of the User Department to the CM and Consultant Team.
- .2 The PSPC Architecture and Engineering Centre of Expertise (AECoE) Team:
  - .1 Provides expert advice and quality assurance for architectural and engineering disciplines and specialities in all phases of the project;



- .2 Attends construction meetings and conduct field reviews on behalf of the Departmental Representative, as required;
- .3 Uses a PSPC Design Manager to coordinate its services;
- .4 Offers technical advice, risk advice, reviews CM deliverables and tracks compliance and recommends design approaches;
- .5 The PSPC Architecture and Engineering Centre of Expertise (AECoE) Team will be represented by the following disciplines:
  - .1 Architecture & Interior Design,
  - .2 Structural Engineering,
  - .3 Civil Engineering,
  - .4 Mechanical Engineering,
  - .5 Electrical Engineering,
  - .6 Commissioning Advisor.
- .3 The PSPC Commissioning Advisor:
  - .1 Represents the Crown's interests in the commissioning process;
  - .2 Provides technical advice and quality assurance on the commissioning process throughout delivery;
  - .3 Reviews documentation and reported results throughout the project delivery;
  - .4 Witnesses verification of Systems and Integrated Systems Testing as demonstrated by CM; and
  - .5 Participates in warranty reviews.

### 2.6.5 USER DEPARTMENT

- .1 The User Department Project Leader:
  - .1 Is accountable for the expenditure of public funds and delivery of the project in accordance with terms accepted by the Treasury Board;
  - .2 Reports to User Department senior executive management;
  - .3 Will play several roles in the delivery of the project, as follows:
    - .1 Coordinate the quality, timing and completeness of information and decisions related to the functional performance of the facility,
    - .2 Ensure User Department program requirements are understood by all, and
    - .3 Facilitate and provide User Department sign-offs and approvals, as required.

### 2.6.6 THE CONSULTANT TEAM

- .1 The Consultant Team includes the prime consultant, qualified professionals, sub-consultants and specialists with relevant experience, capable of providing required professional services for the Project.
- .2 The Consultant Team is responsible for:
  - .1 Completing the design for the built works and for coordinating and directing the work of sub-consultants and specialists;
  - .2 Preparing and assembling the tender documents for each identified tender package;
  - .3 Providing input into the Departmental Representative's Risk Management Plan; and



- .4 Providing to the Departmental Representative contract administration services during design and construction.

### **2.6.7 PROVINCIAL / TERRITORIAL AND MUNICIPAL AUTHORITIES**

- .1 The federal government generally defers to provincial/territorial and municipal authorities for specific regulations, standards and inspections but in areas of conflict, the more stringent authority prevails.
- .2 Municipal authority review.
  - .1 Submissions will be reviewed as required by the authority.
- .3 Permits:
  - .1 The Consultant will support the Contractor in applying for permits by providing documentation;
    - .1 The Consultant will negotiate and resolve building permit related issues.
  - .2 The Consultant shall support the Contractor in its application for an occupancy permit and coordinate the resolution of all outstanding issues relating to the permit;
  - .3 The CM Contractor shall pay for the permits on behalf of PSPC.

## **2.7 COMMUNICATIONS AND MEETINGS**

### **2.7.1 COMMUNICATION**

- .1 Unless otherwise directed by the Departmental Representative, the CM shall conduct all project communication through the Departmental Representative only.
- .2 If any communication with the User Departments results in the need for change to the Project scope of work, quality, cost or schedule, the CM shall inform the Departmental Representative, and seek direction, before taking any action.
- .3 The Departmental Representative will arrange for the CM to obtain access to the PSPC secure shared document management site (Buzzsaw).
- .4 Correspondence:
  - .1 All correspondence from the CM shall be distributed as directed by the Departmental Representative;
  - .2 There shall be no correspondence between occupants or users of the facility and the CM unless directed by the Departmental Representative;
  - .3 All correspondence must carry the Contract name/number, PSPC Project title, PSPC Project number and File number and a date (i.e. Year/Month/Day).
  - .4 Automatic date fields shall not be used except when preceded by the text "Printed on".
- .5 The CM shall:
  - .1 Develop a communication and correspondence protocol, submit to the Departmental Representative for review and acceptance prior to undertaking the work and incorporate it into the Project Procedures Manual:
    - .1 Account for the involvement of all Stakeholders in this protocol.
  - .2 Direct communication and correspondence between members of the PSPC Project Team, the Consultant and the User Departments on routine matters as may be required to enable the project to proceed in a timely and efficient manner however:



