



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

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

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

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

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

Comments - Commentaires

Title - Sujet Réhabilitation de l'enveloppe	
Solicitation No. - N° de l'invitation EE520-210282/A	Date 2020-07-08
Client Reference No. - N° de référence du client R.069144.102	
GETS Reference No. - N° de référence de SEAG PW-\$QCM-039-17941	
File No. - N° de dossier QCM-0-43042 (039)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2020-08-14	Time Zone Fuseau horaire Heure Avancée de l'Est HAE
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Jean, Serge	Buyer Id - Id de l'acheteur qcm039
Telephone No. - N° de téléphone (418) 928-1906 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: MINISTERE DES TRAVAUX PUBLICS ET SERVICES GOUVERNEMENTAUX CANADA ESC 2 -Parcs 3, PASSAGE DU CHIEN D'OR QUEBEC Québec G1R3Z8 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
TPSGC-PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

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

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**THIS PROCUREMENT CONTAINS A SECURITY REQUIREMENT
REQUEST FOR PROPOSAL (RFP)**

A&E Consultant services for the rehabilitation of the envelope of the Louis-S. Saint-Laurent building (3 PCO) (Québec)

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SUPPLEMENTARY INSTRUCTIONS TO PROPONENTS (SI)

SI1 INTRODUCTION

1. Public Works and Government Services Canada (PWGSC) intends to retain an individual consulting firm or joint venture to provide the professional services for the project as set out in this Request for Proposal (RFP).
2. This is a single phase selection process. The nature of the requirement and the anticipated limited number of response by the industry leads PWGSC to believe that this approach will not unduly force a large number of firms to expend an overall unreasonable amount of effort in response to PWGSC.
3. Proponents responding to this RFP are requested to submit a full and complete proposal. The proposal will cover not only the qualifications, experience and organization of the proposed Consultant Team, but also the detailed approach to the work, and the pricing and terms offered. A combination of the technical and price of services submissions will constitute the proposal.
4. Proponents must use the epost Connect service provided by Canada Post Corporation to transmit their proposals electronically.

Due to the nature of the bid solicitation, transmission of proposals by facsimile is not accepted for administrative reasons.

Proponents must refer to GI16 Submission of proposal, and SRE 2 Proposal Requirements, of the bid solicitation, for further information.

SI2 PROPOSAL DOCUMENTS

1. All instructions, general terms, conditions and clauses identified in the RFP by number, date and title, are hereby incorporated by reference into and form part of this solicitation and any resultant contract.

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

2. The following are the proposal documents:
 - (a) Supplementary Instructions to Proponents (SI);
General instructions (GI) – Architectural and/or Engineering services – Request for Proposal;
Submission Requirements and Evaluation (SRE);

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- (b) the general terms, conditions and clauses, as amended, identified in the Agreement clause;
 - (c) Project Brief / Terms of Reference;
 - (d) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";
 - (e) the **Security Requirements Check List (SRCL)**;
 - (f) any amendment to the solicitation document issued prior to the date set for receipt of proposals; and
 - (g) the proposal, Declaration/Certifications Form and Price Proposal Form.
3. Submission of a proposal constitutes acknowledgment that the Proponent has read and agrees to be bound by these documents.

SI3 QUESTIONS OR REQUEST FOR CLARIFICATION

Questions or requests for clarification during the solicitation period must be submitted in writing to the Contracting Authority named on the RFP - Page 1 at e-mail address serge.jean@tpsgc-pwgsc.gc.ca as early as possible. Enquiries should be received no later than 7 working days prior to the closing date identified on the front page of the Request for Proposal. Enquiries received after that date may not be answered prior to the closing date of the solicitation.

SI4 CANADA'S TRADE AGREEMENTS

This procurement is subject to the provisions of the World Trade Organization - Agreement on Government Procurement (WTO-AGP), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

SI5 CERTIFICATIONS

1. Integrity Provisions – Declaration of Convicted Offences

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Proponent must **provide with its bid, as applicable**, to be given further consideration in the procurement process, the required documentation as per General instructions 1 (GI1), Integrity Provisions – Proposal, **section 3b**.

2. Federal Contractors Program for Employment Equity - Proposal Certification

By submitting a proposal, the Proponent certifies that the Proponent, and any of the Proponent's members if the Proponent is a Joint Venture, is not named on the Federal

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Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html>).

Canada will have the right to declare a proposal non-responsive if the Proponent, or any member of the Proponent if the Proponent is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

Canada will also have the right to terminate the Agreement for default if a Consultant, or any member of the Consultant if the Consultant is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Agreement.

The Proponent must provide the Contracting Authority with a completed Federal Contractors Program for Employment Equity - Certification (see Appendix B - Declaration/Certifications Form), before contract award. If the Proponent is a Joint Venture, the Proponent must provide the Contracting Authority with a completed Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

SI6 SECURITY REQUIREMENT

1. At the date of bid closing, the following conditions must be met:
 - (a) the Proponent must hold a valid organization security clearance as indicated in Supplementary Conditions SC1;
 - (b) the Proponent's proposed individuals requiring access to classified or protected information, assets or sensitive work site(s) must meet the security requirement as indicated in Supplementary Conditions SC1;
 - (c) the Proponent must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites.;
2. For additional information on security requirements, proponents should refer to the Contract Security Program of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

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IP7 OPTIONAL SITE VISIT

There will be an optional site visit on July 16, 2020 between 9 a.m. and 3 p.m. by appointment only. Interested bidders will be required to notify the Contracting Authority of their intention to participate in the visit to obtain the time at which they are to report to 3 passage du Chiens D'or, Quebec (Que).

Security measures related to Coronavirus (Covid-19): Visitors must wash their hands on arrival and wear a mask throughout the tour inside the building. Visitors will also be asked to maintain physical distance at all times.

Bidders are requested to communicate with the Contracting Authority at least two (2) days before the scheduled visit date to confirm attendance and provide the names of the persons who will attend. A maximum of two (2) representatives is authorized per bidder. Bidders who have not confirmed their attendance may be refused access. Bidders will have to sign an attendance sheet and will have to present a photo identification card. No other meeting will be granted to tenderers who do not participate in the visit or who do not send a representative. Bidders who do not participate in the visit may still submit a bid. Any clarification or change made to the bid solicitation following the site visit will be included in the bid solicitation, in the form of an amendment.

S18 - WEBSITES

The connection to some of the Web sites in the RFP is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Employment Equity Act
<http://laws-lois.justice.gc.ca/eng/acts/E-5.401/index.html>

Federal Contractors Program (FCP)
<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html>

Certificate of Commitment to Implement Employment Equity form LAB 1168
<http://www.servicecanada.gc.ca/cgi-bin/search/eforms/index.cgi?app=profile&form=lab1168&dept=sc&lang=e>

Ineligibility and Suspension Policy
<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>

Code of Conduct for Procurement
<http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>

Lobbying Act
<http://laws-lois.justice.gc.ca/eng/acts/L-12.4/?noCookie>

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Buy and Sell

<https://buyandsell.gc.ca/>

Supplier Registration Information

<https://srisupplier.contractsCanada.gc.ca>

Consultant Performance Evaluation Report Form

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913-1.pdf>

Canadian economic sanctions

<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

National Joint Council (NJC) Travel Directive

<http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php>

General Instructions (GI) – Architectural and/or Engineering Services – Request for Proposal

GI1 Integrity provisions—proposal

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 Proponent must comply with the Policy and Directives, which can be found at [Ineligibility and Suspension Policy \(https://www.tpsqc-pwgsc.gc.ca/ci-if/politique-policy-eng.html\)](https://www.tpsqc-pwgsc.gc.ca/ci-if/politique-policy-eng.html).
2. Under the Policy, charges and convictions of certain offences against a Supplier, its affiliates or first tier sub-consultants, and other circumstances, will or may result in a determination by Public Works and Government Services Canada (PWGSC) that the Supplier 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 Proponent 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 sub-consultants 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 \(https://www.tpsqc-pwgsc.gc.ca/ci-if/declaration-eng.html\)](https://www.tpsqc-pwgsc.gc.ca/ci-if/declaration-eng.html).
4. Subject to subsection 5, by submitting a bid in response to this bid solicitation, the Proponent certifies that:
 - a. it has read and understands the [Ineligibility and Suspension Policy \(https://www.tpsqc-pwgsc.gc.ca/ci-if/politique-policy-eng.html\)](https://www.tpsqc-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 Proponent 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 sub-consultants 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 sub-consultants; and

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- f. it is not aware of a determination of ineligibility or suspension issued by PWGSC that applies to it.
5. Where a Proponent 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 \(https://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html).
 6. Canada will declare non-responsive 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 Proponent provided a false or misleading certification or declaration, Canada may terminate the Contract for default. Pursuant to the Policy, Canada may also determine the Proponent to be ineligible for award of a contract for providing a false or misleading certification or declaration.

G12 Definitions

In this Request for Proposal (RFP), the following words or phrases have the corresponding meaning.

"Applicable Taxes":

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.

"Consultant Team":

The team of consultants, specialists and subconsultants, including the Proponent, proposed by the Proponent to perform the services required.

"Key Personnel":

Staff of the Proponent, subconsultants and specialists proposed to be assigned to this project.

"Price Rating":

A rating assigned to the price component of a proposal and subsequently used to establish a Price Score for inclusion as a percentage of the total score to be established following the evaluation and rating of technical proposals.

"Proponent":

The person or entity (or, in the case of a joint venture, the persons or entities) which submits a proposal. It does not include the parent, subsidiaries or other affiliates of the Proponent, or its sub-consultants.

"PWGSC Evaluation Board":

The board established to evaluate and rate proposals. Board members represent a broad cross-section of professional qualifications and experience.

"Technical Rating":

A rating assigned to the technical component of a proposal in the selection procedure and subsequently used to establish a Technical Score for inclusion as a percentage of the total score.

GI3 Overview of selection procedure

The following is an overview of the selection procedure.

3.1 Proposal

1. Proponents submit the "technical" component of their proposal in one section and the proposed price of the services (price proposal) in a second section in accordance with the instructions contained in the proposal documents.
2. The information that Proponents are required to provide is set out in detail elsewhere in the RFP.
3. In response to the RFP, interested Proponents submit a proposal in which they:
 - a. indicate whether the proposal is submitted by an individual firm or by a joint venture;
 - b. if the proposal is submitted by a joint venture, describe the proposed legal and working relationships of the joint venture and the benefits to be gained by the formation of the joint venture;
 - c. identify the prime consultants and key sub consultants and specialists proposed for inclusion in the Consultant Team, and the proposed organizational structure of the Team;
 - d. describe the extent to which proposed members of the Consultant Team have successfully performed services for projects comparable to the project which is the subject of the proposal;
 - e. identify the professional accreditation, experience, expertise and competence of the Consultant Team and Key Personnel proposed to be assigned to perform the required services.
 - f. comply with all other requirements set out in the RFP.

3.2 Proposal evaluation and rating

1. Technical components of all responsive proposals are reviewed, evaluated and rated by a Public Works and Government Services Canada (PWGSC) Evaluation Board in accordance with the criteria, components and weight factors set out in the RFP. Upon completion of the evaluation, Technical Ratings are established.
2. Proposals achieving the minimum Technical Score specified in the Submission Requirements and Evaluation section of the RFP are further considered.
3. The price proposals of all responsive proposals are considered upon completion of the technical evaluation. When there are three or more responsive proposals, an average price is determined by adding all the price proposals together and dividing the total by the number of price proposals opened. This calculation will not be conducted when one or two responsive proposals are received.
4. All price proposals which are greater than 25 percent above the average price will cause their respective complete proposals to be set aside and receive no further consideration.
5. The remaining price proposals are rated as follows:
 - a. The lowest price proposal receives a Price Rating of 100.
 - b. The second, third, fourth and fifth lowest prices receive Price Ratings of 80, 60, 40, and 20 respectively. All other price proposals receive a Price Rating of 0.

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- c. On the rare occasion where two (or more) price proposals are identical, these price proposals receive the same rating and the corresponding number of following ratings are skipped.
 - d. The Price Rating is multiplied by a predetermined percentage factor to establish a Price Score.
6. A price proposal in excess of any maximum funding limit, when this limit has been set in the Supplementary Instructions to Proponents, may result in disqualification of the complete proposal.

3.3 Total score

1. The total overall score (Total Score) assigned to each Proponent's complete proposal is calculated as the aggregate of:
 - a. the Technical Score, and
 - b. the Price Score.
2. The Proponent receiving the highest Total Score is the first entity that the PWGSC Evaluation Board will recommend for the provision of the required services.

3.4 Notification

PWGSC normally expects to advise in writing unsuccessful Proponents within one week after PWGSC has entered into a contractual arrangement with the successful Proponent.

G14 Procurement Business Number

Proponents are required to have a Procurement Business Number (PBN) before contract award. Proponents may register for a PBN online at [Supplier Registration Information \(https://srisupplier.contractsCanada.gc.ca/index-eng.cfm?af=ZnVzZWFjdGlvbj1yZWdpc3Rlci5pbmRybyZpZD0y&lang=eng\)](https://srisupplier.contractsCanada.gc.ca/index-eng.cfm?af=ZnVzZWFjdGlvbj1yZWdpc3Rlci5pbmRybyZpZD0y&lang=eng). For non-Internet registration, Proponents may contact the InfoLine at 1-800-811-1148 to obtain the telephone number of the nearest Supplier Registration Agent.

G15 Responsive proposals

To be considered responsive, a proposal must meet all of the mandatory requirements set out in the RFP. No further consideration in the selection procedure will be given to a Proponent submitting a non-responsive proposal.

G16 Completion of submission

The Proponent shall base the proposal on the applicable proposal documents listed in the Supplementary Instructions to Proponents.

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G17 Proposal price

Unless specified otherwise elsewhere in the proposal documents:

- a. the price proposal shall be in Canadian currency, and
- b. the price proposal shall not include any amount for Applicable Taxes, and
- c. the requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All proposals including such provision will render the proposal non-responsive.

G18 Communications—solicitation period

To ensure the integrity of the competitive bid process, enquiries and other communications regarding the RFP must be directed only to the Contracting Authority identified in the RFP. Failure to comply with this requirement may result in the proposal being declared non-responsive.

To ensure consistency and quality of information provided to proponents, significant enquiries received and their replies will be posted on the Government Electronic Tendering Service (GETS).

G19 Limitation of submissions

1. A Proponent may not submit more than one proposal. This limitation also applies to the persons or entities in the case of a joint venture. If more than one proposal is received from a Proponent (or, in the case of a joint venture, from the persons or entities), all such proposals shall be rejected and no further consideration shall be given.
2. A joint venture is defined as an association of two or more parties which combine their money, property, knowledge, skills, time or other resources in a joint business enterprise agreeing to share the profits and the losses and each having some degree of control over the enterprise.
3. An arrangement whereby Canada contracts directly with a prime consultant who may retain sub-consultants or specialist consultants to perform portions of the services is not a joint venture arrangement. A sub-consultant or specialist consultant may, therefore, be proposed as part of the Consultant Team by more than one Proponent. The Proponent warrants that it has written permission from such sub-consultant or specialist consultant to propose their services in relation to the services to be performed.
4. Notwithstanding paragraph 3. above, in order to avoid any conflict of interest, or any perception of conflict of interest, a Proponent shall not include in its submission another Proponent as a member of its consultant team, as a sub-consultant or specialist consultant.
5. Any joint venture entered into for the provision of professional services or other services must be in full compliance with the requirements of any provincial or territorial law pertaining thereto in the Province or Territory in which the project is located.

GI10 Licensing requirements

1. Consultant Team members and Key Personnel shall be, or be eligible to be licensed, certified or otherwise authorized to provide the necessary professional services to the full extent that may be required by provincial or territorial law in the Province or Territory in which the project is located.
2. By virtue of submission of a proposal, the Proponent certifies that the Proponent's Consultant Team and Key Personnel are in compliance with the requirements of subsection 1 above. The Proponent acknowledges that PWGSC reserves the right to verify any information in this regard and that false or erroneous certification may result in the proposal being declared non-responsive.

GI11 Rejection of proposal

1. Canada may reject a proposal where any of the following circumstances is present:
 - a. the Proponent has been declared ineligible for selection, following unsatisfactory performance in a previous project as determined in accordance with the department's performance review procedures;
 - b. an employee, sub-consultant or specialist consultant included as part of the proposal has been declared ineligible, for selection for work with the department in accordance with the performance review procedure referred to in paragraph 1.(a), which would render the employee, sub-consultant or specialist consultant ineligible to bid on the requirement, or the portion of the requirement the employee, sub-consultant or specialist consultant is to perform;
 - c. the Proponent 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 Proponent, any of its employees, any sub-consultant or any specialist consultant included as part of the proposal;
 - e. evidence satisfactory to Canada that based on past conduct or behavior, the Proponent, a sub-consultant, a specialist consultant or a person who is to perform the Services is unsuitable or has conducted himself/herself improperly;
 - f. with respect to current or prior transactions with the Government of Canada,
 - i. Canada has exercised its contractual remedies of taking the services out of the consultant's hands, suspension or termination for default with respect to a contract with the Proponent, any of its employees, any sub-consultant or any specialist consultant included as part of the proposal;
 - ii. Canada determines that the Proponent's performance on other contracts, including the quality of the services provided and the quality and timeliness of the delivery of the project, is sufficiently poor to jeopardize the successful completion of the requirement being bid on.
2. Where Canada intends to reject a proposal pursuant to subsection 1.(f), the Contracting Authority will so inform the Proponent and provide the Proponent ten (10) days within which to make representations, before making a final decision on the proposal rejection.

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GI12 Not applicable

Not applicable

GI13 Insurance requirements

The successful Proponent shall be required to obtain and maintain Professional Liability and Commercial General Liability insurance coverage in accordance with the requirements set out elsewhere in the proposal documents.

GI14 Joint venture

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 business enterprise, sometimes referred as a consortium, to bid together on a requirement. Proponents who 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 each member 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 proposal, the Proponent must provide the information on request from the Contracting Authority.
3. The proposal and any resulting contract 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. If a contract is awarded to a joint venture, all members of the joint venture will be jointly and severally or solidarily liable for the performance of any resulting contract.

GI15 Composition of Consultant Team

By submitting a proposal, the Proponent represents and warrants that the entities and persons proposed in the proposal to perform the required services will be the entities and persons that will perform the services in the fulfillment of the project under any contractual arrangement arising from submission of the proposal. If the Proponent has proposed any person in fulfillment of the project who is not an employee of the Proponent, the Proponent warrants that it has written permission from such person (or the employer of such person) to propose the services of such person in relation to the services to be performed.

G116 Submission of proposal

G116.1 Submission of proposal

1. Canada requires that each proposal, at solicitation closing date and time or upon request from the Contracting Authority, be signed by the Proponent or by an authorized representative of the Proponent. If a proposal is submitted by a joint venture, it must be in accordance with section G114.
2. It is the Proponent's responsibility to:
 - a. submit a proposal, duly completed, in the format requested, on or before the solicitation closing date and time set;
 - b. send its proposal only to the Bid Receiving Unit of Public Works and Government Services Canada (PWGSC) specified below, by the date and time indicated on page 1 of the bid solicitation:

In the case of submission by epost Connect, see instructions in G116.2.1 below.

- c. obtain clarification of the requirements contained in the RFP, if necessary, before submitting a proposal;
 - d. ensure that the Proponent's name, return address, the solicitation number and description, and solicitation closing date and time are clearly visible on the envelope or the parcel(s) containing the proposal (not required if using epost Connect service); and
 - e. provide a comprehensive and sufficiently detailed proposal that will permit a complete evaluation in accordance with the criteria set out in this RFP.
3. The technical and price components of the proposal must be submitted in separate sections in accordance with the instructions contained in the proposal documents.
4. Timely and correct delivery of proposals to the office designated for receipt of proposals is the sole responsibility of the Proponent. PWGSC will not assume or have transferred to it those responsibilities. All risks and consequences of incorrect delivery of proposals are the responsibility of the Proponent.
5. Proposals and supporting information may be submitted in either English or French.
6. 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 using GETS. It is the sole responsibility of the Proponent to regularly consult GETS for the most up-to-date information. Canada will not be liable for any oversight on the Proponent's part nor for notification services offered by a third party.

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GI16.2 Transmission by epost Connect

1. epost Connect

- a. Proposals must be submitted by using the epost Connect service provided by Canada Post Corporation.

Only propositions submitted by using epost Connect service will be accepted. The bidder must send an email to request to open a conversation to the following address:

TPSGC.RQReceptionSoumissions-QRSupplyTendersReception.PWGSC@tpsgc-pwgsc.gc.ca

Note: Proposals will not be accepted if emailed directly to this email address. This email address is to be used to open an epost Connect conversation, as detailed in b., or to send proposals through an epost Connect message if the proponent is using its own licensing agreement for epost Connect.

- b. To submit a proposal using epost Connect service, the Proponent must either:
- i. send directly its proposal only to the specified PWGSC Bid Receiving Unit, using its own licensing agreement for epost Connect provided by Canada Post Corporation; or
 - ii. send as early as possible, and in any case, at least six business days prior to the solicitation closing date and time (in order to ensure a response), an email that includes the bid solicitation number to the specified PWGSC Bid Receiving Unit requesting to open an epost Connect conversation. Requests to open an epost Connect conversation received after that time may not be answered.
- c. If the Proponent sends an email requesting epost Connect service to the specified Bid Receiving Unit in the bid solicitation, an officer of the Bid Receiving Unit will then initiate an epost Connect conversation. The epost Connect conversation will create an email notification from Canada Post Corporation prompting the Proponent to access and action the message within the epost Connect conversation. The Proponent will then be able to transmit its proposal afterward at any time prior to the solicitation closing date and time.
- d. If the Proponent is using its own licensing agreement to send its proposal, the Proponent must keep the epost Connect conversation open until at least 30 business days after the solicitation closing date and time.
- e. The bid solicitation number should be identified in the epost Connect message field of all electronic transfers.
- f. It should be noted that the use of epost Connect service requires a Canadian mailing address. Should a Proponent not have a Canadian address, they may use the Bid Receiving Unit address specified in the solicitation in order to register for the epost Connect service.

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- g. For proposals transmitted by epost Connect service, Canada will not be responsible for any failure attributable to the transmission or receipt of the proposal including, but not limited to, the following:
 - i. receipt of a garbled, corrupted or incomplete proposal;
 - ii. availability or condition of the epost Connect service;
 - iii. incompatibility between the sending and receiving equipment;
 - iv. delay in transmission or receipt of the proposal;
 - v. failure of the Proponent to properly identify the proposal;
 - vi. illegibility of the proposal;
 - vii. security of proposal data; or
 - viii. inability to create an electronic conversation through the epost Connect service.
- h. The Bid Receiving Unit will send an acknowledgement of the receipt of proposal document(s) via the epost Connect conversation, regardless of whether the conversation was initiated by the supplier using its own license or the Bid Receiving Unit. This acknowledgement will confirm only the receipt of proposal document(s) and will not confirm if the attachments may be opened nor if the content is readable.
- i. Proponents must ensure that they are using the correct email address for the Bid Receiving Unit when initiating a conversation in epost Connect or communicating with the Bid Receiving Unit and should not rely on the accuracy of copying and pasting the email address into the epost Connect system.
- j. A proposal transmitted by epost Connect service constitutes the formal proposal of the Proponent and must be submitted in accordance with section GI16.1.

GI17 Late submissions

1. PWGSC will return or delete proposals delivered after the stipulated solicitation closing date and time, unless they qualify as a delayed proposal as described in GI17.2. For late proposals submitted using means other than the Canada Post Corporation's epost Connect service, the physical proposal will be returned. For proposals submitted electronically, the late proposal will be deleted. As an example, proposals submitted using Canada Post Corporation's epost Connect service, conversations initiated by the Bid Receiving Unit via the epost Connect service pertaining to a late proposal, will be deleted. Records will be kept documenting the transaction history of all late proposals submitted using epost Connect.
2. A proposal delivered to the specified bid receiving unit after the solicitation closing date and time but before the contract award date may be considered, provided the proponent can prove the delay is due solely to a delay in delivery that can be attributed to the Canada Post Corporation (CPC) (or national equivalent of a foreign country). Private courier (Purolator Inc., Fedex Inc., etc.) is not considered to be part of CPC for the purposes of delayed proposals.

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- a. The only pieces of evidence relating to a delay in the CPC system that are acceptable to PWGSC are:
 - i. a CPC cancellation date stamp;
 - ii. a CPC Priority Courier bill of lading;
 - iii. a CPC Xpresspost label;

that clearly indicates that the proposal was sent the day before the solicitation closing date.
 - b. The only pieces of evidence relating to a delay in the epost Connect service provided by CPC system that are acceptable to PWGSC is a CPC epost Connect service date and time record indicated in the epost Connect conversation history that clearly indicates that the proposal was sent before the solicitation closing date and time.
3. Misrouting, traffic volume, weather disturbances, labour disputes or any other causes for the late delivery of proposals are not acceptable reasons for the proposal to be accepted by PWGSC.
 4. Postage meter imprints, whether imprinted by the Proponent, the CPC or the postal authority outside Canada, are not acceptable as proof of timely mailing.

GI18 Not applicable

GI19 Acceptance of proposal

1. Canada may accept any proposal, or may reject any or all proposals.
2. In the case of error in the extension or addition of unit prices, the unit price will govern.
3. While Canada may enter into an agreement or contractual arrangement without prior negotiation, Canada reserves the right to negotiate with Proponents on any procurement.
4. Canada reserves the right to cancel or amend the RFP at any time.

GI20 Legal capacity

The Proponent must have the Legal capacity to contract. If the Proponent is a sole proprietorship, a partnership or a corporate body, the Proponent must provide, if requested by the Contracting Authority, a statement and any requested supporting documentation indicating the laws under which it is registered or incorporated together with the registered or corporate name and place of business. This also applies to Proponents submitting a proposal as a joint venture.

GI21 Debriefing

Should a Proponent desire a debriefing, the Proponent should contact the person identified on the front page of the RFP within 15 working days of the notification of the results of the solicitation. The debriefing will include an outline of the strengths and weaknesses of the submission, referring to the evaluation criteria. The confidentiality of information relating to other submissions will be protected. The debriefing may be provided in writing, by telephone or in person.