- .1 No communication shall alter the terms of the project scope, budget or schedules unless directed in writing by the Departmental Representative.

### **2.7.2 SUBMISSIONS TO PSPC**

- .1 Where submissions to PSPC include summaries, monitoring outcomes, reports, network diagrams, drawings, plans, specifications or finish schedules, submit one (1) original to the Departmental Representative in electronic format, unless otherwise directed in writing.
- .2 Electronic format.
  - .1 The electronic deliverables shall be provided using Microsoft applications.
  - .2 Alternatively, as agreed upon by the Departmental representative, submit all work in Electronic \*.pdf format, electronic (PDF – searchable OCR, indexed and bookmarked) and hard copies.
    - .1 Network Diagrams which shall be submitted in their original electronic format.

### **2.7.3 PROJECT RESPONSE TIME**

- .1 It is a requirement of this project that the Project Team key personnel are personally available to attend meetings or respond to inquiries.
- .2 During the project, the key personnel shall be:
  - .1 Available to attend meetings and respond to inquiries within one (1) working day notice;
  - .2 Able to respond to emergencies within four (4) hours, including those occurring during off-hours and on weekends/ holidays.
- .3 On occasion, there may be urgent, problem-solving meetings.
  - .1 The CM shall be available to attend such meetings in location agreed upon within four (4) business hours.

### **2.7.4 MEETINGS DURING THE PRE-DESIGN, SCHEMATIC DESIGN, DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENTATION PROCESSES**

- .1 Meetings with PSPC, the CM, the Consultant and User Department will be held in agreed upon location.
- .2 The Departmental Representative will arrange meetings bi-weekly with representatives from:
  - .1 PSPC;
  - .2 Consultant team;
  - .3 Construction Management Team; and
  - .4 User Department representatives.
- .3 The Consultant Team will be responsible for:
  - .1 Preparing minutes of meetings;
  - .2 Forwarding minutes to the Departmental Representative and CM;



- .1 These meetings are for the accurate exchange of information; and
- .2 Requests and decisions taken shall follow the formal lines of communications.
- .3 Establishing a list of standing agenda items, including (as a minimum);
  - .1 Schedule and progress including;
    - .1 Master Schedule;
    - .2 Cost estimates and issues and amendments including;
      - .1 Master Cost Plan
    - .3 Risk issue assessments;
    - .4 Quality issues including;
      - .1 PPM progress review;
      - .2 QA Review Project Team feedback log.
    - .5 Commissioning;
      - .1 Cx Plan progress
    - .6 Issues/Resolutions Log associated with;
      - .1 Overall Project; and
      - .2 Commissioning;
    - .7 Scope of work; and
    - .8 Sustainable development.
  - .4 The CM shall:
    - .1 Attend meetings, prior to construction start;
      - .1 Respond to meeting minute action items as required prior to the next meeting.

### **2.7.5 MEETINGS DURING CONSTRUCTION PERIOD**

- .1 The CM shall:
  - .1 Arrange and coordinate construction meetings on site;
    - .1 Regular meetings to be held bi-weekly through the duration of the project,
    - .2 Prepare and distribute minutes within two (2) working days of the meeting, and
    - .3 Endeavour to hold meetings as Green Meetings (i.e. Electronic copies of documents where possible or double sided hard copies).
  - .2 Establish a list of standing agenda items, including (as a minimum):
    - .1 Schedule and progress including;
      - .1 Change Order log and associated impact; and
      - .2 Master Schedule;
    - .2 Cost estimates and issues and amendments including, including;
      - .1 Change Order log and associated impact; and
      - .2 Master Cost Plan
    - .3 Risk issue assessments including;
      - .1 Change Order log and associated impact;
    - .4 Quality issues;
      - .1 PPM progress review; and
      - .2 Change Order log and associated impact;
    - .5 Commissioning;
      - .1 Cx Issues/Resolutions Log;



- .2 OPR and BOD QA reviews and update progress;
  - .3 Change Order log and associated impact; and
  - .4 Cx Plan progress including;
    - .1 CX Report;
    - .2 Training; and
    - .3 Manuals;
  - .6 Scope of work including;
    - .1 Change Order log and associated impact;
  - .7 Site safety implementation and management including;
    - .1 Site Safety Report progress; and
    - .2 Regulatory agency requirements; and
  - .8 Sustainable development.
- .2 The Design Consultant shall:
- .1 Attend implementation/construction and delivery closeout meetings;
    - .1 Respond to meeting minute action items as required prior to the next meeting

## **2.8 REGULATORY REQUIREMENTS**

### **2.8.1 FEDERAL GOVERNMENT**

- .1 The PSPC Departmental Representative will review work in progress on a continuing basis.
- .2 The following are authorities having Federal Government jurisdiction over the project:
  - .1 Treasury Board of Canada;
    - .1 Project funding and contract approvals,
    - .2 Fire Prevention Co-coordinator/ Fire Protection Engineer
  - .2 Public Works and Government Services Canada;
    - .1 Contracting authority and project delivery.
  - .3 National Research Council Canada;
    - .1 Building Codes and Standards;
      - .1 National Building Code, and
      - .2 National Fire Code.

### **2.8.2 TERRITORIAL, MUNICIPAL AND OTHER AUTHORITIES HAVING JURISDICTION**

- .1 Although the Federal Government is not subject to jurisdictions at other levels of government, voluntary compliance with the Departmental Policy of these other Authorities is a requirement unless otherwise directed by the Departmental Representative:
  - .1 Codes, regulations, by-laws and decisions of authorities identified herein as having jurisdiction shall be observed;
  - .2 In areas of conflict between codes, standards and regulations, the most rigid requirements shall be adhered to;
  - .3 The CM shall identify other jurisdictions appropriate to the project.
- .2 Territorial Acts, Regulations, Standards and Inspections:
  - .1 Unless directed otherwise by the Departmental Representative, the CM will;
    - .1 Adhere to all applicable provincial Construction Health and Safety Acts



- and regulations, in addition to the related Canada Occupational Safety and Health Regulations,
- .2 Adhere to the requirements of the Province/Territory appropriate to the project for,
  - .1 Employment Standards,
  - .2 Construction Safety,
  - .3 Designated Substance Management, and
  - .4 Workers Compensation.
- .3 Adhere to the requirements of the Provincial/Territorial Department of the Environment appropriate to the project for,
  - .1 Discharges into the air, water and ground, and
  - .2 Disposal of Designated Substances including Asbestos.
- .3 Municipal By-laws, Regulations, Standards and Inspections:
  - .1 Unless directed otherwise by the Departmental Representative, the CM will;
    - .1 Make preliminary municipal submissions at stages required by the AHJ,
    - .2 Provide all required supporting documentation for permit applications,
    - .3 Apply for and obtain all permits and approvals necessary for the work, including, but not limited to Building, Electrical and Plumbing Permits,
    - .4 Resolve all Building Permit related issues, with support from the Consultant as may be required,
    - .5 Provide fire safety equipment and access for fire-fighting services, as required by the city, and
    - .6 If required by the AHJ, apply for an Occupancy Permit and co-ordinate the resolution of all outstanding issues related to obtaining the permit.
  - .4 Provide Municipal authorities with access to the site as required and arrange for inspections of the construction work by the AHJ or governing utility officials.