GI22 Financial capability

1. Financial capability Requirement: The Proponent must have the financial capability to fulfill this requirement. To determine the Proponent's financial capability, the Contracting Authority may, by written notice to the Proponent, require the submission of some or all of the financial information detailed below during the evaluation of proposals. The Proponent must provide the following information to the Contracting Authority within fifteen (15) working days of the request or as specified by the Contracting Authority in the notice:
 - a. Audited financial statements, if available, or the unaudited financial statements (prepared by the Proponent's outside accounting firm, if available, or prepared in-house if no external statements have been prepared) for the Proponent's last three fiscal years, or for the years that the Proponent has been in business if this is less than three years (including, as a minimum, the Balance Sheet, the Statement of Retained Earnings, the Income Statement and any notes to the statements).
 - b. If the date of the financial statements in (a) above is more than five months before the date of the request for information by the Contracting Authority, the Proponent must also provide, unless this is prohibited by legislation for public companies, the last quarterly financial statements (consisting of a Balance Sheet and a year-to-date Income Statement), as of two months before the date on which the Contracting Authority requests this information.
 - c. If the Proponent has not been in business for at least one full fiscal year, the following must be provided:
 - i. the opening Balance Sheet on commencement of business (in the case of a corporation, the date of incorporation); and
 - ii. the last quarterly financial statements (consisting of a Balance Sheet and a year-to-date Income Statement) as of two months before the date on which the Contracting Authority requests this information.
 - d. A certification from the Chief Financial Officer or an authorized signing officer of the Proponent that the financial information provided is complete and accurate.
 - e. A confirmation letter from all of the financial institution(s) that have provided short-term financing to the Proponent outlining the total of lines of credit granted to the Proponent and the amount of credit that remains available and not drawn upon as of one month prior to the date on which the Contracting Authority requests this information.
 - f. A detailed monthly Cash Flow Statement covering all the Proponent's activities (including the requirement) for the first two years of the requirement that is the

subject of the bid solicitation, unless this is prohibited by legislation. This statement must detail the Proponent's major sources and amounts of cash and the major items of cash expenditures on a monthly basis, for all the Proponent's activities. All assumptions made should be explained as well as details of how cash shortfalls will be financed.

- g. A detailed monthly Project Cash Flow Statement covering the first two years of the requirement that is the subject of the bid solicitation, unless this is prohibited by legislation. This statement must detail the Proponent's major sources and amounts of cash and the major items of cash expenditures, for the requirement, on a monthly basis. All assumptions made should be explained as well as details of how cash shortfalls will be financed.
2. If the Proponent is a joint venture, the financial information required by the Contracting Authority must be provided by each member of the joint venture.
3. If the Proponent is a subsidiary of another company, then any financial information in 1. (a) to (e) above required by the Contracting Authority must be provided by the ultimate parent company. Provision of parent company financial information does not by itself satisfy the requirement for the provision of the financial information of the Proponent, and the financial capability of a parent cannot be substituted for the financial capability of the Proponent itself unless an agreement by the parent company to sign a Parental Guarantee, as drawn up by Public Works and Government Services Canada (PWGSC), is provided with the required information.
4. Financial Information Already Provided to PWGSC: The Proponent is not required to resubmit any financial information requested by the Contracting Authority that is already on file at PWGSC with the Contract Cost Analysis, Audit and Policy Directorate of the Policy, Risk, Integrity and Strategic Management Sector, provided that within the above-noted time frame:
 - a. the Proponent identifies to the Contracting Authority in writing the specific information that is on file and the requirement for which this information was provided; and
 - b. the Proponent authorizes the use of the information for this requirement.

It is the Proponent's responsibility to confirm with the Contracting Authority that this information is still on file with PWGSC.

5. Other Information: Canada reserves the right to request from the Proponent any other information that Canada requires to conduct a complete financial capability assessment of the Proponent.
6. Confidentiality: If the Proponent provides the information required above to Canada in confidence while indicating that the disclosed information is confidential, then Canada will treat the information in a confidential manner as permitted by the [Access to Information Act \(https://laws-lois.justice.gc.ca/eng/acts/A-1/\)](https://laws-lois.justice.gc.ca/eng/acts/A-1/), R.S., 1985, c. A-1, section 20(1) (b) and (c).
7. Security: In determining the Proponent's financial capability to fulfill this requirement, Canada may consider any security the Proponent is capable of providing, at the Proponent's sole expense (for example, an irrevocable letter of credit from a registered financial institution drawn in favour of Canada, a performance guarantee from a third party or some other form of security, as determined by Canada).

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8. In the event that a proposal is found to be non-compliant on the basis that the Proponent is considered not to be financially capable of performing the subject requirement, official notification shall be provided to the Proponent.

GI23 Performance evaluation

Proponents shall take note that the performance of the Consultant during and upon completion of the services shall be evaluated by Canada. The evaluation includes all or some of the following criteria: Design, Quality of Results, Management, Time and Cost. Should the Consultant's performance be considered unsatisfactory, the Consultant may be declared ineligible for future contracts. The form PWGSC-TPSGC 2913-1 (<https://www.tpsgc-pwgsc.gc.ca/app-acq/forms/2913-1-eng.html>), **SELECT - Consultant Performance Evaluation Report**, is used to record the performance.

GI24 Proposal costs

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

GI25 Conflict of interest—unfair advantage

1. In order to protect the integrity of the procurement process, Proponents are advised that Canada may reject a proposal in the following circumstances:
 - a. if the Proponent, any of its sub-consultants, 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 Proponent, any of its sub-consultants, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other Proponents and that would, in Canada's opinion, give or appear to give the Proponent an unfair advantage.
2. The experience acquired by a Proponent 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 Proponent remains however subject to the criteria established above.
3. Where Canada intends to reject a proposal under this section, the Contracting Authority will inform the Proponent and provide the Proponent an opportunity to make representations before making a final decision. Proponents who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a proposal, the Proponent represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Proponent 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.

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GI26 Limitation of liability

Except as expressly and specifically permitted in this RFP, no Proponent or Potential Proponent shall have any claim for any compensation of any kind whatsoever in relation to this RFP, or any aspect of the procurement process, and by submitting a proposal each Proponent shall be deemed to have agreed that it has no claim.

GI27 Code of Conduct for Procurement—proposal

The *Code of Conduct for Procurement* (<https://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>) provides that Proponents 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 Proponent is 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.

TERMS, CONDITIONS AND CLAUSES

AGREEMENT

1. The Consultant understands and agrees that upon acceptance of the offer by Canada, a binding Agreement shall be formed between Canada and the Consultant and the documents forming the Agreement shall be the following:
 - (a) the Front Page and this Agreement clause;
 - (b) the General Terms, Conditions and Clauses, as amended, identified as:
 - R1210D (2018-06-21), General Condition (GC) 1 - General Provisions – Architectural and/or Engineering Services
 - R1215D (2016-01-28), General Condition (GC) 2 - Administration of the Contract – Architectural and/or Engineering Services
 - R1220D (2015-02-25), General Condition (GC) 3 - Consultant Services
 - R1225D (2015-04-01), General Condition (GC) 4 - Intellectual Property
 - R1230D (2018-06-21), General Condition (GC) 5 - Terms of Payment – Architectural and/or Engineering Services
 - R1235D (2011-05-16), General Condition (GC) 6 - Changes
 - R1240D (2018-06-21), General Condition (GC) 7 - Taking the Services Out of the Consultant's Hands, Suspension or Termination
 - R1245D (2016-01-28), General Condition (GC) 8 - Dispute Resolution – Architectural and/or Engineering Services
 - R1250D (2017-11-28), General Condition (GC) 9 - Indemnification and InsuranceSupplementary Conditions
Agreement Particulars
 - (c) Project Brief / Terms of Reference;
 - (d) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";
 - (e) the Security Requirements Check List (SRCL);
 - (f) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;
 - (g) the proposal, the Declaration/Certifications Form and the Price Proposal Form.
2. The documents identified above by title, number and date are hereby incorporated by reference into and form part of this Agreement, as though expressly set out herein, subject to any other express terms and conditions herein contained.

The documents identified above by title, number and date 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>

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

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- (a) any amendment or variation in the Agreement that is made in accordance with the terms and conditions of the Agreement;
- (b) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;
- (c) this Agreement clause;
- (d) Supplementary Conditions;
- (e) General Terms, Conditions and Clauses;
- (f) Agreement Particulars;
- (g) Project Brief / Terms of Reference;
- (h) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";
- (i) the document entitled "Security Requirement Check List";
- (j) the proposal.

SUPPLEMENTARY CONDITIONS (SC)

SC1 SECURITY REQUIREMENT

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS) with approved Document Safeguarding at the level of PROTECTED B, issued by the Contract Security Program (CSP), Public Works and Government Services Canada (PWGSC).
2. The Contractor/Offeror personnel requiring access to PROTECTED information, assets or site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by the CSP, PWGSC.
3. The Contractor MUST NOT utilize its Information Technology systems to electronically process, produce or store PROTECTED information until the CSP, PWGSC has issued written approval. After approval has been granted or approved, these tasks may be performed at the level of PROTECTED B (including an IT Link at the level of PROTECTED B).
4. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of the CSP, PWGSC.
5. The Contractor/Offeror must comply with the provisions of the:
 - (a) Security Requirements Check List and security guide (if applicable), attached at Annex G;
 - (b) Industrial Security Manual (Latest Edition)

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SC2 LANGUAGE REQUIREMENTS

1. Communication between Canada and the Consultant shall be in the language of choice of the Consultant Team, which shall be deemed to be the language of the Consultant's proposal.
2. The Consultant's services during construction tender call (such as addenda preparation, tenderers' briefing meetings, technical answers to questions by bidders, including translation of bidder's questions) shall be provided expeditiously in both languages, as necessary.
3. The Consultant's services during construction shall be provided in the language of choice of the Contractor. The successful Contractor will be asked to commit to one or other of Canada's official languages upon award of the Construction Contract and, thereafter construction and contract administration services will be conducted in the language chosen by the Contractor. The consultant must also be able to communicate in French with local authorities.
4. Other required services in both of Canada's official languages (such as construction documentation) are described in detail in the Project Brief.
5. The Consultant Team, including the Prime Consultant, Sub-Consultants and Specialists Consultants shall ensure that the services being provided in either language shall be to a professional standard.

SC3 FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - DEFAULT BY THE CONSULTANT

The Consultant understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Consultant and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the contract. If the AIEE becomes invalid, the name of the Consultant will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Consultant in default as per the terms of the contract.

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SC4 DURATION OF THE CONTRACT

The consultant must perform and complete the services described in the project statement by March 31, 2027.

SC5 OPTIONAL SERVICES

1. The Contractor grants to Canada individual irrevocable options to acquire the services of steps 2 - Tender Documents and Step 3 - Tender and construction work in accordance with the terms established in the contract. The use of optional services by Canada is subject to receipt of the necessary approvals from the Government of Canada and is at the sole discretion of Canada.

2. These options may only be exercised by the contracting authority and will be confirmed, for administrative reasons only, by modifications to the contract.

3. The Contracting Authority may exercise the options at any time before the expiry date of the Contract by sending a written notice to the Contractor.

SC6 Price Escalation Based on Consumer Price Index (CPI)

1. Starting with Contract year three, the firm hourly rates for time based fees indicated in APPENDIX C – PRICE PROPOSAL FORM - will be adjusted annually on the start date of each new Contract year based on the average percentage increase (decrease) in the monthly index of the Consumer Price Index for Canada, All-Items (Not Seasonally Adjusted), published by Statistics Canada for the Province of Quebec, for the 12-month period (See example below) ending three (3) months prior to the new Contract year start date.

For example, if the contract start date was April 10, 2017 then at the start of Contract year three (i.e. April 10, 2019), the Contract year one rates would be increased by 1.3% based on the following assumptions:

	% Monthly Change in index of the Consumer Price Index for Canada, All-Items (Not Seasonally Adjusted), published by Statistics Canada for the Province of Quebec
February 2018	1.1%
March 2018	1.2%
April 2018	0.9%
May 2018	0.9%
June 2018	1.1%
July 2018	1.0%
August 2018	1.4%
September 2018	1.6%
October 2018	1.6%
November 2018	1.7%

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December 2018
January 2019

1.5%
1.7%

Average:

15.7% divided by 12 (Months) = 1.3%

For clarity purposes, the adjustment of firm hourly rates for time based fees of the third (3) contractual year and the following contractual years will be made from the adjusted firm hourly rates used during the previous contractual year. For example, for the fourth (4) contractual year, the adjustment of firm hourly for time based fees will be made from firm hourly rates for time based fees adjusted and used during the third (3) contractual year.

2. Canada will make the adjustment, as indicated in the modality of paragraph 1, which will be effective on the anniversary date of the applicable contract, and will send a notice to the Contractor indicating the percentage of the adjustment of the firm daily rates for time based fees prior to the anniversary date of the Contract.

AGREEMENT PARTICULARS

The Agreement Particulars will be issued at time of award of contract and will identify the fee to be paid to the Consultant for the services determined in the Price Proposal Form.

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APPENDIX A - TEAM IDENTIFICATION FORMAT

Project Title: A&E Consultant services for the rehabilitation of the envelope of the Louis-S. Saint-Laurent building (3 PCO) (Québec)

For details on this format, please see SRE in the Request For Proposal.

The prime consultant and other members of the Consultant Team shall be, or eligible to be, licensed, certified or otherwise authorized to provide the necessary professional services to the full extent that may be required by provincial or territorial law.

I. Prime Consultant (Proponent – Architect or Engineer):

Firm or Joint Venture Name:
.....
.....

Key Individuals and provincial professional licensing status and/or professional accreditation:

.....
.....
.....
.....
.....

II. Key Sub Consultants / Specialists:

Structural Engineer (if not a joint venture)

Firm Name:
.....
.....

Key Individuals and provincial professional licensing status and/or professional accreditation:

.....
.....
.....
.....
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Firm Name:
.....
.....

Key Individuals and provincial professional licensing status and/or professional accreditation:

.....
.....
.....
.....
.....

[Copy from the above for other required disciplines.](#)

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM

Project Title: A&E Consultant services for the rehabilitation of the envelope of the Louis-S. Saint-Laurent building (3 PCO) (Québec)

Name of Proponent:

Street Address:

Mailing Address:

Proponent's Proposed Site or premises Requiring Safeguard Measures (refer to SI? Security Requirement):

Address:

Street Number / Street Name, Unit / Suite / Apartment Number

City, Province, Territory

Postal Code

Telephone Number: ()

Fax Number: ()

E-Mail:

Procurement Business Number:

Type of Organization:	Size of Organization:
_____ Sole Proprietorship	Number of Employees _____
_____ Partnership	Graduate Architects / Professional Engineers _____
_____ Corporation	Other Professionals _____
_____ Joint Venture	Technical Support _____
	Other _____

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Remark to Contracting Authority: Insert the Federal Contractors Program for Employment Equity Certification for requirements made on behalf of a Department or Agency subject to the FCP, estimated at **\$1M and above**, Applicable Taxes included (consult Annex 5.1 of the Supply Manual).

Federal Contractors Program for Employment Equity - Certification

I, the Proponent, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a proposal non-responsive, or will declare a consultant in default, if a certification is found to be untrue, whether during the proposal evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Proponent's certifications. Failure to comply with any request or requirement imposed by Canada may render the proposal non-responsive or constitute a default under the contract.

For further information on the Federal Contractors Program for Employment Equity visit Employment and Social Development Canada (ESDC)-Labour's website.

Date: _____(YY/MM/DD) (If left blank, the date will be deemed to be the bid closing date.)

Complete both A and B.

A. Check only one of the following:

- A1. The Proponent certifies having no work force in Canada.
- A2. The Proponent certifies being a public sector employer.
- A3. The Proponent certifies being a federally regulated employer being subject to the *Employment Equity Act*.
- A4. The Proponent certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

A5. The Proponent has a combined work force in Canada of 100 or more employees; and

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

- A5.1. The Proponent certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

OR

- A5.2. The Proponent certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- B1. The Proponent is not a Joint Venture.

OR

- B2. The Proponent is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the General Instructions)

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Former Public Servant (FPS) - Certification

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, proponents must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of proposals is completed, Canada will inform the Proponent of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the proposal non-responsive.

Definitions

For the purposes of this clause,

"former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- (a) an individual;
- (b) an individual who has incorporated;
- (c) a partnership made of former public servants; or
- (d) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c.C-17, the *Defence Services Pension Continuation Act*, 1970, c.D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c.R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c.R-11, the *Members of Parliament Retiring Allowances Act*, R.S., 1985, c.M-5, and that portion of pension payable to the *Canada Pension Plan Act*, R.S., 1985, c.C-8.

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Proponent a FPS in receipt of a pension?

YES () NO ()

If so, the Proponent must provide the following information, for all FPS in receipt of a pension, as applicable:

- (a) name of former public servant;
- (b) date of termination of employment or retirement from the Public Service.

By providing this information, proponents agree that the successful Proponent's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2019-1 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Proponent a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? YES () NO ()

If so, the Proponent must provide the following information:

- (a) name of former public servant;
- (b) conditions of the lump sum payment incentive;
- (c) date of termination of employment;
- (d) amount of lump sum payment;
- (e) rate of pay on which lump sum payment is based;
- (f) period of lump sum payment including start date, end date and number of weeks;
- (g) number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Name of Proponent:

DECLARATION:

I, the undersigned, being a principal of the proponent, hereby certify that the information given on this form and in the attached proposal is accurate to the best of my knowledge. If any proposal is submitted by a partnership or joint venture, then the following is required from each component entity.

..... name signature
..... title	
I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture	
..... name signature
..... title	
I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture	
..... name signature
..... title	
I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture	

During proposal evaluation period, PWGSC contact will be with the following person: _____.

Telephone Number: () _____ Fax Number: () _____

E-mail: _____

This Appendix "B" should be completed and submitted with the proposal, but may be submitted afterwards as follows: if Appendix "B" is not completed and submitted with the proposal, the Contracting Authority will inform the Proponent of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the proposal non-responsive.

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APPENDIX C - PRICE PROPOSAL FORM

INSTRUCTIONS: Please complete this Quote Form and submit it via the Canada Post epost system. Indicate the name of the proponent, the name of the project, the PWGSC Invitation number and the words "PRICE PROPOSAL FORM". Quotations must not include applicable taxes.

PROPOSERS SHALL NOT ALTER THIS FORM

Project Title: Rehabilitation of the envelope of Louis-S.-St-Laurent Building (3PCO)

Name of Proponent:

The following will form part of the evaluation process:

A – REQUIRED SERVICES (RS)

Fixed Fee (R1230D (2018-06-21), GC 5 - Terms of Payment – Architectural and/or Engineering Services)

The fixed fee attributable to the services required (RS1 to RS5, RS7), must include travel expenses and travel time for all resources to attend the various meetings, visits, inspections, etc. in Quebec City and/or Montreal. The fixed fee must also include all disbursements described in the Project Brief as well as the fees of all sub-consultants listed in section PD8 of the Project Brief. Refer to clause R1230D GC5 Terms of payment.

TABLE 1

Breakdown of the fees that will be applicable to the following required services:

STEPS	Identification of required service (RS)	Percentage of total fixed fee payable per service
Step 1 (1A)	RS1 : Analysis of project requirements	5%
	RS2 : Design concept	17.5%
	RS3 : Design development	15%
	RS7 : Commissioning of the facility – step 1	2,5%
Step 2 (2A)	RS4 : Construction documents	47.5%
	RS7 : Commissioning of the facility – step 2	2,5%
Step 3 (3A)	RS5 : Tender call and bid evaluation	5%
	SR7 : Commissioning of the facility – step 3	5%

TOTAL FOR FIXED FEES (Table 1 total)\$

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1- STEP 1

1A - REQUIRED SERVICES (RS) – FIXED FEES – STEP 1

All required services (RS1, RS2, RS3 and RS7 – step 1) to Fixed Fee (R1230D (2018-06-21), GC 5 - Method of Payment- Architectural and/or Engineering Services) for Step 1 are included in the **TOTAL FIXED FEES in Table 1.**

2- STEP 2 (OPTIONAL)

2A - REQUIRED SERVICES (RS) – FIXED FEES - STEP 2

All required services (RS4 and RS7 – step 2) to Fixed Fee (R1230D (2018-06-21), GC 5 - Method of Payment- Architectural and/or Engineering Services) for Step 2 are included in the **TOTAL FIXED FEES in Table 1.**

2B - ADITIONAL SERVICES (AS) – FIXED FEES - STEP 2

Fixed Fee (R1230D (2018-06-21), GC 5 - Terms of Payment – Architectural and/or Engineering Services)

The fixed fee attributable to additional AS1 services must include travel expenses and travel time for all resources to attend the various meetings, visits, inspections, etc. in Montreal and/or Quebec City. The fees must also include all disbursements described in the Project Brief and the fees of all sub-consultants listed in section DP8 of the Project Brief (refer to clause R1230D GC5 - Terms of Payment).

SERVICES

FIXED FEES

AS 1 – Bilingual construction documents STEP 2\$

TOTAL FOR FIXED FEES – (AS1) - STEP 2 (2B)\$

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3- STEP 3 (OPTIONAL)

3A - REQUIRED SERVICES (RS) – FIXED FEES - STEP 3

All required services (RS5 and RS7 - step 3) to Fixed Fee (R1230D (2018-06-21), GC 5 - Method of Payment- Architectural and/or Engineering Services) for Step 3 are included in the **TOTAL FIXED FEES** in Table 1.

3B – REQUIRED SERVICES (RS) – TIME BASED FEES – STEP 3

Time Based Fees (R1230D (2018-06-21), GC 5 - Terms of Payment– Architectural and/or Engineering Services) : RS6

For each resource identified in the time-based fee tables :

Note 1: Senior means at least 10 years of experience.

Note 2: Intermediate means at least 5 years of experience.

Note 3: Junior means at least 3 years of experience.

RS6 – Contract management and construction (Services to be determined according to the complexity of the work in progress)	HOURS PLANNED*	HOURLY RATES**	FEEES BASED ON TIME Colounms AxB
	Coloumn A	Coloumn B	
Senior Architect ^{note 1}	1100\$\$
Intermediate Architect ^{note 2}	1800\$\$
Senior Structural engineer ^{note 1}	1100\$\$
Intermediate Structural engineer ^{note 2}	1800\$\$
Senior Mechanical engineer ^{note 1}	200\$\$
Intermediate BIM specialist ^{note 2}	200\$\$
Intermediate schedule specialist ^{note 2}	200\$\$
Intermediate cost specialist ^{note 2}	200\$\$
Senior Civil engineer ^{note 1}	200\$\$
Senior Interior Designer ^{note 1}	100\$\$
Senior Landscape Architect ^{note 1}	100\$\$

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Senior Environmental Specialist ^{note 1}	100\$\$
Senior Electrical engineer ^{note 1}	200\$\$
MAXIMUM FOR TIME BASED FEES (SR6) – STEP 3 (3B)		\$

*Payment will be based on actual hours spent. Travel time and/or expenses will not be reimbursed separately and must be included in hourly rate (Refer to R1230D (2018-06-21), GC 5 – Terms of Payment– Architectural and/or Engineering Services) .

** All inclusive hourly rate is applicable to both normal working hours and any other shift work as required.

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3C - ADITONAL SERVICES (AS) – TIME BASED FEES - STEP 3

Time Based Fees (R1230D (2018-06-21), GC 5 - Terms of Payment– Architectural and/or Engineering Services) for AS2 services.

For each resource identified in the time-based fee tables :

Note 1: Senior means at least 10 years of experience.

Note 2: Intermediate means at least 5 years of experience.

Note 3: Junior means at least 3 years of experience.

AS2 – Resident site Services during Construction (Services to be determined according to the complexity of the work in progress)	HOURS PLANNED* Coloumn A	HOURLY RATES** Coloumn B	FEES BASED ON TIME Coloumn AxB
Intermediate architect or Senior architectural technician ^{notes 1 et 2}	5 000\$\$
Intermediate structural engineer or Senior structural technician ^{notes 1 et 2}	5 000\$\$
Intermediate mechanical engineer or Senior mechanical technician ^{notes 1 et 2}	1 000\$\$
Intermediate civil engineer or Senior civil technician ^{notes 1 et 2}	500\$\$
Intermediate waste management specialist ^{note 2}	900\$\$
Intermediate Industrial Hygiene Specialist ^{note 2}	900\$\$
Senior technician surveyor ^{note 1}	900\$\$
Intermediate Interior Designer ^{note 2}	200\$\$
Intermediate Landscape Architect ^{note 2}	200\$\$
Intermediate Environmental Specialist ^{note 2}	100\$\$
Intermediate electrical engineer or Senior electrical technician ^{notes 1 et 2}	100\$\$
Technical support on field – senior or intermediate civil technician ^{notes 1 et 2}	400\$\$

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Technical support on field – senior or intermediate architectural technician ^{notes 1 et 2}	400\$\$
MAXIMUM FOR TIME BASED FEES, AS2 – STEP 3 (3C)		\$

*Payment will be based on actual hours spent. Travel time and/or expenses will not be reimbursed separately and must be included in hourly rate (Refer to R1230D (2018-06-21), GC 5.12 – Disbursements and GC 5 – Terms of Payment– Architectural and/or Engineering Services).

** All inclusive hourly rate is applicable to both normal working hours and any other shift work as required.

TOTAL MAXIMUM OF TIME BASED FEES – STEP 3 (3B + 3C)\$

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TOTAL COST OF SERVICES FOR PROPOSAL EVALUATION PURPOSES

DESCRIPTION	AMOUNT
TOTAL FOR FIXED FEES* (Table 1 total)	_____ \$
TOTAL FOR FIXED FEES – ADDITIONAL SERVICES (AS) - STEP 2 (Total 2B)*	_____ \$
TOTAL FOR TIME BASED FEES – STEP 3 (3B + 3C)*	_____ \$
TOTAL FEES FOR PROPOSAL EVALUATION PURPOSES (FOR REQUIRED SERVICES (RS) AND ADDITIONAL SERVICES (AS))	_____ \$

*Steps 2 and 3 are optional.

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APPENDIX C - PRICE PROPOSAL FORM (CONT'D)

The following will NOT form part of the evaluation process

Canada may accept or reject any of the following fees, disbursements and/or hourly rates.
Canada reserves the right to negotiate on these fees, disbursements and/or hourly rates.

ADDITIONNAL DISBURSEMENTS (NOT INCLUDED TO PROJECT BRIEF)

At cost without allowance for mark-up or profit, supported by invoices/receipts - see clause R1230D (2018-06-21), GC 5 - Terms of Payment– Architectural and/or Engineering Services, section GC5.12 Disbursements.

Disbursements listed here are only those disbursements that are not included in the Project Brief. All disbursements not listed below are to be included in the fixed fees for SR and AS, as detailed above.