## **2.9 ACCEPTANCE OF PROJECT DELIVERABLES**

### **2.9.1 ACCEPTANCE OF PROJECT DELIVERABLES**

- .1 While PSPC acknowledges the CM's obligations to meet project requirements, the project delivery process entitles PSPC to review all work.
- .2 PSPC reserves the right to reject undesirable or unsatisfactory work.
- .3 The CM must obtain Departmental Representative acceptance of all required deliverables for the Project:
  - .1 Acceptance indicates that based on a general review of material for specific issues, the material is considered to comply with governmental and departmental objectives and practices and those overall project objectives appear to be satisfied;
  - .2 Acceptance does not relieve the CM of responsibility for the work and compliance with the contract;
  - .3 Acceptance does not prohibit rejection of work, which is determined to be unsatisfactory at later stages of review.



## 3. PROJECT MONITORING AND REPORTING

### 3.1 GENERAL

- .1 Use industry recognized and readily available software for project monitoring and reporting.
  - .1 Make available all deliverables electronically (in original software format and PDF) and hard copy.
- .2 Notwithstanding more detailed Project Monitoring and Reporting requirements in the TOR, Definitions and Division 01 documents, provide a system for documentation and project monitoring and reporting through each milestone of project delivery, for review and acceptance by the Departmental Representative prior to proceeding with the next milestone.
  - .1 The actual report outline shall be acceptable to the Departmental Representative.
- .3 As a component of the Project Procedures Manual (PPM), prepare and submit, at the start of the project, sample outlines/formats for all reports, for review and acceptance by the Departmental Representative.
  - .1 Resubmit as may be required.
  - .2 Date(s) of issue of the CM Monthly Report shall be established.
  - .3 The Monthly Report formats shall be used for all subsequent project milestones.
- .4 During the Design and Construction Documentation milestones, prepare and submit monthly progress reports.
  - .1 The purpose of the report shall be to review and monitor the progress of the Services by the CM. Reports shall provide:
    - .1 An executive summary of key points;
    - .2 Progress of Advisory Support and Construction Support Services;
    - .3 Progress Claims and Payments to date (including change orders) in a form that compares the original budgets for each Tender Package with the expected costs;
    - .4 Instances where the schedule is not being met and identify impact on scheduled completion date;
    - .5 Outline of remedial measures being taken or planned to be undertaken to ensure the scheduled completion date; and
    - .6 Anticipated or potential problems to be addressed.
    - .7 Progress in Commissioning Process development.
- .5 During the Construction/Implementation milestone, notwithstanding Division 01 General Requirements document (specifying reporting requirements), prepare and submit monthly reports to address status and variances with respect to schedule, budget, quality, and scope.
  - .1 The actual report outline shall be acceptable to the Departmental Representative, and shall provide:
    - .1 An executive summary of key points;
    - .2 General progress of the Work and modifications to reflect changes in project parameters as may be identified throughout the project life;
    - .3 Construction Cost Plan Report including an overview of cost issues as outlined in this TOR;



- .4 Master Schedule Update and narrative report including an overview of schedule issues as outlined in this TOR;
  - .1 Monitor changes to the Master Schedule at least once a month and submit written reports to the Departmental Representative on any deviations or delays from the master schedule, and identify possible remediation measures required to maintain the Master Schedule Completion date.
  - .2 Monthly reports must identify not only reasons for delay but also offer suggestions, where possible, on how to bring the project back on track.
- .5 Identification of risks and proposed strategies for mitigation, including scope creep as well as quality control outlined in this TOR,
- .6 Health and Safety status Report, and
- .7 Progress in Commissioning Plan updates and Commissioning Manual development.

### **3.2 EXECUTIVE SUMMARY ON KEY POINTS**

- .1 Per Report, provide general commentary/narrative on where the project is at, milestones achieved, upcoming milestones and estimation on how the project is progressing at a high level including:
  - .1 Assumptions, exclusions, risk assessments, opportunities and deviation from standards, major changes relative to previous report including market events.

### **3.3 GENERAL PROGRESS OF WORK**

- .1 Per report describe:
  - .1 Work completed in the last reporting period;
  - .2 Upcoming work that is anticipated to be completed in the next reporting period;
  - .3 Issues requiring resolutions.



## 4. MONTHLY REPORTING OUTLINE

### 4.1 GENERAL PROGRESS OF WORK

- .1 Invoicing Summary:
  - .1 Billing section broken down by CMA (Fixed Fee), CMc (Percentage Fee) and per Work Package (Own Forces and Sub-Contractor);
    - .2 Expenditures to date in a format that compares the original budgets and expected costs, including contingencies.
  - .2 Description of work completed in the last reporting period.
  - .3 Description of upcoming work that is anticipated to be completed in the next reporting period.
  - .4 Issues that need to resolved

### 4.2 CONSTRUCTION PROGRESS MONITORING AND REPORTING

- .1 Refer to Division 01, General Requirements, Section 01 32 15, Construction Progress Monitoring Report.

### 4.3 COMMISSIONING PLAN PROGRESS REPORT

- .1 Component of Project Procedures Manual.
- .2 Update on Progress of Commissioning Plan.
  - .1 Commentary on:
    - .1 Schedule;
    - .2 Cx Cost Breakdown and Earned Value;
    - .3 Risk to Cx Assessment.
  - .3 Update Cx Issues/Resolutions Log complete with – highlighted - pending resolutions and associated narratives.
  - .4 Commissioning Design/Construction Documentation Reviews to include up-dates on:
    - .1 Cx Team meetings;
    - .2 Design and Construction documentation submittals and review;
      - .1 Drawings,
      - .2 Specifications,
      - .3 Cx cost estimate breakdowns, and
      - .4 Cx risk.
  - .5 Implementation/Construction and Project Close-Out, MS Project generated Cx Schedule of commissioning activities, to include up-dated:
    - .1 Cx Team meetings;
    - .2 Start and substantial/interim completion of each construction phase;
    - .3 Systems and related assembly completion and testing;
    - .4 Static Verification, Start-Up and Functional Performance Testing;
    - .5 Training sessions;
    - .6 Deferred Cx testing;
    - .7 Warranty start date(s);
    - .8 Occupancy dates for each construction phase;



- .9 Schedule, planned vs. actual; and
- .10 Final Acceptance.

#### **4.4 HEALTH & SAFETY REPORT**

- .1 Narrative on the application or adjustment to the CM's Health and Safety Plans.
- .2 Safety incidents identified and resulting actions.
- .3 Confirmation that Safety Tailgate Meetings are Occurring.
- .4 On site activities that warrant special safety consideration or awareness.

#### **4.5 MASTER COST PLAN REPORT**

- .1 Component of Project Procedures Manual.
- .2 Narrative.
- .3 Basis of Design (BOD) estimate:
  - .1 Elemental or other format Estimate Summary; and
  - .2 Back-up detail.
- .4 Reconciliation against previous submissions.
- .5 Budgeted dollars per month.
- .6 Forecasted Expenditures and Cash Flow per month.
- .7 Actual Expenditures per month.
- .8 Authorized Plan Deviations.
  - .1 Variances between actual costs and Estimated Construction Cost limits.
  - .9 Earned value of work done to end of reporting period, per fiscal year and project overall including Progress Claims per Tender Package.
- .10 Actions to Maintain Estimated Construction Costs limit, if required.

#### **4.6 MASTER SCHEDULE UPDATE**

- .1 Component of Project Procedures Manual.
  - .2 Updated Schedule including progress to date coordinated with Division 01 General Requirements:
    - .1 Section 01 32 15 Construction Progress Schedules, Article, Construction Progress Monitoring and Reporting.
- .3 Identification of Critical Path tasks completed and Critical Path tasks upcoming.
- .4 Progress on Schedule.
- .5 Authorized Deviations to Schedule to date:
  - .1 Detail variances between actual and estimated dates for milestone deliverables.
- .6 Work Packages:
  - .1 Design, Construction Documentation Tender, Award Construction/Implantation and Close-Out



- .7 Moving:
  - .1 Planning;
  - .2 Implementation.
- .8 Building Components and Connectivity (BCC):
  - .1 Planning;
  - .2 Implementation.
- .9 Actions Required to Maintain Schedule, if required.