Laboratories and external services :

- | | |
|---|--------------|
| • Emergency repair work (envelope) during SR1 inspection : | 20,000.00\$ |
| • Contaminated soil laboratory (construction) | 20,000.00\$ |
| • Industrial Hygiene Laboratory (construction) | 75,000.00\$ |
| • Archaeology (construction) | 20,000.00\$ |
| • Other disbursements not specified in the project statement
(Ex. : leak tests of the envelope or other) | 100,000.00\$ |

MAXIMUM AMOUNT FOR ADDITIONNAL DISBURSEMENTS 235,000.00\$

END OF PRICE PROPOSAL FORM



Doing Business with PWGSC

Documentation and Deliverables Manual



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Revisions

Version	Date	Description
0.1	August 14, 2017	Draft version for consultation.
1.0	January 12, 2018	Original Issuance

1 General

1.1 Effective Date

January 12, 2018

1.2 Authority

This manual is issued by the authority of the Director General, Technical Services, Real Property Branch (RPB), Public Works and Government Services Canada (PWGSC).

1.3 Purpose

This document provides architectural and engineering (A&E) consultants with the requirements for producing deliverables for PWGSC projects in order to ensure a well-documented design process, and facilitate review by PWGSC staff.

1.4 Scope

This document shall apply to design-bid-build projects undertaken by PWGSC on its own behalf as well as for other government departments (OGDs). It is applicable to all regions of PWGSC and can be supplemented with regional addendum.

1.5 Harmonization with Terms of Reference

This document shall be used in conjunction with the project's Project Brief / Terms of Reference (TOR). In case of a conflict between documents, the requirements of the TOR prevail over those of this document.

1.6 Departmental Name Change

In the fall of 2015, Public Works and Government Services Canada (PWGSC) was renamed Public Services and Procurement Canada (PSPC).

This name change is occurring in a phased approach, and for most documents PSPC should be used. However, all contract documents shall use the legal name Public Works and Government Services Canada (PWGSC) until the name has been changed in legislation.

1.7 Terminology

This document utilizes the following terminology:

- “shall” is used to express a requirement, a provision the Consultant is obligated to meet; “should” is used to express a recommendation; and
- “may” is used to express an option or that which is permissible within the limits of this document.

1.8 Definitions

Addenda: Changes to the construction documents or tendering procedures, issued during the tendering process.

Construction Documents: The drawings and specifications (including addenda).

Drawings: The graphic means of showing work to be done, as they depict shape, dimension, location, quantity of materials and relationship between building components.

Reports: Written account given of a particular matter after thorough investigation or consideration prepared by the Consultant.

Specifications: Written descriptions of materials and construction processes in relation to quality, colour, pattern, performance and characteristics of materials, installation and quality of work requirements.

2 Construction Documents

2.1 General

This section provides direction to Consultant firms on the preparation of construction documents (namely specifications and drawings) to be submitted to PWGSC for real property projects across Canada.

Specifications, drawings, and addenda shall be complete and clear so that contractors can prepare bids without guesswork.

2.1.1 Principles of PWGSC Contract Documents

Contact documents shall be prepared based on common public procurement principles. PWGSC does not use Canadian Construction Documents Committee (CCDC) documents.

PWGSC is responsible for preparing and issuing the construction contract and the terms and conditions as well as all other related bidding and contractual documents. For detailed information, the standard acquisition clauses and conditions commonly used by PWGSC in the contracting process are available on the buyandsell.gc.ca website.

2.1.2 Translation

When bilingual documents are required in the Terms of Reference, all documentation including drawings, specifications, reports as well as all bidder questions shall be in both official languages.

Ensure that English and French documents are equal in all respects. There can be no statements where one version takes precedence over the other.

2.1.3 Construction Documents Definitions

Unless otherwise indicated in the Project Brief / Terms of Reference, construction document submissions (33%, 50 or 66%, 99%, and 100% / final) shall meet the definitions outlined below. Further discipline based requirements may be included in the TOR.

- 33%: shall demonstrate general intent of design and compliance and alignment with relevant standards. Summary specification required, but not a full specification.
- 50% or 66%: shall show full system, all components, requirements, and lack only minor details on drawings. Specifications shall be well advanced and contain major work and material requirements and lack only minor details.
- 99%: shall be for final review by PWGSC, lacking no detail and complete with a project specific specification.
- 100% (or final): shall address comments by PWGSC as required, signed and sealed by the responsible design professional in compliance with various provincial jurisdiction requirements, ready for tender.

2.1.4 Quality Assurance

It is the sole responsibility of the Consultant firms to undertake their own quality control process and to review, correct, and coordinate their documents (between disciplines). The Consultant shall also ensure the constructability of their design.

2.1.5 Quality Assurance Deliverables

For every construction document submission (33 %, 50 % or 66 %, 99 % and 100 %), the Consultant shall provide:

- a completed and signed Checklist for the Submission of Construction Documents (see Appendix A); and
- an index as per Appendix B.

2.1.6 Terminology & Quantities

The Consultant shall use the term “Departmental Representative” instead of Engineer, PWGSC, Owner, Consultant or Architect. “Departmental Representative” means the person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor.

Notations such as “verify on site,” “as instructed,” “to match existing,” “example,” “equal to,” “equivalent to,” and “to be determined on site by Departmental Representative” shall not be indicated in specifications nor in drawings, as such wording promotes inaccurate and inflated bids.

Construction documents shall permit bidders to bid accurately. If a precise quantity is impossible to identify (e.g. cracks to be repaired), then provide an estimated quantity for bidding purposes (to be used in conjunction with unit prices). Ensure that the terminology used throughout construction documents is consistent and does not contradict applicable codes and standards.

2.1.7 Units of Measure

All units of measure within drawings and specifications shall be based on the International System of Units (SI).

2.2 Drawings

2.2.1 General

Drawings shall be prepared in accordance with the [PWGSC National CADD Standard](#) and the Canadian Standards Association CSA B78.5-93: *Computer-Aided Design Drafting (Buildings)*. Drawing shall also meet the following criteria:

- dimensions shall be in metric only (no dual dimensioning);
- no trade names present on any drawings; and
- no specification-type notes are on any drawing.

2.2.2 Information to be Included

Drawings should show the quantities of the elements, the configuration of the project, the dimensions, and details of how the work is constructed. There should be no references to future work or information that will be changed by future addenda. The scope of work should be clearly detailed, and elements not in the Contract should be eliminated or kept to an absolute minimum.

2.2.3 Title Blocks and Revision Notes

PWGSC title block shall be used for drawings and sketches (including addenda).

The percent of drawing completion should be included in the revision notes. Revision notes shall be inputted during design development, but cleared for 100% complete drawing (ready for tender).

2.2.4 Drawing Numbers

Drawings should be numbered in sets according to the type of drawing and the discipline involved as indicated in the following table. The requirements of the *PWGSC National CADD Standard* supersede these requirements, where warranted.

Discipline	Drawing
Demolition	D01, D02, etc.
Architecture	A01, A02, etc.
Civil	C01, C02, etc.
Landscaping	L01, L02, etc.
Mechanical	M01, M02, etc.
Electrical	E01, E02, etc.
Structural	S01, S02, etc.
Interior Design	ID01, ID02, etc.

2.2.5 Presentation Requirements

Present the drawings in sets, providing the applicable demolition, site plan, civil, landscaping, architecture, structural, mechanical, and electrical drawings in that order. All drawings should be of uniform standard size.

2.2.6 Legends

Provide a legend of symbols, abbreviations, references, etc., on the front sheet of each set of drawings, or in the case of large sets of drawings, provided the legend immediately after the title sheet and index sheets.

2.2.7 Schedules and Tables

Where schedules or tables occupy entire sheets, locate them at the back of each set of drawings for convenient reference.

2.2.8 North Arrow

Include a north arrow on all plans. Orient all plans in the same direction for easy cross-referencing. Wherever possible, lay out plans so that the north point is at the top of the sheet.

2.2.9 Drawing Symbols

Follow generally accepted drawing conventions, understandable by the construction trades and in accordance with PWGSC publications.

2.2.10 As-Built Drawings

As-built drawings are official record drawings and shall represent as constructed conditions including location and size of equipment, devices, plumbing lines, mechanical and electrical equipment, structural elements etc. As-built drawings shall be updated in CAD, handwritten notes are not acceptable.

2.2.11 Submission Format

Unless otherwise stated in the Terms of Reference, drawing submissions shall be in electronic and hard copy format.

2.2.11.1 Drawing Hard Copy Deliverable Format

Drawing submitted in hard copy shall be:

- printed to scale with black lines on white paper;
- bound with staple or other means into sets, where presentations exceed 50 sheets, the drawings for each discipline may be bound separately for convenience and ease of handling; and
- of a paper size as agreed to with the Departmental Representative.

2.2.11.2 Drawing Electronic Copy Deliverable Format

Drawing submitted electronically shall be provided:

- without password protection or printing restrictions;
- in two formats:
 - PDF/E-1 (in compliance with ISO 24517-1);
 - .dwg format; and
- in accordance with Appendix D.

2.3 Building Information Modelling (BIM)

PWGSC is committed to using non-proprietary or “OpenBIM” standards. As such, the Consultant is not required to use any specific proprietary software format. For the sake of legacy information quality, the Consultant shall use the international standards of interoperability for BIM (IFC) in all cases where models are submitted. Consultants shall work with software that is compliant to this standard.

Where used, BIM shall not replace the submission requirements outlined by this document. Rather, consultants shall submit models in addition requirements outlined herein.

Where BIM is used, models and modelled information shall be submitted in the following two formats:

- .native (whichever format is native to the Modelling software used by the Consultant);
- .ifc (Industry Foundation Classification – IFC4 – [ISO 16739:2013](#)); and

All Modelled Information, and Model Information Exchanges shall conform to:

- Project-specific requirements, such as they are laid out in the Project Execution Plan, Project Documentation and Model Element Table; and
- The project-identified BIM Standards & Guidelines.

Models for electronic submissions shall be organized as per Appendix D.

2.4 Specifications

2.4.1 National Master Specification

Specifications prepared for PWGSC shall follow the most current version of the [National Master Specification \(NMS\)](#) format offered by the National Research Council.

The Consultant has overriding responsibility for the content of construction project specifications. For each specification, he or she shall edit, amend, and supplement the NMS template as deemed necessary to produce an appropriate project specification free of conflict and ambiguity. The Consultant should refer to the latest *NMS User's Guide* and *NMS Development Guide* issued by the National Research Council for further guidance on using the NMS.

2.4.2 Index

Specifications shall include an index which list all specification sections, including numbers of pages, as well as the division and section names in the format shown in Appendix B.

2.4.3 Specification Organization

Narrow scope sections describing single units of work should be used for complex work. Broad scope sections may be used for less complex work. The Consultant shall use consistently for the entire specification either the NMS 1/3 page format, the NMS 2/3-page format or the Construction Specifications Canada (CSC) full-page format.

Start each section on a new right hand page and show the PWGSC project number, NMS section title, NMS section number, page number, and specification date on each page. The project title, and Consultant's name are not to be indicated.

2.4.4 Standards

Code and standard references in the NMS may not be up to date, the Consultant shall ensure that the project specification use the current applicable edition of all references quoted.

2.4.5 Specifying Materials

Specifications should make use of generic names in referencing construction materials. The Consultant should refer to the latest version of the *NMS Development Guide* issued by the National Research Council for further details. The term "Acceptable Manufacturers" shall not be used, as this restricts competition and does not ensure the actual material or product will be acceptable.

2.4.5.1 Alternate Products and Materials

Alternative materials to those specified may be considered during the solicitation period; however, the onus will be on the Consultant to review and evaluate all requests for approval of alternative materials.

2.4.5.2 Sole Sourcing

Sole sourcing of materials and/or work is only allowed in exceptional and justifiable circumstances. Prior to including sole source materials and/or work, the Consultant shall contact the Departmental Representative to obtain approval for the sole sourcing. Consultants shall provide proper justification for all individual sole source requirements.

Sole sourcing for materials and work may be required when performing work on existing proprietary systems, such as fire alarm systems, building automation systems (BAS) etc.

Wording for the sole source of work should be in Part 1 as follows:

Designated Contractor

- .1 Retain the services of [_____] to do the work of this section.

Wording for the sole source of building automation system should be in Part 1 as follows:

Designated Contractor

- .1 Retain the services of [_____] or its authorized representative to complete the work of all building automation system sections.

Wording for the sole source of building automation system should be in Part 2 as follows:

Materials

- .1 There is an existing [_____] system presently installed in the building. All materials must be selected to ensure compatibility with the existing [_____] system.

Wording for the sole source of materials (i.e. fire alarm systems) should be in Part 2 as follows:

Acceptable Materials

- .1 The only acceptable materials are [_____].

2.4.6 Measurement for Payment

The measurement for payment shall be provided in lump sum or unit prices.

2.4.6.1 Unit Prices

Unit prices should only be used in instances where the quantity can only be roughly estimated (e.g. earth work). The approval of the Departmental Representative shall be sought in advance of their use. In each applicable NMS section where unit prices are used, add new or replace paragraph title “Measurement for Payment” with “Unit Prices.” and use the following wording:

[The work for this section] or [define the specific work if required, e.g. rock excavation] will be paid based on the actual quantities measured on site and the unit prices stated in the Bid and Acceptance Form.

Provide a unit price table, sample shown below, to designate the work to which a unit price arrangement applies. The table shall include:

- the price per unit and the estimated total price for each item listed;
- a complete description of each type of work covered; and
- items as described in the referenced specification section.

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit GST/HST extra	Estimated Total Price GST / HST extra
TOTAL ESTIMATED AMOUNT						

2.4.7 Cash Allowances

Construction documents shall be complete and contain all of the requirements for the contractual work. Cash allowances are to be used only under exceptional circumstances (i.e. utility companies, municipalities), where no other method of specifying pricing is appropriate.

To include cash allowances, obtain approval from the Departmental Representative in advance, and use Section 01 21 00 – Allowances of the NMS to specify the criteria.

2.4.8 Warranties

The 12-month warranty period specified in PWGSC’s standard acquisition clauses and conditions with regard to the contract should typically be retained as is. Extended warranties should only be used where experience has shown that serious defects are likely to appear after expiry of the standard one-year warranty period. When necessary to extend beyond the 12 month warranty period,

use the following wording in Part 1 of the applicable technical sections, under the heading “Extended Warranty”:

For the work of this Section [____], the 12 month warranty period is extended to [____] months.

Where the extended warranty is intended to apply to a particular part of a specification section, modify the previous text as follows:

For [____], the 12 month warranty period is extended to [____] months.

2.4.9 Miscellaneous Requirements

Paragraphs noted as “Scope of Work” shall not be included. Within Part 1 – General of specifications, the paragraphs “Summary” and “Section Includes” shall not be utilized.

2.4.10 Specification Coordination

All sections of the specifications shall be coordinated, including the “Related Sections” portion of specifications and appendices. References to non-existent sections shall not be present within the specifications.

2.4.11 Regional Guide

The Consultant should contact the Departmental Representative to obtain the region’s requirements for Division 01 (General Requirements) or other short-form specifications as appropriate.

2.4.12 Health and Safety

All project specifications are required to include Section 01 35 29 – Health and Safety Requirements. Confirm with the Departmental Representative to determine if there are any instructions to meet regional requirements.

2.4.13 Subsurface Investigation Reports

If required, subsurface investigation report(s) shall be included after Section 31, and the following paragraph added to Section 31:

Subsurface Investigation Report(s)

- .1 Subsurface investigation report(s) are included in the specification following this section.

If the Departmental Representative determines that it is not practical to include the subsurface investigation report(s), alternate instructions will be provided.

Where tender documents are to be issued in both official languages, the subsurface investigation report(s) shall be issued in both languages.

In addition to providing the subsurface investigation report(s), the foundation information required by the current *National Building Code of Canada* (Division C, Part 2, 2.2.4.6) shall be included on foundation drawings.

2.4.14 Prequalification and Pre-Award Submissions

Do not include in the specifications any mandatory contractor and/or subcontractor prequalification or pre-award submission requirements that could become a contract award condition. If a

prequalification process or a pre-award submission is required, contact the Departmental Representative.

There should be no references to certificates, transcripts, samples, the license numbers of a trade or subcontractor, or any other documentation or item being included with the bid.

2.4.15 Contracting Issues

Specifications describe the workmanship and quality of the work and shall not contain any contracting issues. Division 00 of the NMS is not used by PWGSC, except for the Seals page 00 01 07 and the Table of Contents 00 01 10. In specifications, remove all references to the following:

- general instructions to bidders;
- general conditions;
- Canadian Construction Documents Committee (CCDC) documents;
- priority of documents;
- security clauses and clearances;
- terms of payment or holdback;
- the tendering process;
- bonding requirements;
- insurance requirements;
- alternative and separate pricing;
- site visits (mandatory or optional); and
- the release of lien and deficiency holdbacks.

2.4.16 Specification Submission Format

Unless otherwise stated in the Terms of Reference, specification submissions shall be in electronic and hard copy format.

2.4.16.1 Specification Hard Copy Deliverable Format

Specifications submitted in hard copy shall be printed on both sides of 216 mm x 280 mm white bond paper.

2.4.16.2 Specification Electronic Copy Deliverable Format

Specifications submitted electronically shall be:

- provided in PDF/A (in compliance with ISO 19005) format, without password protection and printing restrictions; and
- in accordance with Appendix D.

2.5 Addenda

2.5.1 Format

Prepare addenda using the format shown in Appendix C. No signature-type information is to appear.

Every page of the addendum (including attachments) shall be numbered consecutively. All pages shall have the PWGSC project number and the appropriate addendum number. Sketches shall appear in the PWGSC format, signed and sealed.

No Consultant information (name, address, phone #, Consultant project #, etc.) should appear in addenda or their attachments (except on sketches).

2.5.2 Content

Each item should refer to an existing paragraph of the specification or note/detail on the drawings. The clarification style is not acceptable.

Where there are many or major changes to a section or drawing, consider deleting the entire section or drawing and replacing it with a new version.

3 Cost Estimates

3.1 Cost Estimates Submission Formats

3.1.1 Format

Construction cost estimates for projects shall be prepared in the elemental analysis format, which is in accordance with the latest edition issued by the Canadian Institute of Quantity Surveyors (CIQS) for all PWGSC regions excluding Quebec. Within Quebec region the cost estimates shall be prepared in the Unifomat II format.

3.1.2 Contents

All cost estimates shall contain the following:

- introduction narrative complete with an outline description of the cost estimate basis;
- description of information obtained and used in the cost estimate including the date received;
- listing of notable inclusions;
- listing of notable exclusions;
- listing of items/issues carrying significant risk;
- summary of the itemized cost estimate;
- itemized breakdown of cost estimate by elemental analysis for Class B, C, and D; and
- itemized breakdown of costs estimate in both elemental analysis and National Master Specification division format for Class A, including measured quantities, unit rate pricings and amounts for each item of work.

Allowances, if deemed necessary by Consultant, shall contain the following:

- design allowance to cover unforeseen items during design phase;
- escalation allowance for changes in market conditions between the date of the cost estimate and the date tender is called;
- construction allowance to cover unforeseen items during construction; and
- the basis of calculations of the above allowances.

3.2 Classes of Cost Estimates for Construction Projects

PWGSC applies a detailed, four-level classification using the terms Class A, B, C and D. Apply these estimate classifications at the project stages as defined in the TOR. For projects required to be submitted to Treasury Board (TB) for approval: an indicative estimate shall be at least a Class D and a Substantive Estimate shall be at least a Class B.

3.2.1 Class D (Indicative) Estimate

Based upon a comprehensive statement of requirements, an outline of potential solutions and/or functional program, this estimate is to provide an indication of the final project cost that will enable ranking to be made for all the options being considered. This cost estimate shall be prepared in elemental analysis format. The level of accuracy of a Class D cost estimate shall be such that no more than a 20% design allowance is required.

3.2.2 Class C Estimate

Based on schematic/conceptual design and/or comprehensive list of project requirements, this estimate shall be adequately detailed and shall be sufficient for making the correct investment decision. This cost estimate shall be based on measured quantities of all items of work and prepared

in elemental analysis format. The level of accuracy of a Class C cost estimate shall be such that no more than a 15% design allowance is required.

3.2.3 Class B (Substantive) Estimate

Based on design development drawings and outline specifications, which include the preliminary design of all major systems and subsystems, as well as the results of all site/installation investigations, this estimate shall provide for the establishment of realistic cost objectives and be sufficient to obtain effective project approval.

This cost estimate shall be based on measured quantities of all items of work and prepared in elemental analysis format. The level of accuracy of a Class B cost estimate shall be such that no more than a 10% design allowance is required.

3.2.4 Class A (Pre-Tender) Estimate

Based on completed construction drawings and specifications prepared prior to calling competitive tenders, this estimate shall be sufficient to allow a detailed reconciliation and/or negotiation with any contractor's tender submission. This cost estimate shall be based on fully measured quantities of all items of work and prepared in both elemental analysis and Trade division format as per MasterFormat™. The level of accuracy of a Class A cost estimate shall be such that no more than a 5% design allowance is required.

4 Project Schedules

4.1 Schedule Format

Project schedules shall be submitted in the .mpp file extension (compatible with MS Project). The schedule shall include:

- major and minor milestones;
- activities representing discrete elements of work assigned to one person which:
 - are named using verb-noun combination (i.e. Review Design Development Report);
 - contain realistic durations in days;
- project logic linking activities with appropriate relationships finish-start (FS), finish-finish (FF), start-start (SS); and
- Identification of the critical path activities.

4.2 Progress Report

The progress report shall detail the progress of each activity up to the date of the report. It shall also include any logic changes made, both historic and planned; projections of progress and completion; as well as the actual start and finish dates of all activities being monitored.

The contents of each progress report will vary depending on the requirements at each project phase. A progress report should include:

- an executive summary;
- a narrative report;
- a variance report;
- a criticality report;
- an exception report (as required);
- the master schedule with cash flow projections; and
- the detailed project schedule (network diagram or bar charts).

4.2.1 Executive Summary

The executive summary should provide a synopsis of narrative, variance, criticality and exception report, and is not to exceed one page.

4.2.2 Narrative Report

The project narrative shall detail the work performed to date, comparing work progress to planned, and presenting current forecasts. This report should summarize the progress to date, explaining current and possible deviations and delays and the required actions to resolve delays and problems with respect to the Detailed Schedule, and Critical Paths.

4.2.3 Variance Report

The variance report, with supporting schedule documentation, should detail the work performed to date and compare work progress to work planned. It should summarize the progress to date and explain all causes of deviations and delays and the required actions to resolve delays and problems with respect to the detailed schedule and critical paths. The variance report shall be presented in the following format:

Paper size: Letter
Paper format: Portrait
Title format: Project Title, Report Type, Print Date, Data Date, Revision Block
Body text: Narratives for each report to match other reports
Columns: Activity ID, Activity Name, Planned Finish, Revised Finish, Variance, Activity % Complete

4.2.4 Criticality Report

The criticality report identifies all activities and milestones with negative, zero, and up to five days' Total Float. It is used as a first sort for ready identification of the critical paths, or near-critical paths, through the entire project. The criticality report shall be presented in the following format:

Paper size: Letter
Orientation: Portrait
Title format: Project Title, Report Type, Print Date, Data Date, Revision Block
Body text: Narratives for each report to match other reports
Columns: Activity ID, Activity Name, Duration, Start, Finish, Activity % Complete, Total Float

4.2.5 Exception Report

The exception report shall be provided when unforeseen or critical issues arise. The Consultant shall advise the Departmental Representative and submit the details and proposed solutions in the form of an exception report. The report shall include sufficient description and detail to clearly identify:

- scope changes, including identifying the nature, reason, and total impact of all identified and potential project scope changes affecting the project;
- delays and accelerations, including identifying the nature, reason, and total impact of all identified and potential duration variations; and
- options enabling a return to the project baseline, including Identifying the nature and potential effects of all proposed options for returning the project within the baselined duration.

The exception report shall be provided in the following format:

Paper size: Letter
Orientation: Portrait
Title format: Project Title, Report Type, Print Date, Data Date, Revision
Body text: Narrative to match other reports

Paper size: Letter
Orientation: Landscape
Title format: Project Title, Report Type, Print Date, Data Date, Revision
Columns: Activity ID, Activity Name, Duration, Remaining Duration, Start, Finish, Total Float

4.2.6 Master Schedule

A master schedule including cash projection shall be provided in the following format:

Paper size: 11X17
Orientation: Landscape
Columns: Activity ID, Activity Name, Duration, Activity % Complete, Start, Finish,
Total Float
Footer format: Project Title, Report Type, Print Date, Data Date, Revision Block
Sorting: Early Start, then Early Finish, then Activity ID based on the WBS.

4.2.7 Detailed Project Schedule

A detailed project schedule shall be provided along with a network diagram or bar charts in the following format:

Paper size: 11X17
Orientation: Landscape
Columns: Activity ID, Activity Name, Duration, Activity % Complete, Start, Finish,
Total Float
Footer format: Project Title, Report Type, Print Date, Data Date, Revision Block
Sorting: Early Start, then Early Finish, then Activity ID based on the WBS.

Appendix A Checklist for the Submission of Construction Documents

Date:	
Project Title:	Project Location:
Project Number:	Contract Number:
Consultant's Name:	PWGSC Departmental Representative
Review Stage (stages may vary at discretion of project team): 33% <input type="checkbox"/> 50% or 66% <input type="checkbox"/> 99% <input type="checkbox"/> 100% <input type="checkbox"/>	

Drawings\Design			
Item	Verified by	Explanations	Action By
1 Index			
1a The index shows a complete listing of drawing titles and numbers.			
2 Title Blocks			
2a The title block is as per the <i>PWGSC National CADD Standard</i> .			
3 Units			
3a All units of measure are metric.			
4 Trade Names			
4a Trade names are not used.			
5 Specification Notes			
5a There are no specification-type notes.			
6 Terminology			
6a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."			
6b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.			
7 Information to be included			
7a The project quantities, configurations, dimensions, and construction details are included.			
7b References to future work and elements not in the tender documents do not appear or are kept to an absolute minimum and clearly marked.			

Drawings\Design			
Item	Verified by	Explanations	Action By
8 Quality Assurance			
8a Coordination review of the design between various disciplines has been completed by the Consultant.			
8b Constructability review of design has been performed.			
9 Signing and Sealing			
9a Every final drawing bears the seal and signature of the responsible design professional in compliance with various provincial jurisdiction requirements.			

Specifications			
Item	Verified by	Explanations	Action by
1 National Master Specification			
1a The current edition of the National Master Specification (NMS) has been used.			
1b Sections have been included for all work identified on drawings and sections have been edited.			
2 Index			
2a The index shows a complete list of specifications sections with the correct number of pages.			
3 Organization			
3a Either the NMS 1/3- or 2/3-page format or the Construction Specifications Canada full-page format is used consistently for the entire specifications.			
3b Each section starts on a new page and the project number, section title, section number, page number and date is shown on each page.			
3c The Consultant's name is not indicated.			
4 Terminology			
4a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."			
4b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.			
5 Dimensions			
5a Dimensions are provided in metric only.			
6 Standards			
6a The current edition of all references quoted is used.			
7 Specifications Materials			
7a The method of specifying materials uses recognized standards. Actual brand names and model numbers are not specified.			
7b Materials are specified using standards and performance criteria.			

Specifications			
Item	Verified by	Explanations	Action by
7c Non-restrictive, non-trade name “prescription” or “performance” specifications are used throughout.			
7d The term “Acceptable Manufacturers” is not used.			
7e No sole sourcing has been used.			
7f If sole sourcing has been used, the correct wording has been used and a justification, estimate, and specification have been provided to the Departmental Representative for the sole-sourced products.			
8 Measurement for Payment			
8a Unit prices are used only for work that is difficult to estimate.			
9 Cash Allowances			
9a No cash allowances have been used or if they have, approval from the Departmental Representative has been received.			
10 Miscellaneous Requirements			
10a No paragraphs noted as “Scope of Work” are included.			
10b In Part 1 - General of any section, the paragraphs “Summary” and “Section Includes” are not used.			
11 Specification Coordination			
11a The list of related sections and appendices are coordinated.			
12 Health and Safety			
12a Section 01 35 29.06 – Health and Safety Requirements is included.			
13 Subsurface Investigation Reports			
13a Subsurface investigation reports are included after Section 31.			
14 Prequalifications			
14a There are no mandatory contractor and/or subcontractor prequalification requirements or references to certificates, transcripts, licence numbers of a trade or subcontractor, or other such documentation or item included in the bid.			

Specifications			
Item	Verified by	Explanations	Action by
15 Contracting Issues			
15a Contracting issues do not appear in the specifications.			
15b Division 00 of the NMS is not used except 00 01 07 (Seals Page) and 00 01 10 (Table of Contents).			
16 Quality Assurance			
16a There are no specification clauses with square brackets “[]” or lines “_” indicating that the document is incomplete or missing information.			
17 Signing and Sealing			
17a Every final specification bears the seal and signature of the responsible design professional as required. Seals and signatures shall be shown in NMS section 00 01 07.			

I confirm that the drawings and specifications have been thoroughly reviewed and that the items listed above have been addressed or incorporated. I acknowledge and accept that by signing, I am certifying that all items noted above have been addressed.

Consultant's Representative: _____

Firm name: _____

Signature: _____ Date: _____

Appendix B Drawings and Specifications Table of Contents Template

B.1 General

List all drawings by number and title.

For specifications, list all divisions, sections (by number and title), and the number of pages in each section.

B.2 Sample Table of Contents

Project No: _____ **Table of Contents** **Index**
Page 1 of ____

DRAWINGS:

C-1 Civil
L-1 Landscaping
A-1 Architecture
S-1 Structural
M-1 Mechanical
E-1 Electrical

SPECIFICATIONS:

DIVISION	SECTION	NO. OF PAGES
01	01 00 10 – General InstructionsXX
	01 14 25 – Designated Substances ReportXX
	01 35 30 – Health and SafetyXX
23	23 xx xx	
26	26 xx xx	

Appendix C Addenda Formatting Template

C.1 Instructions

To re-issue a drawing with an addendum:

- indicate the drawing number and title; and
- list the changes or indicate the revision number and date.

To re-issue a specification with an addendum:

- indicate the section number and title; and
- list all changes (i.e. deletions, additions, and replacements) by article or paragraph.

The addendum, drawings and specifications should be sent as separate files.

C.2 Sample Addendum

Date: _____

Addendum Number: _____

Project Number: _____

**The following changes in the bid documents are effective immediately.
This addendum will form part of the construction documents.**

DRAWINGS:

- 1 A1 Architecture
.1

SPECIFICATIONS:

- 1 Section 01 00 10 – General Instructions
 - .1 Delete article (xx) entirely.
 - .2 Refer to paragraph (xx.x),
delete the following: ...
and replace with the following: ...
- 2 Section 23 05 00 – Common Work Results - Mechanical
 - .1 Add new article (x) as follows:

Appendix D Directory Structure and Naming Convention Standards for Construction Tender Documents

D.1 Electronic Submissions

Electronic submittals of drawings, specification and models shall be in the following format unless otherwise specified in the Terms of Reference or instructed by the Departmental Representative:

- On media burned to read only memory (ROM) on either CD-ROM or DVD+R where:
 - CD-ROMs comply with ISO 9660:1988 standards;
 - DVD+Rs are 4.7 GB, single-sided, single-layer and comply with ISO/IEC 17344:2006 standards;
 - media is “closed” upon completion of burning; and
 - media is usable in such a way that files may be accessed and copied from it.

If BIM model size is greater than storage capacity of a DVD, refer to Terms of Reference or contact the Departmental Representative for transmission instructions.

Some projects may require the Consultant to upload files to an electronic system outlined in the Terms of Reference or as instructed by the Departmental Representative.

D.2 Directory Structure

D.2.1 1st Tier Subfolder

The 1st tier of the directory structure shall be “Project #####” where ##### represents each digit of the Project Number. The Project Number must always be used to name the 1st tier folder and it is always required. Free text can be added following the Project Number, to include such things as a brief description or the project title.

D.2.2 2nd Tier Subfolder

The 2nd tier of the directory structure shall consist of: “Bilingual - Bilingue”, “English” and “Français” folders. The folders of the 2nd tier cannot be given any other names since the Government Electronic Tendering System (GETS) uses these names for validation purposes. At least one of the “Bilingual - Bilingue”, “English” and “Français” folders is always required, and these must always have one of the applicable subfolders of the 3rd tier.

D.2.3 3rd Tier Subfolder

The 3rd tier of the directory structure shall consist of: “Drawings - Dessins”, “Drawings”, “Models”, “Specifications”, “Reports”, “Dessins”, “Modèles”, “Devis” and “Rapports”. The folders of the 3rd tier cannot be given any other names since GETS also uses these names for validation purposes. There must be always at least one of the applicable 3rd tier folder in each document.

D.2.4 4th Tier Subfolder - Drawings

The 4th-tier subfolders for Drawings should reflect the various disciplines of the set of drawings. Because the order of appearance of the subfolders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the subfolders in the “Drawings – Dessins”, “Drawings” and “Dessins” folders. The first subfolder must be always reserved for the Title Page and/or the List of Drawings unless the first drawing of the set is an actual numbered discipline drawing.

The 4th tier “Drawings” and “Dessins” folder shall follow the naming convention:

- Y

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the title of the folder Example: 03 – Mechanical

For the “Drawings - Dessins” folder:

= Y - Z

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the English title of the folder

Z = the French title of the folder

Example:

04 - Electrical – Électrique

The numbering of the 4th tier subfolders is for sorting purposes only and is not tied to a specific discipline. For example, “Architecture” could be numbered 05 for a project where there is four other disciplines before “Architecture” in the set of drawings or 01 in another project where it’s the first discipline appearing in the set.

The order of the drawings shall be the same as in the hard copy set. GETS will sort each drawing for both screen display and printing as per the following rules:

- The alphanumerical sorting is done on an ascending order;
- The alphanumerical order of the subfolders determines the order of appearance on the screen as well as the order of printing (as an example: all the drawing PDF files in the 01 sub-older will be printed in alphanumerical order before the drawings in the 02 sub- folder etc.);

Each drawing PDF file within each subfolder will also be sorted alphanumerically. This will determine the order of appearance on the screen as well as the order of printing (i.e. Drawing A001 will be printed before Drawing A002, Drawing M02 before Drawing M03, etc.).

D.2.5 4th-Tier Subfolders for Specifications

The “Specifications” and “Devis” folders must have 4th tier subfolders created to reflect the various elements of the specifications. Because the order of appearance of the subfolders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the subfolders in the “Specifications” and “Devis” folders.

The 4th tier subfolders for specifications must adhere to the following standard naming convention for the “Specifications” and “Devis” folders:

- Y

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the title of the folder

Example:

02 – Divisions

Numbering of the 4th tier subfolders is for sorting purposes only and is not tied to an element of the specifications.

It is essential to ensure that the order of the elements of the specifications on the CD-ROM be exactly the same as in the hard copy. GETS will sort each element of the specifications for both screen display and printing as per the following rules:

- The alphanumerical sorting is done on an ascending order.
- The alphanumerical order of the subfolders determines the order of appearance on the screen as well as the order of printing (as an example: all the specifications PDF files in the 01 subfolder will be printed, in alphanumerical order before the PDF files in the 02 subfolder, etc.).
- Each specifications PDF file within each subfolder will also be sorted alphanumerically. This will determine the order of appearance on the screen as well as the order of printing (i.e. Division 01 will be printed before Division 02, 01 - Appendix A before 02 - Appendix B, etc.).

D.2.6 Directory Structure Example

The following is an example of the directory structure for the tender document, refer to previous sections for requirements, and use only sections applicable to the given project:

```
Project #####
  Bilingual – Bilingue
    Drawings – Dessins
      01 - Drawing List – Liste des dessins
      02 – Demolition – Démolition
      03 – Architecture – Architectural
      04 – Civil – Civil
      05 – Landscaping - Aménagement paysager
      06 – Mechanical – Mécanique
      07 – Electrical – Électricité
      08 – Structural - Structural
      09 – Interior Design – Aménagement intérieur
  English
    Drawings
      01 - Drawing List
      02 – Demolition
      03 – Architecture
      04 – Civil
      05 – Landscaping
      06 – Mechanical
      07 – Electrical
      08 – Structural
      09 – Interior Design
    ...
    Models
    Specifications
      01 – Index
      02 – Divisions
      03 – Appendices
    Reports
  Français
    Dessins
    Modèles
    Devis
    Rapports
```

D.3 Naming Convention for PDF Files

Each drawing, specifications division or other document that are part of the tender documents must be converted in PDF format (without password protection) in accordance with the following standard naming convention and each PDF file must be located in the appropriate subfolder of the directory structure.

D.3.1 Drawing File Names

Each drawing must be a separate single page PDF file. The naming convention of each file shall be:

X### - Y

Where:

X = the letter or letters from the drawing title block (“A” for Architecture or “ID” for Interior Design for example) associated with the discipline

= the drawing number from the drawing title block (one to three digits)

Y = the drawing name from the drawing title block (for bilingual drawings, the name in both English and French is to appear).

Example:

A001 - First Floor Details

Each drawing that will be located in the appropriate discipline 4th tier subfolders must be named with the same letter (“A” for Architecture Drawings for example) and be numbered. The drawing number used to name the PDF file must match as much as possible the drawing number of the actual drawing (the exception being when leading zeros are required).

The following important points about drawings are to be noted:

- The drawing PDF files within each subfolder are sorted alphanumerically for both displaying and printing. If there are more than 9 drawings in a particular discipline the numbering must use at least two numerical digits (i.e. A01 instead of A1) in order to avoid displaying drawing A10 between A1 and A2. The same rule applies when there are more than 99 drawings per discipline i.e. three digits instead of two must be used for the numbering (for example M003 instead of M03);
- If drawing PDF files are included in the “Bilingual - Bilingue” folder, these cannot be included as well in the “English” and/or “Français” folders;
- If drawings not associated with a particular discipline are not numbered (title page or list of drawings for example), these will be sorted alphabetically. While this does not represent a problem if there is only one drawing in the subfolder, it could disrupt the order when there are two or more drawings. If the alphabetical order of the drawings name does not represent the order on the hard copy set, the drawings are to be named as per the following standard convention when converted in PDF format to ensure proper display and printing order.

D.3.2 Specifications

Each specifications division must be a separate PDF file and all pages contained in each PDF file must have the same physical size (height, width). The drawings and specifications index must also be a separate PDF file. If there are other documents that are part of the Specifications (e.g. Appendix or other) these are to be separate PDF files as well.

D.3.3 Documents Other Than Specifications Divisions

Because PDF files within the Specifications subfolders are sorted alphanumerically (in ascending order) for both on screen display and printing order, all files that appear in folders other than the “Divisions” subfolder must be named using a number:

- Y

Where:

= Two digit number ranging from 01 to 99 with leading zeros required

Y = Name of the document

Example:

01 – Drawings and Specifications Index

D.3.4 Specifications Divisions

The specifications divisions must be named as follows:

Division ## - Y

Where:

Division ## = the actual word “Division” followed by a space and a two digit number ranging from 01 to 99 (with leading zeros required)

Y = name of the Specifications Division as per CSC/CSI MasterFormat™

Example:

Division 05 – Metals

The Numbering of the Divisions cannot be altered from CSC/CSI MasterFormat™ even if some Divisions are not used in a given project. For example, Division 05 will always remain Division 05 even if Division 04 is not used for a given project.

D.4 Media Label

The CD-ROM or DVD+R shall be labeled with the following information:

Project Number / Numéro de projet

Project Title / Titre du projet

Documents for Tender / Documents pour appel d'offres

Disk X of/de X

Example:

Project 123456 / Projet 123456

Repair Alexandra Bridge / Réparation du pont Alexandra

Documents for Tender / Documents pour appel d'offres

Disk 1 of/de 1



Doing Business with PWGSC Quebec Region ADDENDUM



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Revisions

Version	Date	Description
0.1	May 2, 2018	Draft version for consultation
1.0	June 1 st , 2018	Original issuance

A1 General

A1.1 Effective Date of Addendum

June 1st, 2018.

A.1.2 Authority

This addendum is issued by the authority of the Director, Professional and Technical Services, Quebec Region Centre of Expertise, Public Works and Government Services Canada (PWGSC).

A.1.3 Purpose of Addendum

The purpose of this addendum is to make changes to the « Doing Business with PWGSC – Documentation and Deliverables Manual » document on the requirements for the production of deliverables on PWGSC projects in the Quebec Region (excluding the National Capital Region). This addendum is part of the Contract documents.

A.1.4 Scope

This addendum shall apply to design-bid-build projects undertaken by PWGSC on its own behalf as well as for other for other government departments in the Quebec Region (excluding the National Capital Region). It **supplements** the « Doing Business with PWGSC – Documentation and Deliverables Manual » document as provided for in Section 1.4 of said document. The terms and conditions of said document are applicable to this addendum. Yet in case of contradiction between documents, the requirements of the « Doing Business with PWGSC – Quebec Region Addendum » document take precedence.

The Consultant shall check with the Departmental Representative that these documents are up-to-date. The most recent updated version is the one that applies to the project.

A2 Modifications

A2.1 Article 2.2.1_General

Replace the PWGSC National CADD Standard with the PWGSC Quebec Region [CADD Standard](#) (Computer Aided Design and Drafting) Supplement. The Supplement can be downloaded along with the Quebec Region [templates and drawing formats](#).

A2.2 Article 2.2.4_Drawing Numbers

Replace table with the following one. For the Quebec Region, the different drawing types and disciplines involved must be numbered as shown in the table.

Discipline	Drawing
Architectural	A01, A02, etc.
Civil	C01, C02, etc.
Landscaping	AP01, AP02, etc.
Structural	S01, S02, etc.
Mechanical	M01, M02, etc.
Industrial mechanical process	MP01, MP02, etc.
Electrical	E01, E02, etc.
Electronic security, intrusion detection, access control and video-surveillance	SS01, SS02, etc.
Information technology (e.g. : telecom and data)	TI01, TI02, etc.
Food Services	SA01, SA02, etc.
Interior Design	I01, I02, etc.

A2.3 Article 2.2.6_Legends

Add: Only project-specific symbols shall be included in the legends.

A2.4 Article 2.3_Building Information Modelling (BIM)

Add: The template must export CADD drawings as an AutoCAD software-specific DWG file. These drawings must be reformatted to meet the PWGSC Quebec Region CADD (Computer Aided Design and Drafting) Supplement.

A2.5 Article 2.4.2_Index

Add: The Specifications package must include a single table of contents. Divisions and sections must be presented in ascending order. The table of contents must also list all drawing sheets by discipline.

A2.6 Article 2.4.11_Regional Guide

Add: In the Quebec Region, the NMS specifications section 01 11 00 - Summary of Work is not to be used. Instead, use section 01 11 01 – Work Related General Information. Obtain the document from the Departmental Representative.

A2.7 Article 2.4.12_Health and Safety

Add: In the Quebec Region, the NMS specifications section 01 35 29 - Health and Safety Requirements is not to be used. Instead, use 01 35 29.06 - Health and Safety Requirements (with annexes) specific to the Quebec region. Obtain the documents from the Departmental Representative.

A2.8 Article 2.4.16.1_ 2.4.16.1 Specification Hard Copy Deliverable Format

Add: Each section must start on the front of a sheet. The hard copy must consolidate all sections of all disciplines in ascending numerical order. When the specifications package needs to be divided into several volumes due to its size, the volume number shall be identified on the cover page as well as the total number of volumes (example: volume 2 of 3). For ease of reference, the Table of Contents (section 00 01 10) must be duplicated at the start of each volume.

A2.9 Article 3.1.1_Format

Add: Departmental Representatives in the Quebec Region apply a standardized three-tier front page summary for all their projects. The Consultant shall translate his estimates on said front page. The Consultant shall therefore obtain the relevant Excel file from the Departmental Representative at the start of the project.

A2.10 Appendix A_Checklist for the Submission of Construction Documents

For the Quebec Region, the present appendix cancels and replaces Appendix A shown in the « Doing Business with PWGSC – Documentation and Deliverables Manual » document.

Appendix A Checklist for the Submission of Construction Documents (Quebec Region)

Date:	
Project Title:	Project Location :
Project Number:	Construction Contract Number:
Consultant's Name:	PWGSC Departmental Representative:
Review Stage (stages may vary at discretion of project team): 33% <input type="checkbox"/> 50% or 66% <input type="checkbox"/> 99% <input type="checkbox"/> 100% <input type="checkbox"/>	

Drawings/Design		
Item	Verified by:	Explanations
1 Index		
1a The index shows a complete listing of drawing titles and numbers.		
2 Title Blocks		
2a Title blocks are as per the <i>PWGSC Quebec Region CADD Standard</i> .		
3 Units		
3a All units of measure are metric only.		
4 Trade Names		
4a Trade names are not used.		
5 Specification Notes		
5a There are no specification-type notes.		
6 Terminology		
6a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."		
6b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.		

Drawings/Design		
Item	Verified by:	Explanations
7 Information to be included		
7a The project quantities, configurations, dimensions, and construction details are included.		
7b References to future work and elements not in the tender documents do not appear or are kept to an absolute minimum and clearly marked.		
8 Quality Assurance		
8a Coordination review of the design between various disciplines has been completed by the Consultant.		
8b Constructability review of design has been performed.		
9 Signing and Sealing		
9a Every final drawing bears the seal and signature of the responsible design professional in compliance with various provincial jurisdiction requirements.		

Specifications		
Item	Verified by:	Explanations
1 National Master Specification		
1a The current edition of the National Master Specification (NMS) has been used.		
1b Sections have been included for all work identified on drawings and sections have been edited.		
2 Index		
2a The index shows a complete list of specifications sections with the correct number of pages, the proper titles and section names as well as the list of drawings for each discipline.		
3 Organization		
3a The same page format is used consistently for the entire specifications.		
3b Each section starts on a new page and the project number, section title, section number, page number and date is shown on each page.		
3c The Consultant's name and the project title are not indicated.		
4 Terminology		
4a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."		
4b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.		
5 Dimensions		
5a Dimensions are provided in metric only.		
6 Standards		
6a The current edition of all references quoted is used.		

Specifications		
Item	Verified by:	Explanations
7 Materials' Specifications		
7a The method of specifying materials uses recognized standards. Actual brand names and model numbers are not specified.		
7b Materials are specified using standards and performance criteria.		
7c Non-restrictive, non-trade name "prescription" or "performance" specifications are used throughout.		
7d The term "Acceptable Manufacturers" is not used.		
7e No sole sourcing has been specified.		
7f If sole sourcing has been specified, the correct wording has been used and a justification, estimate, and specification have been provided to the Departmental Representative for the sole-sourced products.		
8 Measurement for Payment		
8a Unit prices are used only for work that is difficult to estimate.		
9 Cash Allowances		
9a No cash allowances have been used or if they have, approval from the Departmental Representative has been received.		
10 Miscellaneous Requirements		
10a No paragraphs noted as "Scope of Work" are included.		
10b In Part 1 - General of any section, the paragraphs "Summary" and "Section Includes" are not used.		
10c Section 01 11 01 Work Related General Information is included.		
11 Specification Coordination		
11a The list of related sections and appendices are coordinated.		

Specifications		
Item	Verified by:	Explanations
12 Health and Safety		
12a Section 01 35 29.06 – Health and Safety Requirements (Quebec Region) is included.		
13 Subsurface Investigation		
13a Subsurface investigation reports are included after Section 31.		
14 Prequalification		
14a There are no mandatory contractor and/or subcontractor prequalification requirements or references to certificates, transcripts, licence numbers of a trade or subcontractor, or other such documentation or item included in the bid.		
15 Contracting Issues		
15a Contracting issues do not appear in the specifications.		
15b Division 00 of the NMS is not used except 00 01 07 (Seals Page) and 00 01 10 (Table of Contents).		
16 Quality Assurance		
16a There are no specification clauses with square brackets “[]” or lines “ ” indicating that the document is incomplete or missing information.		
17 Signing and Sealing		
17a Every final specification bears the seal and signature of the responsible design professional as required. Seals and signatures shall be shown in NMS section 00 01 07.		

I confirm that the drawings and specifications have been thoroughly reviewed and that the items listed above have been addressed or incorporated. I acknowledge and accept that by signing, I am certifying that all items noted above have been addressed.

Consultant’s Representative: _____

Firm name: _____

Signature: _____ Date: _____

A2.11 Appendix B_Drawings and Specifications Table of Contents Template

For the Quebec Region, the present appendix cancels and replaces Appendix B shown in the « Doing Business with PWGSC – Documentation and Deliverables Manual » document.

Appendix B Drawings and Specifications Table of Contents Template (Quebec Region)

B.1 General

For specifications, list all divisions, sections (by number and title) and the number of pages in each section.
List all drawings by number and title, and classify by discipline.

B.2 Example of Table of Contents

Project N°: **TABLE OF CONTENTS** Section 00 01 10
Date: **Page 1**

SPECIFICATIONS:

DIVISION	SECTION	NUMBER OF PAGES
01	01 11 01 – Work Related General InformationXX
	01 14 00 – Work RestrictionsXX
	01 35 29.06 – Health and Safety RequirementsXX
23	23 xx xx	
26	26 xx xx	

DRAWINGS:

Architectural

A00 Title page
A01 Demolition – Plan of 1st floor
A0x xx

Structural

S01 Legend
S02 xx

Mechanical

M01 Legend
M02 xx

[END OF DOCUMENT]

Solicitation No. - N° de l'invitation
EE520-210282/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
QCM039

Client Ref. No. - N° de réf. du client
No./N° VME
R.069144.102

File No. - N° du dossier
MTC-9-42118

CCC No./N° CCC - FMS

APPENDIX E - SUSTAINABLE DEVELOPMENT

Sustainable Development and the Role of Government

Since 1987, the Canadian Federal Government has begun a series of initiatives to ensure that sustainable development principles are built into the policy of all federal organizations. By December 1997, all federal government departments are required to have a *Sustainable Development Strategy* (SDS). Department Ministers are required to update their SDS every three years and to report annually on progress towards sustainable development.

Public Works and Government Services Canada (PWGSC)

On 2 April 1996, the department's Business Board approved a general approach and guiding principles for the development and implementation of the PWGSC Sustainable Development Strategy. *Real Property Services* (RPS), a branch of PWGSC, has developed their strategy and is in the process of developing regional action plans. It is a strategy that sets out principles, goals and actions for integrating sustainable development principles into its policies and operations. The following principles and goals are from the Real Property Services Sustainable Development Strategy.

Real Property Services Principles

1. To sustain our natural resources, by ensuring sustainable use of renewable resources and efficient use of non renewable resources.
2. To protect the health of Canadians and of ecosystems, by managing the risks associated with toxic substances, by protecting representative areas, and by developing effective warning and adaptive response capability to both natural and human-caused disasters.
3. To meet our international obligations, by contributing to the protection of the ozone layer, the reduction of greenhouse gas emissions, and the conservation of biodiversity.
4. To improve our quality of life and well-being, by fostering improved productivity through environment efficiency, and by supporting innovation towards sustainable development..

Real Property Services Goals

Considering the above within the context of RPS's mandate, the Branch has established the following Sustainable Development Goals under the issues of management, leadership and operations:

1. RPS will integrate a comprehensive environment management system into its overall management framework to demonstrate due diligence, and to ensure that environmental performance is achieved and sustained according to established objectives.
2. RPS Will continue to provide environmental leadership, through:
 - a) Research, development, and transfer of cost-effective and timely means of meeting environmental requirements, and of achieving RPS sustainable development goals and clients objective; and
 - b) Communication of knowledge to promote sustainable development.
3. RPS will reiterate its priority to meet or exceed applicable environmental statutes, regulations, and policies; and pursue a pollution prevention approach in all aspects of its operations. In support of

Solicitation No. - N° de l'invitation
EE520-210282/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
QCM039

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No./N° VME
R.069144.102

File No. - N° du dossier
MTC-9-42118

CCC No./N° CCC - FMS

the above, RPS will continue the development and implementation of best practices placing a special focus on the following operational issues:

1. Toxic or hazardous substances and waste management
2. Ozone depleting substances management
3. Non-hazardous solid waste reduction
4. Energy and water efficiency in facilities
5. Contaminated sites management
6. Land and marine / fresh water activities management
7. Environmental activities

Real Property Operational Goals

Goal 3.1: Toxic or Hazardous Substance and Waste Management

Real Property Services (RPS) will continue to the prevention, reduction and, where possible, the elimination of impacts of toxic or hazardous substances and wastes on human health.

Design consequences

- Handling of Polychlorinated Biphenyls (PCBs) when replacing electric lighting installations;
- Specification of environmentally sound building materials
- Specification of low maintenance systems and finishes;

Goal 3.2: Ozone Depleting Substances Management

RPS will phase out the use of ODSs to respond to the deadlines laid out in the 1987 “Montréal Protocol on Ozone Depleting Substances” and its subsequent amendments:

Design consequences

- Reduction or elimination of ozone depleting substances.

Goal 3.3: Non-Hazardous Solid Waste Reduction

Solicitation No. - N° de l'invitation
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Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
QCM039

Client Ref. No. - N° de réf. du client
No./N° VME
R.069144.102

File No. - N° du dossier
MTC-9-42118

CCC No./N° CCC - FMS

RPS will:

- Facilitate the reduction of construction, renovation and demolition waste.