#### **4.7 MOVE PROGRESS REPORT**

- .1 Continued roles and responsibilities, critical milestones, estimate of move scope cost, logistics and coordination with the overall delivery.
- .2 Move Plan and Move Process Protocols Narrative updates.
- .3 Tender Package cost estimate updates and actual contract costs.

#### **4.8 RISK MANAGEMENT REPORT**

- .1 Component of Project Procedures Manual.
- .2 Identified risk; stating new, ongoing risk and risk no longer relevant..
- .3 Identified risk mitigation strategy.
- .4 Report on the outcome of the mitigation strategy.



## 5. MONTHLY UP-DATE REPORTING OUTLINE

### 5.1 GENERAL MILESTONE REPORTING

- .1 Monthly Up-Date Reporting Outline:
  - .1 Milestone Activity Summary;
  - .2 Master Cost Plan Report including:
    - .1 Cost Estimating breakdowns and associated narratives, such as;
      - .1 Basis of Estimate (BOE), and
      - .2 Cost Estimate alignment with project team and stakeholder estimates.
    - .3 Master Schedule;
  - .2 Quality Management Plan (QMP) – QM planned/actual actions and results including:
    - .1 Risk to Quality assessment.
  - .3 Project Procedures Manual (PPM).
  - .4 Design and Construction documentation review summaries.
  - .5 Shop Drawings, per each tender package, schedule, log and issues/resolution log.

### 5.2 QUALITY MANAGEMENT REPORT

- .1 Summary:
  - .1 Current project progress and status;
  - .2 Schedule forward of significant deadlines, decisions and milestones;
  - .3 Trends and recommendations;
    - .1 Prior recommendations status.
  - .4 Activities undertaken, non-compliances identified, and corrective measures taken.
- .2 Detailed assessment of processes and deliverables including documentation associated with:
  - .1 Design and design process;
  - .2 Construction procurement and construction process.
- .3 QA Review documentation per Deliverable:
  - .1 Established baselines and progress of the quality metrics;
  - .2 Commentary documents;
  - .3 Risk assessment.



## 6. POST IMPLEMENTATION REPORTING OUTLINE

### 6.1 QUALITY MANAGEMENT PLAN REPORT

- .1 CM provision of oversight reasonably commits that applying best practices and quality management, the delivery of the project meets the investment and technical requirements.
- .2 Summary Assessment Review of:
  - .1 PPM and its component 4 Sections progress – see PPM Definitions;
  - .2 Risk Assessment;
  - .3 Deliverables verification;
  - .4 Overall assessment of;
    - .1 Project management,
    - .2 Project delivery – method and management/means of coordinating.

### 6.2 DIVISION 01 (DIV. 01) GENERAL REQUIREMENTS REPORT

- .1 Delivery Closeout Status Report associated with Div. 01 actions and deliverables:
  - .1 Compilation of Project Meetings;
  - .2 Compilation of Construction Progress Schedules;
  - .3 Submittal Procedures compliance;
  - .4 Environmental Procedures compliance;
    - .1 Environment protection plan.
  - .5 Regulatory Requirements compliance;
    - .1 Stop work log.
  - .6 Quality Control;
    - .1 Rejected work log; and
    - .2 Test results.
  - .7 Examination (of existing conditions) and Preparation;
    - .1 Survey;
      - .1 Control; and survey work log;
      - .2 Foundations and major site improvement;
      - .3 Maintained, re-routed and abandoned service lines;
    - .2 Services;
    - .3 Equipment and Fixture;
  - .8 Waste Diversion;
  - .9 Closeout;
    - .1 Procedures;
    - .2 Submittals.