Design consequences:

- Specification of renewable, recycled content, durable and maintainable materials;
- Conscious design and construction planning to minimize construction and demolition waste.

Goal 3.4: Energy and Water Efficiency in Facilities

RPS will:

- Contribute to the use and promotion of more efficient, environmentally friendly alternative sources of energy to heat, cool, ventilate and provide lighting and power facilities. It will also promote the efficient use of water.
- Reduce gas emissions to respond to Canada's Kyoto Convention commitments.

Design consequences:

- Improve building energy efficiency;
- Higher energy performance standards, use of clean; renewable energy sources;
- Specification of low embodied energy (total energy used in growing, extracting, manufacturing, and transport of a product) building materials;
- Use of low water consumption appliances and water efficient landscaping strategies.

Goal 3.5: Contaminated Sites Management

RPS will contribute to the prevention, reduction and, where possible, the elimination of negative impacts of contaminated sites on humans and the environment.

Goal 3.6: Land and Marine / Fresh Water Activities Management

RPS will contribute to the prevention, reduction and, where possible, the elimination of negative impacts on humans and the environment in their land and marine / fresh water activities.

Design consequences:

- Greater understanding about implications of building construction and operation of site;

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- Construction practices which reduce environmental impact and construction waste.

Goal 3.7: Environmental Management

RPS will complete and implement an Environmental Management System (EMS) that will:

- Support the integration of environmental issues into the RPS management framework;
- Facilitate the harmonization of environmental issues with RPS clients and tenants.

Design consequences:

- Greater coordination of design team and communication among all parties;
- Improved metering and reporting to facilitate the auditing and reporting process;
- Comprehensive, reliable and visible environmental strategies.

Approach

- The approach of this environmental component is to view the built environment and the natural environment as integral and interdependent. It is an attempt to address building and environmental concerns in a holistic manner.

- Within this context, the role of management in the development process takes on special significance. Like the natural environment, a facility is more than the sum of its parts. It is a system. A facility can boast many 'green' features, but unless there is an overall vision and skilled people to carry out the plan, it falls short. An "environmental vision" and team approach is crucial to sustainable building. This approach involves team members educated in green building practices and open lines of communication between team members. The role of management in the three stages of building, (design, construction and operations) is crucial in establishing a vision statement that embraces sustainable principles and an integrated building approach. The management of the project activities, ensures that team members use a multidisciplinary approach in which the interrelated impacts of design, systems and materials are recognized.

- The environmental component of the project brief works under the premise that many of the solutions to sustainability in development can be achieved with a low-tech approach. Through careful orientation of a building with respect to sun, wind and land and special consideration of materials, sustainable development is possible.

- Although it is understood that there are specific environmental problems that need special attention (such as ozone depletion), this document is an attempt to change attitudes as well as address specific environmental problems. It does not take a "damage control" attitude, but rather a "pollution prevention" approach. It is primarily organized around seven environmental issues. These issues are: management, air, water, land, material, energy and

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waste. It is also a means of addressing the RPS sustainable development goals in relation to the project brief organization of Design Submission, Working Document Submission (at 75% and 99% stages) and the Contract Supervision.

- This document is in a checklist format, which allows the consultant to systematically address each issue. The consultant should respond to the following checklist points in an environmental strategy in a written or graphic form.
- Finally this document approaches environmental sustainability with a “best-effort” approach. At a minimum, Public Works and Government Services Canada will attempt to accommodate all federal clients in facilities that are as ‘green’ as can be.

ISSUE: PROJECT MANAGEMENT

- GOAL**
- Greater coordination of design team and communication among all parties.
 - Improved metering and reporting to facilitate the auditing and reporting process.
 - Comprehensive, reliable and visible environmental strategies.
 - The role of management in the building process takes on special significance. An “environmental vision” and team approach is crucial to sustainable building. This involves team members educated in green building practices and open lines of communications between team members. The management of the project activities ensures that team members use a multidisciplinary approach in which the interrelated impacts of design, system and materials are recognized.
 - The checklist is management tool which allows each point to be address in the environmental strategy.

CONCEPT AND DESIGNS SUBMISSIONS

- Include in the Project Team an Environmental Coordinator. Note: This could be a subconsultant or be the dual responsibility of another team member. Include documentation of the environmental project coordinator’s qualifications.
- Identify the potential opportunities (green technologies), implementation strategies practices or procedures, for making cost-effective environmental contributions in the realm of office space provision or its use.
- Determine the cost effective means of implementing these potential opportunities when concerning base building, lease fit-up, operations or maintenance.
 - Respecting the lines of communication protocol, the consultant is to meet with the PWGSC Environmental Project Team Member.

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- To establish whether or not environmental aspects of the design will be coordinated through an environmental sub-consultant to the Consultant;
 - To review the requirements for the environmental component of the concept design; - To present for review the environmental component of the concept design.
- The submission requirement for the environmental component of the concept design include an environmental strategy consisting of:
 - An indication of the primary opportunities which the project represents for environmental conservation.
 - An indication of the primary areas where effort will be expended to achieve environmental conservation.
 - An indication of the macro decisions which have been made with respect to environmental conservation.
 - An indication of the alternatives to those macro decisions which have been considered and rejected, including why they were rejected.
 - This submission will be presented to the design review committee as part of a total concept submission.
 - Obtain formal approval from PWGSC for the environmental component of the concept and design submission.

WORKING DOCUMENT SUBMISSIONS

- Respecting the lines of communication protocol, the Consultant is to meet with Environmental Project Team Member:
 - To present for review and approval the environment component of the working documents at the 75% and 99% stages;
- Incorporate NMS sections with most recent environmental updates.
- The contractor is to provide a consultant with an environmental protection plan

CONTRACT SUPERVISION

- The Environmental Coordinator will table progress of the Environmental Strategy as a separate agenda during the project meeting.
- The contractor is to provide the consultant with an environmental protection plan for the construction process.
- Consultant and contractor to ensure that all sub-contractors are advised of the environmental objectives of this project.

ISSUE: **AIR**

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- GOAL
- Toxic or hazardous substances and waste management;
 - Ozone depleting substances management;
 - Provide healthy and comfortable indoor air.

CONCEPT AND DESIGN SUBMISSIONS

- Identify the large volume materials with measured off gassing (VOC) emission rates which will be utilized in the renovation and indicate how each material will be addressed with respect to reducing it's off gassing potential within the building.
- Do not use foam plastic insulation blown in with ozone depleting CFC's
- Coordinate planning considerations affecting interior air movement.
- Design to minimize the effect of noise.
- Review available data and establish the types and levels of pollution that are likely to be encountered in the outdoor air, take such data into consideration when designing air handling air systems and when selecting materials for the exterior skin of the building.
- Provide air locks and pressurization to reduce entry of contamination from outside sources.

WORKING DOCUMENT SUBMISSIONS

- Indicate that materials considered for the renovation have been reviewed with respect to their potential causes/sources of emissions contributing to IAQ problems and that such material have been excluded from/limited in scope of use in the working documents. Select building materials with positive IAQ ratings.
- Review the potential for stack emissions and sulfur dioxide to be encountered by building materials utilized on the exterior of the building. Select building materials which are resistant to environmental pollution.
- Review contemplated construction sequences to ensure that the occurrences of major events causing dust within the building during construction are minimized.
- Specify environmentally responsible products such as:
 - Paints which do not contain mercury, lead, hexavalent chromium or cadmium compounds water based paints with reduced volatile, preservative and solvent content and reduced VOC emissions ; Consider paints recommended by the Environmental Choice Program and paints which carry the EchoLogo label or equivalent. Paints merit special consideration as they are single largest contributor to internal VOC emissions.

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- Adhesives and glues which have low emission during curing;
- Consider caulking materials, solvents, adhesives, finishes, retardants, sealers and waxes with low VOC emissions. For indoor use acrylic and latex caulking are preferred.
- Specify materials with reduced formaldehyde content.
- Consider as to whether or not Material Safety Data Sheets (MSD Sheets) can be utilized as a means of monitoring the amounts of VOC's in materials which are accepted in design.

CONTRACT SUPERVISION

- Review construction practices to ensure that workers are protected from dust.
- Review construction practices to ensure that workers' exposure to fumes, which may contribute to environmental sensitivities, are minimized. Ensure that workers wear carbon face masks or respirators when applying paints and other coverings. Provide temporary ventilation as required for products utilized.
- Review construction practices to minimize the impacts of construction dust on adjacent properties. Surrounding sites could be adversely impacted by blowing dusts from exposed soil, dust escaping from sandblasting activities and over spray from sealants and paints which may be utilized on the outside of the building.
- Shop drawing review is to include, when appropriate, test results from ASTM D51116, Guide for Small Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials Products and Material Safety Data Sheets.

ISSUE: **WATER**

GOAL

- Reduction of impacts on marine / freshwater activities.

CONCEPT AND DESIGN SUBMISSIONS

- Determine the direction of parking lot runoff and possible

WORKING DOCUMENT SUBMISSION

- Not applicable.

CONTRACT SUPERVISION

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- Review practices to minimize the impacts of construction on adjacent water bodies, water supplies, and wastewater systems.
- Ensure no polluting substances are released into any water bodies.

ISSUE: **LAND**

- GOAL
- Reduction / elimination of soil contamination and human caused erosion.
 - Toxic or hazardous substance management

CONCEPT AND DESIGN SUBMISSIONS

- Review the site history to determine the potential for hazardous materials to exist on site. Reports may be available from PWGSC.

WORKING DOCUMENT SUBMISSION

- Not applicable.

CONTRACT SUPERVISION

- Review practices to ensure erosion is minimized or eliminated during construction.

ISSUE: **ENERGY**

- GOAL
- Energy efficiency in facilities.

CONCEPT AND DESIGN SUBMISSIONS

- Not applicable.

WORKING DOCUMENT SUBMISSION

- Not applicable.

ISSUE: **MATERIAL**

- GOAL
- Conservation of renewable and nonrenewable resources.
 - Application of 3R concepts (reduce, reuse, recycle) for reduction of waste.

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CONCEPT AND DESIGN SUBMISSIONS

- Consider measures to reduce the amount of materials used in the project
- Carry out an audit and identify the materials and equipment within the building which will be dismantled and which will be reused in the renovation.
- Carry out an audit and identify the materials and equipment within the building which will be dismantled and which will be recycled.
- Propose contractual means of ensuring that recyclable materials and equipment are recycled.

WORKING DOCUMENT SUBMISSION

- Specify materials that do not contribute to environmental sensitivities and do not contain hazardous substances.
- Specify materials with recycled content. Specify materials meeting Ecologo standards or equivalent for recycled content. Do not specify recycled materials where data indicates that recycled content or recycled product has potential to compromise IAQ characteristics.
- Specify (when viable choices exist) materials with low embodied energy.
- Propose initiatives to incorporate low energy embodied materials as substitutes for material which would normally be specified.
- Specify durable materials with low maintenance finishes.
- Review materials considered for the design and indicate that nonrenewable resources are not being utilized in the renovation. Do not specify depletable and nonrenewable resources. It is important to note that this objective remains an ideal to pursue and that in the case of specific materials, no renewable, but essential to the execution of the project (such as stone for example), exceptions shall be granted.
- Utilize sections of the NMS that have been environmentally enhanced.
- Consultant must provide rationale for use of all materials based on recycled content, embodied energy, durability, etc.

CONTRACT SUPERVISION

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- Meet with subcontractor and installers to ensure that all installation of materials meet with environmental objectives.

ISSUE WASTE

- GOAL**
- Toxic and hazardous waste management;
 - Non-hazardous solid waste reduction;
 - Elimination of the concept of waste through increased reduction, reuse and recycling.

CONCEPT AND DESIGN SUBMISSIONS

- Review the condition and potential for exposure to lead base paint which currently exists within the building. Prepare recommendations.
- Submit a plan for dismantling of building materials including source separation. Specify dismantling processes.
- Identify large volume materials which will be removed from the building and site and propose recycling options.
- Propose a means of reducing construction waste destined for landfill. List construction debris materials that are to be source separated at the construction site.
 - Treat the building demolition as an exercise in building dismantling, rather than demolition, in order to obtain recyclable assets. Revenue producing recyclable cash flow assets shall be removed from the building during the dismantling phase of the work and shall be recycled. Recycled architectural materials such as: ferrous metals, non ferrous metals, doors, demountable partitions, cabinets, interior trim, tracks and blinds, carpet, windows, limestone, brick, and speed tile (crushed or filled), and mechanical items such as: equipment, wiring, receptacles, switches, power poles, conduit and fixtures.
- Consider allowing the contractor to sell recyclable materials on the construction site.
 - List recycled materials which are proposed to be utilized in the renovation. List only those materials which are replacements for materials which would normally be specified.
 - Reduction in the amount of material used is the primary issue concerning waste. If less material is used in the design, less will be waste in the future.

WORKING DOCUMENT SUBMISSION

- Specify dismantling and recycling rather than demolitions.

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- Include spaces required for materials to be recycled.
- Consider on site selling of recovered material that won't be reused in the design.
 - List materials which will not be recycled. Indicate approximate volumes of those materials.
 - Refer to section 017421 of the NMS, Construction/Demolition Waste Management and Disposal.

CONTRACT SUPERVISION

- Inspect and report regarding contractor's disposal practices for paints, solvents and pressure treated wood scraps.
- Construction waste is to be sorted on site by types as has been determined to be practical in regard to the potential for recycling each individual material.
- The working documents are to ensure that all personnel on site are aware of the expectations regarding waste recycling. The working documents are to ensure that labelled waste bins for recycling of waste materials produced by all sub-contractors are provided on site.
- Indicate the degree to which recycling objectives were achieved.

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Au service du
GOUVERNEMENT,
au service des
CANADIENS.

Serving
GOVERNMENT,
serving
CANADIANS.

APPENDIX F

BIM Management Plan

Centre of Expertise - Professional and Technical Services



PROJECT :

*Louis S. St-Laurent Building
3, passage du chien d'or, Québec, QC*

*Major rehabilitation project of the
masonry shell*

ISSUE : V1.0
April 2020

www.spac-pspc.gc.ca

By signing below, the stakeholders involved in BIM within this project agree to the adoption of this BIM Management Plan (BMP), as of [DATE], and commit to deploying the BIM approach within the professional services provided during the start-up, planning and implementation phases of the project.

Stakeholders Signature:

NAME	TITLE	SIGNATURE	DATE



MONITORING CHANGES TO THE BIM MANAGEMENT PLAN (BMP)

Author of the modification	Date of the modification	Description of the modification	Version	Affected chapters

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1. CONTEXTUALIZATION OF THE BIM MANAGEMENT PLAN (BMP)

The BIM Protocol of the Centre of Expertise - Professional and Technical Services of Public Works and Government Services Canada (PWGSC) consists of two documents: the BIM Management Plan (BMP) and the BIM Implementation Plan (BIP).

1.1 BIM Management Plan (BMP)

The BIM Management Plan (BMP) serves as a roadmap for all parties involved in the development of BIM models for a project delivered using the Building Information Model (BIM) process for the entire duration of the project.

It describes the intentions of PWGSC's Centre of Expertise - Professional and Technical Services with respect to the use of the BIM process in the *Louis S. St-Laurent Building project- Major Masonry Envelope Rehabilitation Project*.

This BMP is the result of the collaboration of all project stakeholders for the optimal deployment and successful implementation of the BIM approach in this project. It defines the objectives to be achieved as well as the implementation and monitoring strategy for the BIM processes deployed throughout the project.

This BIM plan (BIM Agreement) is evolutionary and will be modified and/or improved throughout the project according to the needs raised by the various stakeholders. Any request for adjustment, modification, improvement or other request must be submitted to the Senior BIM Manager who will analyze it. If the request is admissible, the BMP will be modified by the Senior BIM Manager in collaboration with the discipline BIM Managers and the revised version will be sent to all project stakeholders.

In the event of an amendment that changes the scope of the BIM approach in the project, the BMP shall be revised, commented on and signed by all stakeholders concerned by the BIM Agreement.

1.2 BIM Implementation Plan (BIP)

Each Discipline BIM Manager is responsible for producing a BIM Execution Plan that should include all the elements and modeling principles preferred by his or her team for the implementation of the BIM deployment strategy defined within this BMP. This document should be consistent with the common guidance jointly developed by all stakeholders involved in the BIM approach and should be made available for reference by other disciplines.

Each party is responsible for drafting, in collaboration with the relevant stakeholders, the sections of the BIM Implementation Plan (BIP) relevant to that party. **A single BIP for all suppliers during the design and construction phase is required.** Collaboration and coordination between supplier parties during the design phase is therefore essential. Senior design and construction BIMs are responsible for writing and maintaining BIM implementation plans.

The construction BIP must be aligned with the design BIP to maintain consistency between project processes. Thus, all processes presented in the construction BIP that share elements of the processes used in design shall reference the appropriate section of the design BIP. Contractors who must model to refine the level of detail of the professionals' models (e.g. steel structure covered with concrete, solid walls,

electromechanical systems, wrought metals, etc.) must be identified and participate in the development of and adherence to the general contractor's BIP. Common processes (validation, communications, etc.) with engineers must be clearly identified and described.

1.3 Ownership of Digital Data

All digital data created during the course of the project will be provided to the PWGSC Centre of Expertise - Professional and Technical Services for building management and operations activities and for future projects. This data, including all associated copyright, will become the sole and exclusive property of PWGSC, in its entirety and without reservation.

1.4 Scope of Digital Data

Digital mock-ups and centralized databases are tools for collecting and collating project information. They are used to develop the design and construction documents required to complete the project. All communicating parties provide authorization to other project stakeholders to use this information in the activities required to complete the project.

1.5 Definitions

BIM: "BIM is a numerical representation of the physical and functional characteristics of a building. It serves as a platform for sharing knowledge and data and as a decision support tool during the life cycle of a project. (Definition from the National Building Information Modeling Standard (NBIMS)).

Quality control of digital mock-ups: Quality control of digital mock-ups is a process to ensure that all BIM mock-ups produced in the project comply with the standards set out in the BMP.

Quality control of digital mock-ups is an ongoing process performed by all professionals involved in the BIM approach. The BIM expert will perform an independent quality control to ensure the quality of the BIM deliverables required by the Client.

Interference Detection: Interference detection is an automated analysis performed on federated mock-ups to identify interference between different elements or systems being modeled.

BIM model: A BIM model, in native format, developed by each of the disciplines involved (architecture, structure, plumbing, electricity and mechanics).

Federated model: A digital BIM model that brings together, in dead link, all the BIM models produced by the design and construction teams. This mock-up is produced and updated by the BIM expert on key dates defined in the coordination schedule. This mock-up will be used for interference detection, design monitoring, visualization and centralization of information for reference.

Integrated Mockup: a digital BIM mock-up that brings together, in live or dead link, all the BIM mock-ups produced by the design and construction teams. This mock-up is created and used by professionals for their internal coordination.

Design mock-up: Any 3D digital mock-up produced by the designers throughout the project life cycle.

Construction mock-up: During the construction phase, the contractor is responsible for producing construction mock-ups from the design mock-ups produced by the design professionals.

The contractor is responsible for forwarding the mock-ups to trade contractors and manufacturers.

Level of Development (LOD): The LOD defines the level of development of an object in the digital mock-up.

Level of Detail (LOd): The LOd defines the level of geometrical accuracy for an object in the digital mock-up.

Information level (LOi): The LOi defines the level of information contained in each object of the digital mock-up. This allows optimal use of the model for 4D, 5D and 6D.

Information exchange matrix (LOD): The BIM expert is responsible for setting up an LOD exchange matrix. This matrix indicates the level of detail and information required to achieve the objective throughout the project life cycle.

Risks and Opportunities Matrix: The BIM expert in collaboration with the discipline BIM managers will set up a Risk Matrix, which is based on qualitative criteria to identify possible risks and potential consequences. The Risk Matrix also identifies the mitigation measures to be taken to exploit the opportunities arising from the change.

Shared parameters : All parameters created and shared by one or more disciplines. They can be used in several models or families. The creation of shared metrics allows better manipulation of the information contained in the models.

BMP: BIM Management Plan (this document and all its appendices)

BIM Implementation Plan (BIP) - BIM managers in each discipline (architectural, structural, civil, mechanical and electrical) will be responsible for producing a BIM implementation plan that will include all elements and modeling principles preferred by their discipline within their respective mandates. This document must be made available to all.

Collaboration platform: A virtual workspace that allows the centralization of all information and activities related to a project or organization. The collaborative platform offers, among other things, efficient document management that is accessible by all stakeholders in a project or organization.

Coordination platform: A virtual workspace allowing to centralize all information and activities related to the coordination of a project or an organization. The coordination platform offers, among other things, an efficient "issue" management of interferences that is accessible by all stakeholders of a project or organization.

Phasing Revit: Revit Phasing is a Revit functionality that allows the classification of project phases such as existing and new construction. By applying phase filters to views and BOMs, the project can be displayed according to these various stages.

Construction Phase: Construction Schedule Tasks and Milestones

Construction Lots: Lots and speciality contracts related to the completion stage

Work breakdown structure (WBS): The work breakdown structure (WBS) is the term used to describe the work breakdown structure of a project. It is intended to help structure the project and modeling to meet the needs of the project.

The WBS is used to code elements using an occurrence parameter to allow for classification, tracking and visualization of information according to the specific needs of a task.

3. PROJECT DESCRIPTION

3.1 Project Identification

Client	PWGSC
Project name	Rehabilitation of the envelope of the Louis S. St. Laurent Building (3PCO)
Project number	R.069144.102
Project address	Louis S. St. Laurent Building 3, passage du chien d’or, Québec, QC
Description of project	Major project to rehabilitate the heritage masonry envelope, including openings, roof, foundation, temporary layouts and others. Refer to the Project Brief for details.

3.2 How the project will be carried out

The project is currently being carried out in a traditional manner. Consequently, the BIM approach, developed by all stakeholders concerned, will have to take into account the aspects related to this delivery method and be planned and managed adequately to support the achievement of the project’s guiding principles.

3.3 Stakeholders affected by BIM

ORGANIZATION	ROLE	NAME	E-MAIL	TÉLÉPHONE
CLIENT				
Public Works and Government Services Canada (PWGSC)				
[BIM EXPERT TEAM]				
	Senior Manager			
	BIM Integrator(s)			
	BIM Coordinator(s)			
ARCHITECTURE				
	Project Manager			
	Lead Designer			
	BIM Manager			
STRUCTURE				
	Project Manager			
	Lead Designer			

	BIM Manager			
MECANIC (HVAC) + ELECTRIC				
	Project Manager			
	Lead Designer			
	BIM Manager			
CONSTRUCTION CREW (GENERAL CONTRACTOR)				
	Project Manager			
	Lead Designer			
	BIM Manager			
ADDITIONAL RESOURCES				
	Constructability Analyst			
	Estimate			
	Sustainable development			
	Commissioning			

** For any other stakeholder, please refer to the list of project stakeholders.

3.4 Project Timeline and Milestones

Refer to the project schedule with key deliverable dates.

3.5 Communication Matrix

Communications regarding BIM within projects should be addressed to the appropriate persons in accordance with the following principle:

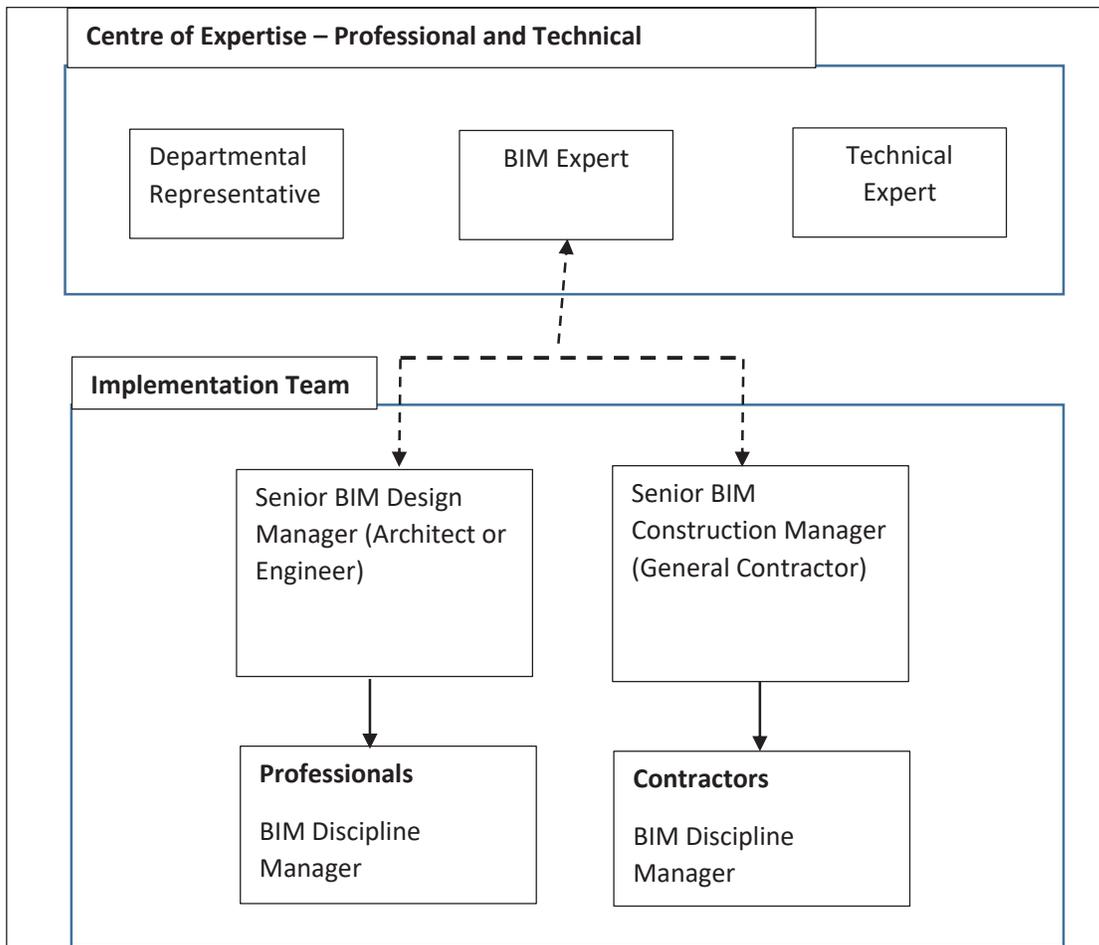
All project management communications impacting BIM must be addressed primarily to project managers, with BIM managers (disciplinary and senior) included in a carbon copy. However, any questions regarding the BIM process must be addressed to BIM managers (disciplinary and senior), including project authorities in carbon copy (cc.).

SUBJECT	ADDRESSEE	CONFORM COPY
Specific to BIM	BIM Managers (disciplinary and senior; PWGSC BIM Expert)	Project Officers; Departmental Representative
Project management impacting BIM	Project Officers; Departmental Representative	BIM Managers (disciplinary and senior; PWGSC BIM Expert)

4 Roles and Responsibilities

4.1 Organizational Chart

The organization chart opposite identifies the various authority relationships as they **relate specifically to BIM**. Relationships in the form of dotted lines are relationships that support the oversight of the Departmental Representative, while relationships represented by solid lines represent relationships of immediate authority.



4.2 Scope of Responsibilities

General responsibilities are described in the contract documents. Each team must be able to meet all required responsibilities.

4.2.1 BIM Expert

The BIM Expert's mandate is to act as the BIM representative for PWGSC. His primary role is to act as a liaison between PWGSC, the project management team and the discipline BIM managers (Architecture, MEP and Civil/Structural). The BIM Expert is responsible for ensuring that the goals, objectives and uses of BIM are met.

4.2.1.1 Responsibilities

- Implement, maintain and monitor the BIM approach in the project to meet the identified BIM objectives and uses. Act as a specialist in the planning, deployment and coordination of the BIM approach in a collaborative and integrated manner;
- Oversee the development of the BIM management plan, based on the goals and objectives defined by APAC;
- Update the BMP on an ongoing basis, as the project evolves, by collecting all requests for changes to the BMP from the various stakeholders, analyzing their relevance and advising the PWGSC management team of any impact these requests for changes may have on the project. Inform all stakeholders in a timely and effective manner of any changes to the BMP;
- Ensure, in collaboration with the stakeholders concerned by the BIM approach, that the BIM mock-ups adequately meet the modelling needs of the various uses implemented by carrying out quality control of the mock-ups and federated mock-ups;
- Produce reports on the quality of the mock-ups being prepared by professionals;

4.2.2 Senior Design BIM Manager

The mandate of the Senior Design BIM Manager is to act as the BIM representative for the design team.

4.2.2.1 Responsibilities

- In conjunction with discipline BIM managers, create and manage the design BIM execution plan;
- Create and manage the overall quality assurance plan and integrate it with the BIP ;
- Assist the Discipline BIM Managers in the planning and implementation of BIM for the project;
- Structure and coordinate the design BIM processes and uses required to achieve PWGSC's objectives for the project;
- Establish, in collaboration with the Project Authority and the BIM Discipline Managers, the schedule for interference detection reviews;
- Organize and lead BIM management meetings to coordinate the internal process within the design team, prepare minutes to ensure follow-up and distribute copies to all participants within 48 hours;
- Ensure that the modeling requirements are met by the team of professionals;
- Submit the most recent version of the virtual mock-up on a weekly basis to the hosting site provided by the consultant;
- Ensure that PWGSC standards are met;
- Define a sequence of intervention with the discipline BIM managers for the numbering of spaces for PPM professionals;

- Coordinate the placement of rooms and spaces between professionals in order to avoid that two different professionals name the same space not covered by a room in two different ways for example ;
- Coordinate the numbering of equipment in the mock-ups in relation to PWGSC requirements;
- Validate 3D coordination by visual inspections and automatically detect interdisciplinary conflicts for client review, if required.

4.2.3 Senior Construction BIM Manager

The mandate of the Senior Construction BIM Manager is to act as the BIM representative for the construction team.

4.2.3.1 Responsibilities

- Assist BIM Discipline Managers in :
- Planning and implementing BIM for the project;
- Defining the quality assurance plan for their discipline;
- Structuring and coordinating the construction BIM processes and uses required to achieve PWGSC's objectives for the project;
- Establish, in collaboration with the Project Authority and the BIM discipline managers, the schedule for interference detection reviews;
- Based on the template provided and in conjunction with the Discipline BIM Managers, create and manage the Construction BIM Implementation Plan ;
- Create and manage the overall quality assurance plan and integrate it with the BIP;
- Organize and lead BIM management meetings useful for coordinating the process within the construction team and prepare minutes to ensure follow-up;
- Ensure that modeling requirements are met by the contractor or subcontractor team;
- Ensure that PWGSC standards are met;
- Validate 3D coordination through visual inspections and perform automatic detection of interdisciplinary conflicts for client review, if required;
- Coordinate the transfer of asset information for operation and maintenance according to PWGSC requirements.
- Conduct 4D simulation of the projected construction schedule,
- Construction planning

4.2.4 BIM Discipline Manager

The mandate of the BIM discipline manager is to act as the BIM representative for the design and construction modeling team.

4.2.4.1 Responsibilities

- Act as an interface with BIM Managers and BIM Designers from other disciplines (Arch, Str and MEP) in order to achieve the BIM objectives of the project;
- Identify the BIM capability of its team;
- As required, coordinate the training required by his team based on the identification of BIM capacity and the planning of training offered by the BIM team;

- Identify the need for common, shared, interdisciplinary metrics;
- Write and maintain the discipline portion of the ILL;
- Controlling the quality of the BIM deliverables of his or her discipline to ensure compliance with the BIP and the BMP;
- Ensures that the deliverables comply with the BMP and its appendices;
- Control the creation of new mock-ups of its discipline;
- Ensure that the models of its discipline comply with the modeling requirements and that the required information is modeled at the required time;
- Manage the creation of BIM content related to their responsibilities;
- Manage the BIM team of his firm;
- Perform intra-discipline quality control before submission for the project team in accordance with the BMP;
- Ensure intra-disciplinary 3D coordination before sharing information with the project team;
- Proactively submit proposals for the implementation of modeling standards for the project;
- Establish, in conjunction with the Senior BIM Manager, the schedule for interference detection reviews;
- In conjunction with the Discipline Project Manager, follow up on the resolution of interferences detected between professionals for his/her discipline;
- Ensure the sharing of mock-ups of his/her team and the retrieval of mock-ups from other disciplines;
- Supervise and coordinate the updating of the models during the construction phase according to change directives and actual conditions to follow up on the work;
- Executes, if anomalies or problematic discrepancies are detected, the review of the manufacturing mock-ups provided by the contractors by **superimposition** and visual inspection;
- Verifies that the mock-ups for which he is responsible are properly filed in the document management platform;
- Ensure that the team's deliverables are on schedule;
Manage changes to the master file according to the responsibilities defined with the project team and the progress of the project;
- Ensure the integration and coordination of part numbers and spaces according to PWGSC requirements;
- Ensure integration and coordination of equipment codes according to PWGSC requirements;
- Ensure the transfer of asset information for operation and maintenance according to PWGSC requirements.

5. The goals sought with the use of BIM

The goal of the Centre of Expertise - Professional and Technical Services is to integrate the BIM process into its projects in order to take advantage of the various mock-ups and information that will be developed during the design process and the development of tender documents. These BIM mock-ups and the information they contain, combined with the various work processes developed and to be developed by the stakeholders, will be used to produce projects that are properly coordinated among stakeholders, comply with the standards set by the Centre of Expertise - Professional and Technical Services and respect the defined budgets.

In this sense, specific objectives have been developed by the Centre of Expertise - Professional and Technical Services to serve as a reference throughout the project. These various objectives are as described below.

6. BIM objectives and uses

The BIM Objectives of the project are mandatory. They are listed in the table below. Each objective is based on an expected benefit. The BIM Usage is the activity carried out from a BIM tool that allows the objective to be achieved.

By using BIM in this project, PWGSC wishes to achieve the following BIM Objectives and Uses:

6.1 Table of BIM objectives and uses

Objectifs BIM	Usages BIM
Project documentation	<ul style="list-style-type: none"> • 2D Documentation • 3D Modeling • Updating of the mock-ups • Updating the object library
Respect for functional requirements	<ul style="list-style-type: none"> • Integration and validation of program data / Customer requirements • Design review
Compliance with technical requirements	<ul style="list-style-type: none"> • Integration and validation of technical requirements • Design review
Documents retrievable by the customer for quality control and operation	<ul style="list-style-type: none"> • Updating of the mock-ups • Updating the object library
Cost estimation and analysis	<ul style="list-style-type: none"> • Quantity taking (5D) and cost estimation
Understanding design intent	<ul style="list-style-type: none"> • 3D design • Visualization • Design review

Inter- and intra-disciplinary coordination	<ul style="list-style-type: none"> • Visualization • Design review • 3D Coordination • Visual Coordination • Interference detection
Constructability of the concept	<ul style="list-style-type: none"> • Schedule 4D • Work planning
Design mock-up issued in call for tenders	<ul style="list-style-type: none"> • Model for call for tenders
Precise modelling of existing conditions	<ul style="list-style-type: none"> • Modelling of existing conditions
Develop an optimized implementation hypothesis	<ul style="list-style-type: none"> • Design review • Work planning
Sustainable development	<ul style="list-style-type: none"> • Energy efficiency • Design review

Note: BIM objectives and usage may not apply during project implementation. BIM objectives and uses that will not apply shall be identified in the BIM Implementation Plan.

6.2 Table of targets and performance indicator

The target is used to determine the strategy to achieve the objective. The Performance Indicator allows the achievement of the objective to be measured and the expected benefits to be tracked.

BIM Objectives	Targets	Performance Indicators
Project documentation	<ul style="list-style-type: none"> • Produce the plan books required at the various stages; • Produce submission documents of improved quality through interdisciplinary coordination, communication and visualization; • Serve as a tool for auditing weekly and contractual progress; • Have mock-ups (updates) at the end of the project. 	All drawings are produced directly from the various BIM models.

<p>Respect for functional requirements</p>	<ul style="list-style-type: none"> Monitoring the functional requirements and the surface areas and their characteristics planned for the project ; Allow the monitoring of the functional areas planned in the program as well as the net/gross ratio of the projected spaces; Serve as a design support and proof-of-concept tool for the monitoring of functional requirements, by synchronizing data between the modeling and a centralized database of functional requirements; 	<p>The design mock-ups are an accurate representation of the functional requirements of client departments captured in the TFP.</p>
<p>Compliance with technical requirements</p>	<ul style="list-style-type: none"> Ensure the follow-up of the technical requirements and their characteristics foreseen in the project ; Serve as a design support and proof-of-concept tool for monitoring technical requirements, by synchronizing data between the modeling and a centralized database of technical requirements; 	<p>The design mock-ups are an accurate representation of the technical requirements of client departments entered in the TFP.</p>
<p>Documents retrievable by the customer for quality control and operation</p>	<ul style="list-style-type: none"> Updating the models and the object library Provide representative models of actual conditions following the work for use in future projects. 	<p>Recoverable mock-ups for quality control and exploitation</p>
<p>Cost estimation and analysis</p>	<ul style="list-style-type: none"> Support the cost estimates to be issued. These should be done according to the Uniformat II - ASTM E1557 standard. Quantity of building elements and systems from BIM models, according to their state of maturity and the LOD matrix. 	<p>At each stage of the project, the various professionals refer to the BIM mock-ups to ensure that the budget is respected;</p>

<p>Understanding design intent</p>	<ul style="list-style-type: none"> • - Support the different implementation hypotheses ; • - Serve as a communication and visualization tool during integrated design workshops and other quality workshops (value analysis, design audits, sustainable development, standardization of premises, etc.), in order to boost exchanges and optimize decision-making ; • - Supporting the presentation of the project for obtaining authorizations and permits issued by the authorities • - Provide contractors with design mock-ups to optimize constructability analysis (e.g., systems coordination, planning and monitoring of work). 	<p>Obtaining a federated BIM mock-up allowing for a review of design intent and informed decision making.</p>
<p>Inter- and intra-disciplinary coordination</p>	<ul style="list-style-type: none"> • Carry out interference detection analyses and model reviews and follow-up (3D). 	<p>No major or critical interference, which may have an impact during the construction phase of the project, is detected.</p>
<p>Constructability of the concept</p>	<ul style="list-style-type: none"> • Design review • 3D Coordination • Schedule planning • Cost tracking • Quantity records • Simulation of the stages of progress of the construction site in 4D 	<p>Respecting and optimizing the costs of the budget envelope and schedule</p>
<p>Design mock-up issued in call for tenders</p>	<ul style="list-style-type: none"> • Provide contractors with design mock-ups to optimize constructability analysis (e.g., systems coordination, planning and monitoring of work); • Mock-ups for calls for tenders 	<p>Complete and coordinated mock-up allowing contractors to bid and carry out the work based on the design mock-ups</p>

Precise modelling of existing conditions	<ul style="list-style-type: none"> • Create reliable and accurate input data that adds value to designers' work 	<ul style="list-style-type: none"> • Reduced survey effort for validation of input data; • Reduction in the number and value of change orders (COs) in the field due to existing conditions encountered during the work
Develop an optimized implementation hypothesis	<ul style="list-style-type: none"> • Site analysis • Work planning 	The selected hypothesis is optimised taking into account the functionality of the project and harmonisation with the built environment.
Sustainable development	<ul style="list-style-type: none"> • List of deliverables required to achieve the targeted energy performance and certification 	Obtaining when the criteria are met

6.3 BIM Uses

BIM uses are the processes to be implemented to achieve the objectives and requirements of BIM. For each of the BIM objectives described below, a BIM Use(s) is assigned.

Usages	Descriptions
2D Documentation	Process by which the different 2D drawings used to document a work are produced directly and only from different BIM models produced. 2D documents typically include plans, elevations, sections, details, various tables, and legends.
3D Modeling	The process of using the various BIM mock-ups to validate compliance with stated design criteria and to allow stakeholders to provide feedback on multiple aspects of the design. These aspects may include aesthetics, constructability validation, PFT compliance, etc.

<p>Integration and validation of program data / Client requirements</p>	<p>The process by which mock-ups are used to ensure that the concept developed conforms to the needs expressed in the program. BIM mock-ups can be linked bi-directionally with the program database. The information from the various BIM mock-ups relating to the spaces will be exported in a database format (Access or Excel) and given to the Departmental representative. Also used to produce detailed colour plans of standard spaces by space categories and sub-categories.</p>
<p>Integration and validation of technical requirements</p>	<p>Processus qui consiste à créer et intégrer dans la maquette une bibliothèque de contenu pour les exigences techniques, orientée objets. Le processus de validation permettra de comparer les exigences techniques avec la proposition conceptuelle des concepteurs.</p>
<p>Design review</p>	<p>The process of using the various BIM mock-ups to validate compliance with stated design criteria and to allow stakeholders to provide feedback on multiple aspects of the design. These aspects may include aesthetics, constructability validation, PFT compliance, etc.</p>
<p>Updating models and object library</p>	<p>Design mock-ups are updated during the work to incorporate change orders (COs) and annotated contractor drawings. The construction mock-ups are an accurate representation of the actual conditions following the work.</p>
<p>Quantity taking (5D) and cost estimation</p>	<p>Process that consists of directly extracting from BIM mock-ups, according to their state of development according to the LOD information exchange matrix, the different quantities in order to ensure that the budget is respected at all phases of the project. Depending on the method of estimation required by the client (Uniformat II), the information extracted from the mock-ups can be surfaces, materials, construction systems, equipment, etc. In addition to validating the budget, the estimate can also be used to compare different design alternatives.</p>
<p>3D Design</p>	<p>A process in which 3D modeling and analysis software is used to develop information-rich BIM models based on stated design criteria. The use of this process and the various tools allows the development of a given concept and its analysis and verification through iterations. It also allows for the communication of design intentions and the use of information to extract data related to quantities, costs, schedules, etc.</p>
<p>Visualization</p>	<p>Process by which 3D models are generated or enhanced to communicate visual, spatial or functional qualities of the project or parts of the project through perspectives, renderings, overviews, etc.</p>

Design review	The process of using the various BIM mock-ups to validate compliance with stated design criteria and to allow stakeholders to provide feedback on multiple aspects of the design. These aspects may include aesthetics, constructability validation, PFT compliance, etc.
3D Coordination	The process by which the different BIM models are used to coordinate the works of the different disciplines involved in the project. Can be performed visually by navigating through the different models, or by automating certain tasks during coordination meetings.
Visual Coordination	Process that consists in visualizing the BIM models of the different disciplines involved in order to detect interferences between the works of the said disciplines.
Interference detection	Process that consists in using BIM models of the different disciplines involved in order to detect interferences between the works of the said disciplines.
4D timeline	A process by which the model is used to simulate construction work.
Work planning	A process by which the mock-up is used to sequence construction work, including site preparation, temporary work, relocations and any other activity related to the operation of the site that has an impact on the schedule.
Model for call for tenders	A process by which the mock-up is used to produce 2D tender documents. The mock-up is also transmitted for reference in tenders. Contractors will be able to use them for a better understanding when submitting their bids.
Modelling of existing conditions	The process of using tools, such as laser scan surveys, to create project input data; The use of geo-referencing for optimal integration in planning and execution.
Energy efficiency	The process by which different models are used to calculate the environmental impact of the project. In our case, the calculations are performed to achieve the energy performance targeted for LEED certification.
Sun, wind and snow analysis	A process by which the model is used to conduct sunshine / shade zone studies on the building and/or site.

6.4 BIM Objectives and Uses - Deployment Strategies

Services required

- SR1 Analysis of Project Brief
- SR2 Concept Studies
- SR3 Design Development
- SR 4 Construction documents
- SR 5 Tendering, evaluation of bids and award of the construction contract
- SR 6 Construction and Contract Administration
- SR 7 Commissioning the system

Objectives / BIM Uses	SR1	SR2	SR3	SR4	SR5	SR6	SR7	Responsibilities	Tools
Project documentation									
<i>2D Documentation</i>								Designer, Contractor	Revit, DWG, PDF
<i>3D Modeling</i>								Designer, Contractor	Revit
<i>Updating of the mock-ups</i>								Designer, Contractor	Revit
<i>Updating the object library</i>								Designer, Contractor	Revit
Respect for functional requirements									
<i>Integration and validation of program data / Customer requirements</i>								PWGSC, Designer	Revit, Database
<i>Design review</i>								PWGSC, Designer	Revit, Database
Compliance with technical requirements									
<i>Integration and validation of technical requirements</i>								PWGSC, Designer, Contractor	Revit, Database
<i>Design review</i>								PWGSC, Designer	Revit, Database



Objectives / BIM Uses	SR1	SR2	SR3	SR4	SR5	SR6	SR7	Responsibilities	Tools
Documents retrievable by the customer for quality control and operation									
<i>Updating of the mock-ups</i>								PWGSC, Designer	Revit
<i>Updating the object library</i>									
Cost estimation and analysis									
<i>Quantity taking (5D) and cost estimation</i>								PWGSC, Designer, Contractor	Revit, Database
Understanding design intent									
<i>3D design</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF
<i>Visualization</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF
<i>Design review</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF
Inter- and intra-disciplinary coordination									
<i>Visualization</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF
<i>Concept review</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF
<i>3D Coordination</i>								Designer, Contractor	Revit, Revizto, PDF, Naviswork
<i>Visual Coordination</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF, Naviswork
<i>Interference detection</i>								Designer, Contractor	Revit, Revizto, PDF, Naviswork

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Objectives / BIM Uses	SR1	SR2	SR3	SR4	SR5	SR6	SR7	Responsibilities	Tools
Constructability of the concept 4D Schedule								Designer, Contractor	Revit, Revizto, PDF, Naviswork
Work planning								Designer, Contractor	Revit, Revizto, PDF, Naviswork
Design mock-up issued in call for tenders <i>Mock-up for call for tenders</i>								Designer	Revit, Revizto, PDF,
Precise modelling of existing conditions <i>Modelling of existing conditions</i>								PWGSC, Designer, Contractor	Relevés Laser, Revit, DWG
Develop an optimized implementation hypothesis <i>Design review</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF,
<i>Sun, wind and snow analysis</i>								Designer	Revit, Revizto, PDF,
<i>Work planning</i>								Designer, Contractor	Revit, Revizto, PDF, Naviswork
Sustainable development <i>Energy efficiency</i>								Designer	Revit, Revizto, PDF,
<i>Design review</i>								PWGSC, Designer, Contractor	Revit, Revizto, PDF,

7. Quality assurance and control

7.1 Quality control procedure

For this project, the Senior Design and Construction BIM Manager is responsible, in collaboration with the Discipline BIM Managers, for the development of quality control procedures covering the implementation of BIM on the project. The overall quality control procedure and the procedures specific to the different project teams will be incorporated into the BIM Implementation Plan (BIP).

The discipline that identifies a problem in the mock-ups shall promptly notify the originator of the problem item and the BIM Coordinator, regardless of the level of progress of the project. Once notified, the originator of the element must act quickly to resolve the conflict or problem. The coordinator can then follow up on the resolution of the problem at the next design review.

Before each file transfer for sharing, mock-ups should be reviewed in accordance with the quality control strategy developed in the BIM Implementation Plan (BIP) to reduce the risk of problems.

7.2 Types of quality control

The following is a summary list of the types of quality control applicable to model monitoring in this project:

Control Types	Definition	Responsible Person	Project Steps
Standards and good practices	Ensuring compliance with the standards and procedures set out in the BMP	BIM Expert Senior BIM Manager (design and construction) BIM Discipline Managers	Design and production
Visual	Ensure that the mock-ups do not contain unnecessary elements or duplicates.	BIM Expert Senior BIM Manager (design and construction) BIM Discipline Managers	Design and production
LOD	Ensure that the mock-ups meet the required level of development (LOD) and that they contain the information required by all stakeholders.	BIM Expert Senior BIM Manager (design and construction) BIM Discipline Managers	Design, execution and completion of the work

Interference detection	Ensure that mock-ups are coordinated and that major conflicts are resolved	Senior BIM Manager (design and construction) BIM Discipline Managers	Design and production
[Additional check]			

7.3 Information Exchange Matrix

The control of the levels of development (LOD) is carried out with reference to the LOD (also called PxP Matrix) of the project in the BIM implementation plan. This document defines in which state of progress the model should be at different stages of the project, as well as the extent of modeling, the level of graphic detail, and the level of information detail (non-graphical parameter).

This control is important to ensure that digital mock-ups can meet every BIM usage established in the project.

The establishment of the information exchange matrix will be the responsibility of the Senior Design BIM Manager and the discipline BIM Managers.

The control is based on the U.S. Level of Development Specification reference document issued by BIMForum, as well as the BIM team's experience with local BIM practices.

The following checkpoints are used directly to validate compliance with the Information Exchange Grid (IEG) issued with the BIM Management Plan.

- The level of development (LODs)
- Scope of modelling
- UNIFORMAT coding

8. Collaboration

8.1 Types of data

8.1.1 Digital project data (shared)

- Any information that can be used for implementation, validation, coordination, analysis, and communication.
- Any information including, in particular, drawings, models, analyses, specifications or other documents, as created for the Project in digital form.
- All information that can be used for validation, coordination and analysis must be kept within the Project's collaborative tools (database, models, analysis tools, etc.).
- Any data or information should never be processed or extracted in temporary documents.

- All project data or information should be continuously available.

Examples of this are :

- Mock-ups
- Quotation
- Working papers
- Reports

8.1.2 Confidential digital data (shared with exclusive use in the project)

Digital data containing confidential information belonging to the Communicating Party.

8.1.3 Sensitive data (with restriction)

Documents requiring special permission and/or guidance before release.

Depending on the type of data, its availability could be restricted or limited to a group of users according to the established governance model.

Discipline BIM Managers are responsible for determining the type of data that will require special restrictions (sensitive data), making a request to the Senior BIM Manager, and providing reasons and/or documentation to explain the purpose of the restrictions to be applied.

Example:

- Letter
- Spreadsheet
- Estimate

9. BIM Deliverables

9.1 Format of Deliverables

9.1.1. Paper deliverables

At each stage of the project, when plans are officially issued, the various professionals will have to produce the number of paper copies determined by the Project Manager according to the instructions that serve as a contractual document.

9.1.2. Electronic Deliverables

9.1.2.1. Native Revit format

At each stage of the project, when the plans are officially issued, all mock-ups in .rvt format (including federated mock-ups) will be retrieved by the BIM expert and will be given to the Centre of Expertise - Professional and Technical Services and then archived.

If necessary and as requested by the Centre of Expertise - Professional and Technical Services, mock-ups in .rvt format may be transmitted to third parties for information.

9.1.2.2. Navisworks format

At each stage of the project, at the end of the interference detection process, all mock-ups in .nwc and .nwf formats (including federated mock-ups) will be retrieved by the BIM expert and archived.

9.1.2.3. .pdf format

At each stage of the project, when drawings are officially issued, the various professionals will have to produce deliverables in .pdf format. Each drawing sheet will be produced independently, except for the submission for tender, where the submissions will have to be attached by discipline.

9.1.2.4. .dwg format

At each stage of the project, when drawings are officially issued, the various professionals will have to produce deliverables (plans, sections and elevations) in .dwg format.

9.1.2.5. .ifc format

The .ifc format is an object-oriented standardized file format (ISO 16739 standard) used by the construction industry to exchange and share information between software programs. At each stage of the project, when drawings are officially issued, the various professionals will have to produce deliverables in .ifc format.

9.1.2.6. Other formats

At each stage of the project, when drawings are officially issued, the architectural BIM manager must ensure that the database of functional requirements, surface areas and net/gross ratios, including tables in Excel format, is submitted.

9.2 BIM Deliverables - Start-up Stages

BIM Deliverables	Responsible person	State	Format	Notes
BIM Management Plan	BIM Expert	Ongoing	.PDF	
Geo-referenced general site data	PWGSC	Coming soon	.rvt	Mock-ups of existing condition survey data
Implementation model of the reference hypothesis	PWGSC	Coming soon	.rvt	Volumetric model representing the site layout constraints

9.3 BIM Deliverables - Design Stages

BIM Deliverables	Responsible person	State	Format	Notes
BIM Management Plan	BIM Expert Senior BIM Manager	Coming soon	.doc / .PDF	
Mock-ups of existing conditions	Design Professionals	Coming soon	.rvt	Models for modelling existing conditions adapted to the needs of the project
Design models	Design Professionals	Coming soon	.rvt .nwd .ifc	See the Information Exchange Grid (IEG) to ensure that the mock-ups contain all the required information.
2D Plans issued for tender	Design Professionals	Coming soon	.pdf	Plans extracted directly from the models.
Design mock-up issued in call for tenders	Design Professionals	Coming soon	.rvt .ifc	Extracted directly from the models.
Interference detection reports	Senior BIM (design) manager	Coming soon		Document produced by the Lead BIM Manager during the interference analysis and given to design professionals for coordination.

9.4 BIM Deliverables - Milestones Achieved

Livrables BIM	Responsables	État	Format	Notes
BIM Management Plan	BIM Expert Senior BIM Manager	Coming soon	.doc / .PDF	Update for construction
Design models issued for construction	Design Professionals	Coming soon	.rvt	Design mock-ups including addenda
Construction models	Contractors	Coming soon	.rvt .nwd .ifc	See the Information Exchange Grid (IEG) to ensure that the mock-ups contain all the required information.
Workshop drawings (construction models)	Contractors	Coming soon	.rvt .pdf .ifc	Plans extracted directly from construction models
Design mock-up issued in call for tenders	Design Professionals	Coming soon	.rvt .pdf .ifc	Extracted directly from the models.
Interference detection reports	Senior BIM Manager (Construction)	Coming soon		Document produced by the Lead BIM Manager during the interference analysis and given to design professionals for coordination.
"Updated" design models	Design Professionals	Coming soon	.rvt .pdf .ifc	Design mock-ups updated during the execution of the work and "updated" plans extracted directly from the mock-ups.
Construction models representative of real-life conditions	General contractors	Coming soon	.rvt .pdf .ifc	Construction models updated during the execution of the works and "updated" plans extracted directly from the models.

9.5 Schedule of BIM Deliverables

		BIM Deliverables	DURATION Months	START DATE	END DATE
		BIM Management Plan	3	June 2020	August 2020
STEP 1	SR 1	Model of existing conditions	8	October 2020	May 2021
	SR 2	Design models			
	SR 3	Design models			
3D coordination reports, Conflict detection					
STEP 2	SR 4	Design models issued for construction	8	February 2022	October 2022
STEP 3	SR 6	Design mock-up issued in call for tenders	3	November 2022	January 2023
		2D drawings issued for calls for tenders extracted from design models issued in calls for tenders	2	January 2023	February 2023
		Integrated model for site management and monitoring of construction work	3	February 2023	April 2023
		3D coordination reports, Conflict detection		April 2023	November 2025
		Integrated model and 4D simulation			
		"updated" design models			
Construction models representative of real-life conditions					
ALL STEPS		Risk Management	The entire duration of the project		
		Cost management			
		Timeline management			
		Sustainable development			
		BIM			
		Waste management			



SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine: Public Works and Government Services Canada / Direction générale ou Direction Biens immobiliers

3. a) Subcontract Number / Numéro du contrat de sous-traitance
3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant

4. Brief Description of Work / Brève description du travail
Mandat d'expert-conseil ; Études préliminaires (SR1/SR2), élaboration de la conception (SR3) et plans et devis (SR4), dans le cadre d'un projet de réfection de l'enveloppe et d'aménagements temporaires (swign-space) au 3, passage du chien d'or, Québec

5. a) Will the supplier require access to Controlled Goods? / Le fournisseur aura-t-il accès à des marchandises contrôlées? No / Non Yes / Oui

5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? / Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques? No / Non Yes / Oui

6. Indicate the type of access required / Indiquer le type d'accès requis

6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? / Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) / Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c) No / Non Yes / Oui

6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. / Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé. No / Non Yes / Oui

6. c) Is this a commercial courier or delivery requirement with no overnight storage? / S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit? No / Non Yes / Oui

7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

Canada <input checked="" type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
--	--------------------------------------	---

7. b) Release restrictions / Restrictions relatives à la diffusion

No release restrictions / Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>	All NATO countries / Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions / Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable / À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>
Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:

7. c) Level of information / Niveau d'information

PROTECTED A / PROTÉGÉ A <input checked="" type="checkbox"/>	NATO UNCLASSIFIED <input type="checkbox"/>	PROTECTED A / PROTÉGÉ A <input type="checkbox"/>
PROTECTED B / PROTÉGÉ B <input checked="" type="checkbox"/>	NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED B / PROTÉGÉ B <input type="checkbox"/>
PROTECTED C / PROTÉGÉ C <input type="checkbox"/>	NATO RESTRICTED / NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED C / PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>	NATO CONFIDENTIAL / NATO CONFIDENTIEL <input type="checkbox"/>	CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>
SECRET / SECRET <input type="checkbox"/>	NATO SECRET / NATO SECRET <input type="checkbox"/>	SECRET / SECRET <input type="checkbox"/>
TOP SECRET / TRÈS SECRET <input type="checkbox"/>	COSMIC TOP SECRET / COSMIC TRÈS SECRET <input type="checkbox"/>	TOP SECRET / TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>



PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? No / Non Yes / Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET- SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input type="checkbox"/> SITE ACCESS
ACCÈS AUX EMPLACEMENTS | | | |

Special comments:
Commentaires spéciaux : _____

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? No / Non Yes / Oui
If Yes, will unscreened personnel be escorted?
Dans l'affirmative, le personnel en question sera-t-il escorté? No / Non Yes / Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? No / Non Yes / Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? No / Non Yes / Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? No / Non Yes / Oui



PART C - (continued) / PARTIE C - (suite)

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL	SECRET	TOP SECRET	NATO RESTRICTED	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP SECRET COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET
				CONFIDENTIEL	SECRET	TRÈS SECRET	NATO DIFFUSION RESTREINTE	NATO CONFIDENTIEL	SECRET		A	B	C	CONFIDENTIEL	SECRET	TRÈS SECRET
Information / Assets / Renseignements / Biens / Production		✓														
IT Media / Support TI		✓														
IT Link / Lien électronique		✓														

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

**If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.**

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

**If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquez qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).**



Contract Number / Numéro du contrat EE520210282
Security Classification / Classification de sécurité UNCLASSIFIED

PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme			
Name (print) - Nom (en lettres moulées)		Title - Titre	Signature
[Redacted]			
14. Organization Security Authority / Responsable de la sécurité de l'organisme			
Name (print) - Nom (en lettres moulées)		Title - Titre	Signature
[Redacted]		SO	
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	[Redacted]	Date
15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached? Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?			<input type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
16. Procurement Officer / Agent d'approvisionnement			
Name (print) - Nom (en lettres moulées)		Title - Titre	Signature
[Redacted]			
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
17. Contracting Security Authority / Autorité contractante en matière de sécurité			
Name (print) - Nom (en lettres moulées)		Title - Titre	Signature
[Redacted]			
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date

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QCM039

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SUBMISSION REQUIREMENTS AND EVALUATION (SRE)

- SRE 1 General Information
- SRE 2 Proposal Requirements
- SRE 3 Submission Requirements and Evaluation
- SRE 4 Price of Services
- SRE 5 Total Score
- SRE 6 Submission Requirements - Checklist

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SUBMISSION REQUIREMENTS AND EVALUATION

SRE 1 GENERAL INFORMATION

1.1 Reference to the Selection Procedure

An 'Overview of the selection procedure' can be found in R1410T General instructions to Proponents (GI3).

1.2 Calculation of Total Score

For this project the Total Score will be established as follows:

Technical Rating x 90%	=	Technical Score (Points)
<u>Price Rating x 10%</u>	=	<u>Price Score (Points)</u>
Total Score	=	Max. 100 Points

SRE 2 PROPOSAL REQUIREMENTS

2.1 Requirement for Proposal Format

The following proposal format information should be implemented when preparing the proposal.

- Submit one (1) original copy in electronic format.
- Paper size should be - 216mm x 279mm (8.5" x 11")
- Minimum font size - 11 point Times or equal
- Minimum margins - 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 proposals should follow the order established in the Request for Proposal SRE section

2.2 Specific Requirements for Proposal Format

The maximum number of pages (including text and graphics) to be submitted for the Rated Requirements under SRE 3.2 is fifty (50) pages.

The following are not part of the page limitation mentioned above;

- Covering letter
- Consultant Team Identification (Appendix A)
- Declaration/Certifications Form (Appendix B)
- Integrity Provisions – Required Documentation
- Front page of the RFP
- Front page of revision(s) to the RFP
- Price Proposal Form (Appendix C)

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Consequence of non-compliance: any pages which extend beyond the above page limitation and any other attachments will be extracted from the proposal and will not be forwarded to the PWGSC Evaluation Board members for evaluation.

SRE 3 SUBMISSION REQUIREMENTS AND EVALUATION

3.1 MANDATORY REQUIREMENTS

Failure to meet the mandatory requirements will render the proposal as non-responsive and no further evaluation will be carried out.

3.1.1 Licensing, Certification or Authorization

The proponent must be an architectural firm, a consortium or a joint venture between an architectural firm and a structural engineering firm, licensed to provide the necessary professional services to the full extent that may be required by provincial or territorial law in the province of Quebec.

3.1.2 Consultant Team Identification

The consultant team to be identified must include the following:
Proponent (Lead Consultant) - Architect or Structural Engineer
Major Sub-Consultants / Specialists :

- Architecture
- Structural Engineering
- Mason holding a general building contractor's licence issued by the Régie du bâtiment du Québec (RBQ);
- Mechanical engineering (HVAC, plumbing, fire protection)
- Civil Engineering
- BIM Management
- Cost management
- Schedule management
- Interior design
- Landscaping
- Environmental Specialist

The architect, structural engineer, mason and site supervisor (in the same fields) should have a thorough knowledge of conservation principles, materials and techniques, as well as extensive experience in condition assessment, rehabilitation and restoration of masonry in old institutional buildings and, wherever possible, those of formally recognized heritage value.

If the proponent proposes to provide multidisciplinary services that might normally be provided by a sub-consultant, this should be indicated here.

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Information required - name of firm, key personnel to be assigned to the project. For the lead consultant, indicate any existing accreditations, certifications or authorizations and/or how the lead consultant intends to meet the licensing and permitting requirements of the province in which the project will be carried out. In the case of a joint venture identify the existing or proposed legal form of the joint venture (refer to R1410T General instructions to Proponents, G19 Limitation of submissions).

An example of an acceptable format (typical) for submission of the team identification information is provided in Appendix A.

3.1.3 Declaration/Certifications Form

Proponents must complete, sign and submit the following:
Appendix B, Declaration/Certifications Form as required.

3.1.4 Integrity Provisions – Required documentation

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Proponent must provide, **as applicable**, to be given further consideration in the procurement process, the required documentation as per R1410T (2017-08-17), General instructions 1 (G1), Integrity Provisions – Proposal, **section 3a**.

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3.2 RATED REQUIREMENTS

3.2.1 Achievements of Proponent on Projects

Describe the Proponent's accomplishments, achievements and experience as prime consultant on projects.

The joint venture or lead architectural firm and the lead structural engineering consulting firm should submit **a maximum of 2** projects undertaken within the last 15 years in architecture and **a maximum of 2** projects undertaken within the last 15 years in structural engineering requested in this section. Only the first 2 projects submitted in order by discipline will be considered and all others will not be considered as if they had not been submitted.

In the case where 1 project integrates the architecture and structural engineering of the 2 main firms, it can be considered as 1 architectural and 1 structural engineering project. It is important to clearly indicate for which specialty the project is being submitted.

Information that should be supplied:

- the title of the project and the place of the project's realisation
- indicate clearly how the proponent had primary responsibility for implementing an Integrated Design Process (IDP) delivery model where clients, client, owner, consultant and contractor work together to deliver the project in phases
- clearly indicate how this project is comparable/relevant to the requested project.
- brief project description and intent. Narratives should include a discussion of design philosophy / approach to meet the intent, design challenges and resolutions
- demonstrate how the proponent aims to ensure the conservation, rehabilitation and restoration of heritage buildings.
- clearly indicate the period of execution, specifying that the design phase was initiated within the last 15 years
- the total cost of the construction work (excluding taxes)
- budget control and management - i.e. contract price & final construction cost - explain variation
- project schedule control and management - i.e. initial schedule and revised schedule - explain variation
- client references - name, address, phone and fax of client contact at working level - references may be checked
- names of key personnel responsible for project delivery
- awards received

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The Proponent (as defined in R1410T General instructions to Proponents, GI2 Definitions) should possess the knowledge on the above projects. Past project experience from entities other than the Proponent will not be considered in the evaluation unless these entities form part of a joint venture Proponent.

Please indicate those projects which were carried out in joint venture and the responsibilities of each of the involved entities in each project.

3.2.2 Achievements of Key Sub-consultants and Specialists on Projects

Describe the accomplishments, achievements and experience either as prime consultant or in a sub-consultant capacity on projects. If the Proponent proposes to provide multi-disciplinary services which might otherwise be performed by a sub-consultant, this should be reflected here.

Select a **maximum** of 2 projects undertaken within the last 15 years per key sub consultant or specialist. Only the first 2 projects listed in sequence (per key subconsultant or specialist) will receive consideration and any others will receive none as though not included.

Here is the sub-consultant/specialist who should submit 2 projects respecting this section:

- Mason holding a general building contractor's licence issued by the Régie du bâtiment du Québec (RBQ);

Information that should be supplied:

- the title of the project and the place of the project's realisation
- clearly indicate how this project is comparable/relevant to the requested project.
- brief project description and intent. Narratives should include a discussion of design philosophy / approach to meet the intent, design challenges and resolutions.
- demonstrate how the proponent aims to ensure the conservation, rehabilitation and restoration of heritage buildings.
- clearly indicate the period of execution, specifying that the design phase was initiated within the last 15 years
- the total cost of the construction work (excluding taxes)
- budget control and management - i.e. contract price & final construction cost - explain variation
- project schedule control and management - i.e. initial schedule and revised schedule - explain variation
- client references - name, address, phone and fax of client contact at working level - references may be checked
- names of key personnel responsible for project delivery
- awards received

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Please indicate the projects that have been carried out as part of a joint venture and the responsibilities of each of the joint venture entities in each project.

3.2.3 Achievements of Key Personnel on Projects

Describe the experience and performance of key personnel to be assigned to this project regardless of their past association with the current proponent firm. This is the opportunity to emphasize the strengths of the individuals on the team, to recognize their past responsibilities, commitments and achievements.

Experience has shown that, in the development of a major project, proponents appoint a project manager for the planning/design phases and a project manager for the construction phases.

The proponent should therefore nominate a project manager for the planning/design phase, and a project manager for the execution/implementation phase, for key personnel from the following disciplines:

- Architecture
- Structural Engineering

The key personnel are as follows:

Discipline	Key personnel
Proponent:	Responsible person / project leader
Architecture:	Senior Architect Architect Project Manager, Planning/Design Phase Architect Project Manager, Execution/Implementation phase Senior Architectural Technician or Intermediate Architect Supervisor in residence on site
Structural Engineering:	Senior Structural Engineer Engineer Project Manager, Planning/Design Phase Engineer Project manager, Execution/Implementation phase Senior Structural Technician or Intermediate Engineer Supervisor in residence on site
Mason:	Main Mason
Mechanical Engineering:	Senior Mechanical Engineer
Civil Engineering:	Senior Civil Engineer
Interior	

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Development: Senior Interior Designer

BIM: Senior BIM Manager

Cost Management: Senior Cost Specialist

Schedules
Management: Senior Schedule Specialist

Landscape
Planning: Senior Landscape Architect

Environment: Senior Environmental Specialist

This criterion evaluates the professional credentials, knowledge, previous experience, expertise and completeness of competencies of key individuals in the discipline who collaborate to deliver the services identified in the project brief.

For each key individual in the key discipline (18 in total), information should be presented in the form of a tailored resume, clearly demonstrating the expertise of that individual. An individual may act as more than one key person. Even if an individual is identified with more than one key person, each key person will still be assessed against the competencies sought for each role. Site supervisors, on the other hand, must be different individuals from the key individuals identified as "Senior Architect and Engineer" and "Project Architect and Engineer".

Resumes should demonstrate that the key individuals proposed by the applicant have the capacity, expertise and relevant previous experience to provide the services and deliverables required for their proposed role.

A maximum of 18 pages is accepted for all 18 resumes (one page per resume). This number of pages is included in the maximum number of pages of the proposal submitted to SRE 2.2.

Information that should be supplied for each key personnel:

- name of the resource, proposed role within the applicant's team (in the list of key persons)
- level of participation for the proposed role
- professional certification and/or professional orders, including year of registration
- degree(s) and field(s) of specialization
- number of BIM projects completed
- accomplishments/achievements/awards
- relevant experience, competence and number of years of experience

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- role, responsibility and degree of involvement of each member in past projects
- describe experience in a similar role by indicating at least two (2) reference projects completed within the last fifteen (15) years, including a general description of the project, the individual's specific responsibilities and level of involvement in the reference project submitted by the proponent, the similarities with this project.
- describe the type of follow-up and coordination that was carried out to meet the various requirements (heritage aspects, scope of work, budget, schedule) in previous projects
- describe the particular sensitivity of the project architect and the project architects in both phases to the issues of masonry repair, heritage conservation and structural issues in previous projects
- describe the particular sensitivity of the structural project engineer and the structural engineers in charge of the project in both phases to the issues of masonry repair and heritage conservation in previous projects.

3.2.4 Understanding of the Project:

The proponent should demonstrate understanding of the goals of the project, the functional/technical requirements, the constraints and the issues that will shape the end product.

Information that should be supplied:

- the functional and technical requirements
- broader goals (federal image, sustainable development, sensitivities)
- the relationship between this commission and any earlier studies completed for PWGSC
- significant issues, challenges and constraints
- project schedule and cost. Review schedule and cost information and assess risk management elements that may affect the project
- the Client User's philosophies and values
- demonstration and understanding of the project implementation strategy
- demonstration of understanding of project stakeholders (description of roles and responsibilities and organization chart).

3.2.5 Scope of Services:

The proponent should demonstrate capability to perform the services and meet project challenges and to provide a plan of action.

Information that should be supplied:

- scope of Services - detailed list of services
- work Plan - detailed breakdown of work tasks and deliverables
- project schedule - the proposed schedule for the completion of key services at specified milestones from the award of the proponent's contract to the completion of the project, including the schedule for the preparation of plans and specifications (including site surveys and inspections), tendering and construction.

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- project cost management strategy and proposed methodology to meet the overall construction budget
- risk management strategy in relation to the services to be rendered, including availability of resources, meeting deadlines, meeting budget, continuation of services, respect of roles and responsibilities.

3.2.6 Management of Services:

It would be to the applicant's advantage to provide explanations on the following:

- how the applicant intends to provide the services and meet the constraints
- how it plans to meet the project schedule and budget
- service management procedures to ensure continuity and consistency of control and the production and effectiveness of communications (internal team communications and communications with departmental representatives)
- the team structure and its integration into the existing firm structure
- the way in which the team is managed (including the hierarchical structure).

The proponent should also identify the sub-consultants and specialists required to complete the consulting team.

If the Proponent proposes to provide multi-disciplinary services which might otherwise be performed by a sub-consultant, this should be reflected here.

Information that should be supplied:

- Confirm the makeup of the full project team including the names of the consultant sub-consultants and specialists personnel and their role on the project.
- Organization chart with position titles and names (Consultant team). Joint Venture business plan, team structure and responsibilities, if applicable
- What back-up will be committed
- Profiles of the key positions (specific assignments and responsibilities)
- Outline of an action plan of the services with implementation strategies and sequence of main activities
- Reporting relationships
- Communication strategies
- Response time: demonstrate how the response time requirements will be met

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3.2.7 Design Philosophy / Approach / Methodology

The proponent should elaborate on aspects of the project considered to be a major challenge which will illustrate design philosophy / approach / methodology. This is the opportunity for the Proponent to state the overall design philosophy of the team as well as their approach of resolving design issues and in particular to focus on the unique aspects of the current project.

Information that should be supplied:

- Design Philosophy / Approach / Methodology
- Describe the major challenges and how your team approach will be applied to those particular challenges.

3.3 EVALUATION AND RATING

In the first instance, price envelopes will remain sealed and only the technical components of the proposals which are responsive will be reviewed, evaluated and rated by a PWGSC Evaluation Board in accordance with the following to establish Technical Ratings:

Criterion	Weight Factor	Rating	Weighted Rating
3.2.1 Proponent Achievements Joint venture between an architectural firm and a structural engineering consulting firm or the principal architectural firm and the principal structural engineering consulting firm	2.0	0 - 10	0 - 20
3.2.2 Achievements of Key Sub-Consultants/Specialists Main Mason	0.7	0 - 10	0 - 7

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3.2.3 Achievements of Key Individuals			
- <u>Proponent:</u> Responsible person / project manager	0.12	0 – 10	0 – 1.2
- <u>Architecture:</u> Principal architect	0.18	0 – 10	0 – 1.8
Architect in charge of project Planning/Design phase	0.18	0 – 10	0 – 1.8
Architect in charge of the project Execution/Implementation phase	0.18	0 – 10	0 – 1.8
Senior Architectural Technician or Intermediate Architect Supervisor in residence on site	0.15	0 – 10	0 – 1.5
- <u>Structural Engineering :</u> Senior Engineer	0.18	0 – 10	0 – 1.8
Engineer in charge of the project Planning/Design phase	0.18	0 – 10	0 – 1.8
Engineer in charge of the project Execution/Implementation phase	0.18	0 – 10	0 – 1.8
Senior Structural Technician or Intermediate Structural Engineer Supervisor in residence on site	0.15	0 – 10	0 – 1.5
- <u>Masonry</u> Main Mason	0.15	0 – 10	0 – 1.5
- <u>Mechanical engineering :</u> Senior Engineer	0.10	0 – 10	0 – 1.0
- <u>Civil engineering:</u> Senior Engineer	0.08	0 – 10	0 – 0.8
- <u>Interior design :</u> Main designer	0.07	0 – 10	0 – 0.7
- <u>BIM :</u> Senior BIM Manager	0.08	0 – 10	0 – 0.8
- <u>Cost management :</u> Senior Cost Specialist	0.08	0 – 10	0 – 0.8
- <u>Schedule management :</u> Senior Schedule Specialist	0.10	0 – 10	0 – 1.0
- <u>Landscaping :</u> Main Landscape Architect	0.07	0 – 10	0 – 0.7
- <u>Environment :</u> Senior Environmental Specialist	0.07	0 – 10	0 – 0.7
Understanding of the Project	1.5	0 - 10	0 - 15
Scope of Services	1.0	0 - 10	0 - 10
Management of Services	1.0	0 - 10	0 - 10
Design Philosophy / Approach / Methodology	1.5	0 - 10	0 - 15
Technical Rating			0 - 100

Generic Evaluation Table

PWGSC Evaluation Board members will evaluate the strengths and weaknesses of the Proponent's response to the evaluation criteria and will rate each criterion with even numbers (0, 2, 4, 6, 8 or 10) using the generic evaluation table below:

	INADEQUATE	WEAK	ADEQUATE	FULLY SATISFACTORY	STRONG
0 point	2 points	4 points	6 points	8 points	10 points
Did not submit information which could be evaluated	Lacks complete or almost complete understanding of the requirements.	Has some understanding of the requirements but lacks adequate understanding in some areas of the requirements.	Demonstrates a good understanding of the requirements.	Demonstrates a very good understanding of the requirements.	Demonstrates an excellent understanding of the requirements.
	Weaknesses cannot be corrected	Generally doubtful that weaknesses can be corrected	Weaknesses can be corrected	No significant weaknesses	No apparent weaknesses
	Proponent do not possess qualifications and experience	Proponent lacks qualifications and experience	Proponent has an acceptable level of qualifications and experience	Proponent is qualified and experienced	Proponent is highly qualified and experienced
	Team proposed is not likely able to meet requirements	Team does not cover all components or overall experience is weak	Team covers most components and will likely meet requirements	Team covers all components - some members have worked successfully together	Strong team - has worked successfully together on comparable projects
	Sample projects not related to this requirement	Sample projects generally not related to this requirement	Sample projects generally related to this requirement	Sample projects directly related to this requirement	Leads in sample projects directly related to this requirement
	Extremely poor, insufficient to meet performance requirements	Little capability to meet performance requirements	Acceptable capability, should ensure adequate results	Satisfactory capability, should ensure effective results	Superior capability, should ensure very effective results

To be considered further, proponents **must** achieve a minimum Technical Rating of fifty (50) points out of the hundred (100) points available as specified above.

No further consideration will be given to proponents not achieving the pass mark of fifty (50) points.

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SRE 4 PRICE OF SERVICES

All price proposal envelopes corresponding to responsive proposals which have achieved the pass mark of fifty (50) points will be opened upon completion of the technical evaluation. When there are three or more responsive proposals, an average price is determined by adding all the price proposals together and dividing the total by the number of price proposals being opened. This calculation will not be conducted when one or two responsive proposals are received.

All price proposals which are greater than twenty-five percent (25%) above the average price will be set aside and receive no further consideration.

The remaining price proposals are rated as follows:

- A. The lowest price proposal receives a Price Rating of 100
- B. The second, third, fourth and fifth lowest prices receive Price Ratings of 80, 60, 40, and 20 respectively. All other price proposals receive a Price Rating of 0.
- C. On the rare occasions where two (or more) price proposals are identical, the matching price proposals receive the same rating and the corresponding number of following ratings are skipped.

The Price Rating is multiplied by the applicable percentage to establish the Price Score.

SRE 5 TOTAL SCORE

Total Scores will be established in accordance with the following:

Rating	Possible Range	% of Total Score	Score (Points)
Technical Rating	0 - 100	90	0 - 90
Price Rating	0 - 100	10	0 - 10
Total Score		100	0 - 100

The Proponent receiving the highest Total Score is the first entity that the Evaluation Board will recommend for the provision of the required services. In the case of a tie, the proponent submitting the lower price for the services will be selected.

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SRE 6 SUBMISSION REQUIREMENTS - CHECKLIST

The following list of documents and forms is provided with the intention of assisting the Proponent in ensuring a complete submission. The Proponent is responsible for meeting all submission requirements.

Please follow detailed instructions in R1410T General instructions to Proponents, GI16 Submission of proposal, as amended in SI2 Proposal documents. Proponents may choose to introduce their submissions with a cover letter.

- Team Identification - see typical format in Appendix A
- Declaration/Certifications Form - completed and signed - form provided in Appendix B
- Integrity Provisions – Required documentation – **as applicable** in accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>) and as per R1410T (2017-08-17), General instructions 1 (GI1), Integrity Provisions – Proposal, **section 3a**.
- Integrity Provisions - Declaration of Convicted Offences – **with its bid, as applicable** in accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>) and as per R1410T (2017-08-17), General instructions 1 (GI1), Integrity Provisions – Proposal, section 3b.
- Proposal - one (1) original copy in electronic format.
- Front page of RFP
- Front page(s) of any solicitation amendment

In a separate file:

Price Proposal Form - one (1) completed and submitted in a separate file

PROJECT BRIEF

For standards relating to the service provisions herein please refer to the document, «Doing Business with PWSCG » and « Doing Business with PWSCG – ADDENDUM –Québec Region». These documents are presented in Appendix D. The proposer must adhere to in conjunction with this scope of services.

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PROJECT ADMINISTRATION (PA)

PA 1 PROJECT ADMINISTRATION

Intent: The following administrative requirements apply during all steps of project delivery.

1.1 PWGSC Project Management

The Project Manager assigned to the project is the Departmental Representative.

The Project Manager is the Departmental officer directly concerned with the project and responsible for its progress. The Project Manager is the liaison between the Consultant, Public Works and Government Services Canada (PWGSC) and the Client Departments.

PWGSC administers the project and exercises continuing control over the Consultant's work during all phases of development. Unless directed otherwise by the Project Manager, the Consultant obtains all Federal requirements and approvals necessary for the work.

1.2 General Project Deliverables

Where deliverables and submissions include summaries, reports, drawings, plans or schedules, five (5) hard copies shall be provided for each document plus three (3) access free copies in .dwg and .pdf format shall be provided on a USB key unless otherwise specified.

Electronic format means:

Deliverable	Format accepted by PWGSC
Written reports and studies:	Microsoft Word
Spreadsheets and budgets:	Microsoft Excel
Presentations:	Microsoft PowerPoint
Timelines:	Microsoft Project
Drawings:	AutoCAD and PDF
BIM/MDB models:	Mock-up in native and IFC format
Specifications:	National Master Specification (Microsoft Word format) except 2 basic sections provided by PWGSC (OHS and Schedule) (Microsoft Word format)

Specifics around interim, milestone and coordination model-based deliverables between Project Team members, and including all information exchange requirements, will be captured in the BIM Project Execution Plan.

The Consultant will be responsible for creating an electronic document sharing site. The consultant shall provide and propose for approval a collaborative platform for data sharing.

1.3 Lines of Communication

Unless otherwise arranged with Project Manager, the Consultant shall communicate with the Project Manager only. There shall be no direct official contact between client departments and the Consultant.

During construction tender call, Public Works and Government Services Canada conducts all correspondence with bidders and makes the contract award.

1.4 Media

The consultant shall not respond to requests for project related information or questions from the media. Such inquiries are to be directed to the Project Manager.

1.5 Meetings

The Project Manager shall arrange meetings on a regular basis to be held in Quebec City principally and sometimes in Montréal throughout the entire project development period, for all members of project team, including representatives from:

- PWGSC
- Consultants
- Department(s) occupying the building during design and construction
- Department(s) occupying the building and Department (s) that will occupy the building after the construction

The Consultant shall attend the meetings, record the issues and decisions and prepare and distribute minutes within 48 hours of the meeting.

During phase 1 (Design Development), plan meetings every 2 weeks;

During phase 2 (Construction Documents), plan meetings every week;

During phase 3 (Tender Call and Construction Work), meetings will take place at the site, at the frequency of one site meeting every two weeks. A technical meeting will be organized, outside the site meetings, on the same day as the site meetings (internal meetings between the consultant and departmental representatives).

1.6 Project Response Time

It is a requirement of this project that the key personnel of the successful proponent and sub consultant or specialist firms be personally available to attend meeting or respond to inquiries within one (1) day.

1.7 Submissions, Reviews and Approvals

Work in progress is to be reviewed by the Project Manager (PM) as well as the following:

Heritage Client Service Team (CST) PWGSC

- Submission Format: report, drawings and specifications, oral presentation
- Submission Schedule: when completed work has been forwarded to the Project Manager
- Expected Turnaround Time: 1 week
- Number of Submissions: until approval has been received

Regional Investment Management Board (RIMB) and the Federal Heritage Buildings Review Office (FHBRO)

- Submission Format: report, drawings and specifications, oral presentation
- Submission Schedule: when completed work has been forwarded to the Project Manager
- Expected Turnaround Time: 2 months

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- Number of Submissions: four (4)

RPB Real Property Investment Committee (RPIC)

- Submission Format: report, drawings and specifications, oral presentation
- Submission Schedule: when completed work has been forwarded to the Project Manager
- Expected Turnaround Time: 2 months
- Number of Submissions: four (4)

	Reviews and Approvals Table By PWGSC	PM/ Heritage CST		RIMB / FHBRO		RPIC	
		R	A	R	A	R	A
STEP 1	<i>Work plan for surveys, inspections and borings</i>						
	<i>Revised class D estimate</i>	x	x				
	<i>Work plan for surveys, inspections and borings</i>	x	x				
	RS2 Design Concept						
	<i>Condition assessment report 50% completed (preliminary)</i>	x	x				
	<i>Class C cost estimate(s)</i>	x	x				
	RS3 Design Development						
	<i>Condition assessment report 90% completed (final)</i>	x	x				
	<i>Condition assessment report 100% completed (final)</i>	x	x	x	x	x	x
	<i>Class B cost estimate(s)</i>	x	x	x	x	x	x
STEP 2	RS4 Construction Documents						
	<i>Plans and specifications for tender call 75% completed</i>	x	x				
	<i>Plans and specifications for tender call 99% completed</i>	x	x				
	<i>Class A cost estimate(s)</i>	x	x	x	x	x	x
	<i>Final tender call documents</i>	x	x	x	x	x	x

Key

R = Review
A = Approval

1.8 Official Languages

This project requires services in both official languages. Refer to the Supplementary Condition section of this Request for Proposal document entitled "Language Requirements".

PROJECT DESCRIPTION (PD)

PD 1 PROJECT INFORMATION

PWGSC intends to engage an architectural firm, a consortium or a joint venture between an architectural firm and a structural engineering firm to establish a multi-disciplinary team supplemented by sub-consultants to provide the services required for this project. The contract administrator shall be an architect or structural engineer.

1.1 PWGSC Project title : Rehabilitation of the envelope of Louis-S.-St-Laurent Building (3PCO)

1.2 Project address : 3, passage du chien d'or, Québec, QC G1R 3Z8

1.3 PWGSC project number : R.069144.102

1.4 Client / User: Public Works and Government Services Canada (PWGSC)

PD 2 PROJECT IDENTIFICATION

Intent: A summary of the key project information

2.1 Description

2.1.1 « Project Vision »

Considering the significance of the Louis S. St-Laurent Building as a former main postal office, its size, its location, and its federal building heritage designation, the envelope rehabilitation project aims to carry out the necessary work to ensure the building integrity, in accordance with conservation principles and best practices in the heritage field. This project also involves structural work, as required for a continuous use of the building.

2.1.2 Client Information

The Louis S. St-Laurent Building, a former post office, belongs to the Government of Canada and more specifically to Public Works and Government Services Canada (PWGSC). The real estate management is provided by the firm BGIS. Regarding the envelope rehabilitation project, PWGSC is in charge of the project and work management.

The building houses PWGSC offices and functional spaces as well as three other federal departments/agencies, namely Canada Post, Parks Canada Agency (PCA) and the Department of Canadian Heritage (DCH).

2.1.3 Brief description of the existing building

The Louis S. St-Laurent Building is located at 3, passage du Chien-d'Or. The pathway leads to the Charles Baillargé Stairs and to Côte de la Montagne, a hill that links Quebec City Upper Town with the Lower Town toward Quebec Old Port, Place Royale and Petit-Champlain District. The building is close to several heritage sites and landmarks erected mainly between the late 19th century and the early 20th century. It is a prestigious building with a high heritage value and an excellent visibility in one of the busiest areas of Quebec City. The building is indeed located less than a hundred metres away from the Château Frontenac and in the heart of a listed UNESCO World Heritage Site. Initially, it houses the "hôtel

des Postes”, the main Quebec City postal facility. Nowadays, Canada Post partly uses the first floor (5 du Fort Street) and the rest of the building is occupied by several federal departments or agencies. The main occupants of the building are Parks Canada on the ground floor, second floor, third floor and fourth floor, and PWGSC and the Department of Canadian Heritage on the third floor.

The building is mainly situated on lot 1 213 519, although its location on the lot is uncommon (please consult the certificate of location); the building lies near the lot's limits. Considering the narrowest of the land property and the heritage limitations, there is no possibility to build an addition. The main elevation faces north and this is where the main entrance is. The doorway is framed by a pedimented portico on which can be seen the famous Golden Dog, a stone bas-relief carved in 1688. It bears the figure of a gilded dog gnawing a bone with a short poem. This piece of art inspired many legends about revenge taking place during the French colonial period. A second monumental elevation faces the St. Lawrence River, but it has no entrance. The side entrances are located on the south elevation and on du Fort Street, the latter being the post office entrance. The building consists of a basement half the size of the whole building, a partly underground ground floor (due to the unevenness of the site), a first floor with a public hall and office spaces, and three more floors of office space (2nd, 3rd and 4th floor). The 5th to 8th floor are contained within the dome and its drum. Mechanical spaces and the water tower are found on the 5th and 6th floor. On the 7th floor are the mechanism of the dome's clocks and on the 8th floor is the exterior access to the flag mast. With the exception of the dome, the main roof is flat.

3, passage du Chien-d'Or was built in 1872-1873 and is associated with the erection of a series of post offices and custom houses in the aftermath of Confederation. Its architecture was originally inspired by the Second Empire style. In 1913-1919, a new east wing doubled the surface area and its dome became a significant feature in the urban landscape. The expansion and the existing building partial remodeling reflected the Beaux Arts style then in vogue in public architecture. Since 1983, the building has been designated a Classified federal heritage building by the Federal Heritage Buildings Review Office (FHBRO). This designation means that one must consult FHBRO before undertaking any intervention that could alter the heritage character of the building.

In 1982-1983, the whole building is renovated. The main work carried out included the following: repairing all roofs and copper parapets, waterproofing the openings, replacing all wooden doors and windows, and adding copper caps on sections of the masonry walls. Major repairs were also made inside the building, such as adding thermal insulation, adding fire protection, fixing the electrical and plumbing systems, modernizing lighting, repairing interior finishes, adding elevators, and more. Regarding the exterior masonry, some specific interventions took place during this period, most of them in relation to the dome. Two layers of a 13 mm thick fire-rated gypsum board were applied to the inside face of all exterior walls. The last layer of gypsum is equipped with an aluminum foil vapour barrier. Other major refurbishing works were carried out in 2002 and 2003.

2.1.4 *Characteristics of the framework and cladding, composition of the facades*

The building structure consists of a steel frame covered with concrete, and a solid masonry exterior envelope in terracotta blocks and clay bricks cladded with ashlar limestone. The interior spaces have had paint gypsum finishes since the 1982-1983 remodeling. The L-shaped building is located on a steeply sloped ground on the Cape Diamond. It is surmounted in its centre by an imposing four-storey dome with clocks on all four sides of the drum and a copper roof.

The inside partition walls are non-combustible and vary according to requirements. Suspended ceilings made of gypsum, acoustic tiles or a combination of both complete the interior arrangement. Some ceilings leave the painted concrete structure visible.

2.1.5 Constraints and challenges

The key consultant will have to take into consideration the following constraints and challenges:

Multidisciplinary Project

A challenge of this project is the integration of all disciplines into the contract deliverables, in addition to the technical constraints specific to each discipline. As an example, for the specific portion of the project dealing with the redesign of interior spaces (swing-space), PWGSC will provide the consultant with preliminary fit-up plans for integration into the project by the consultant at the beginning of RS2. PWGSC expects that these plans, as well as the studies and surveys completed in RS1/RS2, will be used by the consultant for the design of the electrification and IT of the temporary space stations, and integrated into the BIM model.

Seismic analysis

A seismic analysis was conducted by SNC-Lavalin and is provided as input. This analysis will need to be confirmed in the conceptual design departments.

Studies of the composition of walls and other structural elements will also be required to confirm certain assumptions made in the analysis provided.

The upgrading of the seismic analysis must be considered as a whole, just as the design of the seismic retrofit must be planned as a whole in this mandate, even though the work planned is only for the envelope (without the interiors). A plan (50% and the following emissions) must be included in this mandate in 2 phases:

- phase 1: project to repair the envelope according to its phasing as well and include in the structural plans the repair of the exterior masonry walls;
- phase 2: project for the interiors (non-contract work).

Scope of the project

The delays in approving a project of this magnitude, combined with potential budget restrictions, could delay the start of the rehabilitation work. The timeframes in the schedule presented between the different steps (Step 1 to 2 and Step 2 to 3) are estimates based on previous projects. These timelines may vary in length.

Industrial security

As in every federal building and more specifically at the Louis-S.-St-Laurent Building, due to the presence of tenants, anyone entering the building must be escorted by a guard (forwarding agents). Visits and interventions inside the building will have to be carefully planned and coordinated with PWGSC's project manager in order to notify users and to provide for required escort at least (48) hours in advance.

Expertise in heritage conservation

The professionals and contractors possessing adequate knowledge and knowhow to work on masonry repairs projects of heritage buildings are a rare and specialized workforce, and whose thoroughness is decisive when planning and executing such demanding and peaky work. In addition, the architectural

features of the site, including but not limited to the overall architectural elements and interior finishes, will require distinctive care and craftsmanship in the execution of the project.

The heritage value of the building being recognized by the Federal Heritage Buildings Review Office (FHBRO), the masonry repairs project will have to be approved by this office.

Simultaneous worksites

It is possible that work sites under the responsibility of third parties (Government of Quebec, City of Quebec, etc.) may take place near of the work site during the completion of the overall project. The consultant will have to take this into account when planning and designing the work.

Stone procurement

Due to the potential major impacts related to the supply of materials, the availability of stone of similar quality and dimensions to the existing ones remains to be verified by the consultant during the RS-3 studies and constitutes a major constraint for this project.

Noise, vibrations, dust, health and safety

Masonry repairs are generally very noisy, cause vibrations and create substantial dust, all of which can disturb the occupants and neighbors, even more when work is extended over several months or a few years.

Considering that work will be performed almost everywhere above the public way, the worksite will present a risk for the security of the occupants, passersby, and motorists.

Presence of asbestos

Considering that the original plaster, old insulation and fire protection of steel elements do contain traces of asbestos, the applicable precautions will have to be implemented during the surveys that will be carried out inside the building as part of the detailed assessment of the condition of the masonry and openings given the presence of tenants.

This constraint must also be included, along with references to provincial and federal legislation in the tender documents for the masonry and openings rehabilitation project.

For the exploratory drilling required during the conceptual studies, the consultant will also have to comply with all the previously referenced laws.

Site use

Indoor surveys that will be conducted during the condition assessment will have to be conducted outside of normal business.

Considering the quasi-absence of available space on site, worksite installations (scaffolding, cranes, delivery vehicles, trailers, and others) will necessarily encroach on the public way, along a very busy artery and along a public square. PWGSC will notify the City of Quebec with regards to the planned work and inconvenience that it may cause, and will try to negotiate a reasonable way of functioning. However, the general contractor will be responsible for permit requests. The consultant should schedule presentations to the city and partners to explain the work and to make preliminary permit applications.

The building is currently occupied and PWGSC's objective is to retain the majority of the tenants in the building during the work. It is planned to complete the work on the envelope in 2 phases. During Phase 1, tenants who will remain in the building will be transferred to the wing that will not be under construction and employees will be transferred to the other wing for Phase 2.

There is currently negative pressure in the building. The static pressure in the building is controlled by the DDC control system. This controls the static pressure via the variable speed drives of the supply and exhaust fans of the building's main system. A pressure of - 0.02 inches of water is maintained.

The consultant must consider that a permit for access to the building must be completed and sent at least 72 hours in advance to the Departmental Representative (format of the permit will be provided by PWGSC at the beginning of the mandate). Confirmation from the departmental representative as to the possibility of access will be required to formalize the work on site (interior and exterior).

The work will have to be completed during normal working hours, but could, in part, be completed during evenings and weekends. In addition, the work is planned for 3 seasons and can continue during the winter period if necessary (with heating and other precautions).

Planning

Considering that the Louis-S.-St-Laurent Building is located in the Old Quebec and that several special events take place in this neighbourhood work may have to be interrupted on some occasions. The various documents (call for tenders, schedule, risk management plan, etc.) will have to be prepared accordingly.

The limited space available will require increased coordination with surrounding partners and organizations to ensure access to the site during the pre-design stages as well as during construction.

Archaeology

The building is located on an area of high archaeological potential. The consultant will have to take this into account in the various documents (expertise, plans and specifications and supervision of the work) of the various steps of the project and will have to involve an archaeological sub-expert during these steps.

Landscaping

The consultant must consider in his offer that any existing elements of the site (landscaping, existing furniture, etc.), which are to be moved or demolished in whole or in part, must be restored to the existing condition to the satisfaction of the Departmental representative.

2.1.6 Key dimensions

Louis-S.-St-Laurent Building has a gross area of 6412 m², a total usable area of 4 204 m² and the site area is 2236 m².

2.1.7 Implementation strategy

Step 1 - Design Development.

The masonry condition assessment of the Louis-S.-St-Laurent Building will be given to a multidisciplinary team of consultants conducted by an architect and a structural engineer, helped by a

mason, all specialized in the condition assessment, repairs and restoration of heritage buildings made of traditional masonry.

The consultant's dedicated teams will also have to analyze issues related to, but not limited to, building structure, relocation of existing spaces and redesign of interior spaces. All the disciplines associated with the structure, architecture, building mechanics and space planning will therefore be called upon in the context of this mandate.

The condition assessment report prepared by this team must be the equivalent of advanced (50%) preliminary plans and specifications, so as to serve as a precise guide in the preparation of the final plans and specifications for the call for tenders.

Step 2 - Construction Documents

The implementation of this second phase depends upon obtaining all required approvals, as well as adequate funding. Upon getting the green light, it is planned that the consultants will prepare final drawings and specifications for a public tender call.

The multidisciplinary team of consultants will remain the same as during stage 1, except for the mason.

Step 3 - Tender Call and Construction

The implementation of this third phase depends upon obtaining all required approvals, as well as adequate funding. Upon getting the green light, it is planned that the consultants will assist PWGSC during the call for tenders, and will supervise site construction.

The multidisciplinary team of consultants will remain the same as during stage 2.

Following a public call for tenders, the masonry repairs will be given to a specialized contractor qualified for the type of intervention to be performed on the building, and these repairs will be carried out on a three (3) year period.

Refer to item 2.3 hereafter for a description of the duration of each of these three phases.

2.2 Cost

The class D construction budget is estimated at 16 M\$, excluding GST.

2.3 Schedule

Although subject to correction, the following table will be used as a reference when preparing the execution calendar by the consultant.

At the request of the Departmental Representative, and in cooperation with the consultant, the schedule may be modified. However, the main stages of implementing the project are, on a tentative basis, as follows:

PRELIMINARY SCHEDULE

		SERVICES	DURATION Month(s)	BEGINNING DATE	ENDING DATE
		Request for proposals (RFP)	2	June 2020	July 2020
		Evaluation of proposals	1	July 2020	August 2020
STEP 1	RS 1	Analysis of Project Requirements, Revised Class D Estimate	8	September 2020	May 2021
	RS 2	Design Concept, Class C Estimate			
	RS 3	Design Development, Class B Estimate			
		<i>Preliminary approval of the project by the Heritage CST of PWGSC</i>	4	May 2021	September 2021
		<i>Presentation of the condition assessment report and update on the project orientations to the RIMB</i>	5	September 2021	February 2022
		The implementation of the second step depends upon obtaining all required approvals, as well as adequate funding.			
STEP 2	RS 4	Construction Documents, Class A Estimate	8	February 2022	October 2022
	AS 1	Bilingual Construction Documents	3	Août 2022	October 2022
		<i>Final approval of the project by the Heritage CST of PWGSC</i>	2	October 2022	November 2022
		<i>Effective Project Approval (EPA) with the committees having authority at the project approval level</i>	2	October 2022	November 2022
		The implementation of the third step depends upon obtaining all required approvals, as well as adequate funding.			
STEP 3	RS 5	Tender Call and Bid Evaluation	3	November 2022	January 2023
		<i>Approval and Construction Contract Award by the Supply Operations Service</i>	2	January 2023	February 2023
		Contractor mobilization and worksite preparation (ex.: Reserving crane and scaffoldings, ordering stone and materials)	3	February 2023	April 2023
	RS 6	Construction and Contract Administration	32	April 2023	November 2025
	AS 2	Resident Site Services during Construction			
		Risk Management	Entire duration of the project		
		Sustainable Development			
		Waste Management			
		BIM			
		Cost management			

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COMMON TO STEPS 1 A 3		Schedule management			
	RS 7	Commissioning of the facility			

PD 3 HISTORY OF THE PROJECT

3.1 Project Background

Since its extension in 1919, the Quebec post office has undergone several remodeling and restorations, but overall its form and sense of place have not been altered.

In 1982, the building was entirely renovated and the interventions included the following: repairing all roofs and copper parapets, waterproofing the openings, replacing all wooden doors and windows (hung windows were replaced by paned casement windows), and adding copper caps on sections of masonry walls.

In 1983, several refurbishments of the interior spaces took place. It was also that year that FHBRO assessed the heritage value of the building and it was designated a Classified federal heritage building. In 1984, the building is renamed to commemorate the 12th Prime Minister of Canada, in office from 1948 to 1957; the former post office then became the Louis S. St-Laurent Building.

In 1996, an awning and a gallows were installed on du Fort Street. The same year, repairs were made to the joints in the masonry, mostly on the top of the walls facing Buade Street and Côte de la Montagne.

In 1997, the stone wall on the east side of the building (northeast corner, fourth floor) was restored. The 21st century begun with the exterior envelope restoration, a major project undertaken by PWGSC to correct the problems caused by water infiltration through the stone joints.

In 2001, the entrance doors in the south side courtyard were sandblasted and varnished.

In 2005, all doors and windows were repainted.

In 2007, repair work was carried out on the ventilation shafts at the rear of the building and on the roof.

In 2009, the entrance door on Du Fort Street was replaced. The basin-type roof and the part of the roof covered with chopstick sheet (section H) were both restored. Waterproofing work on the rear foundation wall and repairs to the rear awning were carried out.

In 2010-2011, the base of the portico was replaced by a new concrete slab and granite paving. The steps were disassembled and reassembled following the replacement of the concrete structure and the installation of a new membrane.

In 2014, the main entrance portico was restored.

In 2016, anchors were installed to consolidate the masonry at the southwest corner of the south elevation of the extension, above one of the first-floor windows on the north elevation, and under the cornice and mid-height of the northwest corner of a pilaster of the north elevation.

In 2019, the chimney on the south side was dismantled and partially reassembled. The remaining stones were stored with the intent of reusing them to rebuild the rest of the chimney during this upcoming major project. In addition, several emergency masonry repairs were executed in 2019, given the results of the annual masonry inspection.

In 2020 (in progress), the replacement of all elevators is being realized. The planning for the replacement of the water towers and the installation of a geothermal system is underway.

3.2 Summary of Relevant Findings and Recommendations

The March 2012 masonry condition study and several other documents reveal the relevant recommendations on the major rehabilitation of the exterior cladding :

- Openings (doors and windows);
- Roofing (membranes, copper and others);
- Foundations, rotundas, domes and other concrete elements;
- Stones, joints of all masonry elements of the building;
- Reassembly of the chimney as originally installed.

The preliminary RAI concerning the repair of the ground floor slab/muret recommends the work to be considered by the consultant for this project to address the advanced deterioration of the ground floor slab, the low walls underneath it and the perimeter foundation wall in the area. This component must be integrated into the present project in view of the "urgent" nature of the project and in order to integrate the seismic design. Temporary solutions have been put in place to ensure that the current situation does not represent a danger to the occupants until the start of construction work on this project.

The consultant will have to plan for the relocation of tenants within the building during the work. PWGSC will provide preliminary blocking plans to be included by the Consultant in the studies and plans and specifications. The mechanical/electrical/network plans and specifications for this element are to be completed by the Consultant.

3.3 Heritage Value of the Building

The heritage designation of the Louis S. St-Laurent Building is based on its historical, architectural and environmental values. They are detailed in the Heritage Character Statement produced by the Federal Heritage Buildings Review Office (FHBRO). Historically, the building is one of the few remaining postal facilities built in the aftermath of Confederation. Its construction marked an important stage in the development of an international postal communication network in Canada.

Built in 1872-1873, the Louis S. St-Laurent Building is an early and significant example of the Second Empire style in federal architecture. American architects became interested in the Second Empire style in the 1860s. Some of them, influenced by the work of Baron Haussmann during the reign of Napoleon III, were inspired by the kinds of buildings erected during the massive Paris urban renewal program of new boulevards. They adopted this grandiose, bourgeois and eclectic style, characterized by mansard roofs punctuated by dormer windows. The elevations, generally symmetrical, are decorated with balustrades and abundant classical ornamentation of drapes and fringes. Those sumptuous facades often feature bay projections, and windows often framed by pilasters. Expanded and remodeled in 1913-1919, the building retains some Second Empire influence from its original design; however, the new and current appearance is more reflective of the Beaux Arts style. This style implements the principles taught at the «École des Beaux-Arts de Paris» and was popularized in North America by the Chicago World's Fair, held in 1893 to celebrate Christopher Columbus' arrival in the Americas. The Beaux Arts style is associated with the monumental design of large public and private buildings and it was widely used in skyscrapers design. The Louis S. St-Laurent Building architectural value resides in its representativeness of both styles (Second Empire and Beaux Arts) and in the harmonious combination of their influences.

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The building environmental value lies in its contribution to the historic built environment of Old Quebec. It is strategically located in a prominent area of the Upper Town, near the emblematic «Château Frontenac» and other prestigious buildings. Its awe-inspiring design and its dominant features, such as the dome, enrich the urban landscape and symbolize the presence and the influence of the federal government in the Old Capital.

PD 4 EXISTING DOCUMENTATION

4.1 Existing documentation — available for all proponents

The following documentation is available for all proponents:

- Plans for the expansion, 1912;
- Interior reconstruction plans, 1982;
- Archaeological excavation report, January 1986 (French only);
- Heritage Character Statement, 1998;
- Masonry Condition Survey, March 2012 (French only);
- Plans for Ownership and Location of Lands in the 3PCO Area (Sections 38 to 40), 2012 (French only);
- Plans for the rehabilitation of the gantry masonry (For construction and As built), 2014;
- Inspection Report, Verification of East Forebay Masonry, WSP, July 2015 (French only);
- Archaeological potential study - Ethnoscop, December 2016 (French only);
- REI PW151920 seismic analysis of the Louis-S.-St-Laurent Building, November 2017 (French only);
- Risk Management plan (model), November 2017;
- Building Condition Report (BCR), November 2015 (revised January 2019) (French only);
- Study to update the facade inspection report, May 2019 (French only);
- Report on the corrections to the masonry cladding of the facades - following the study GOC1842905, November 2019 (French only);;
- Preliminary RAI of the low wall slab project, February 2020 (French only);
- Measured Model of Existing Conditions - Table of Elements, April 2020 (French only);
- Iconography, April 2020.

PD 5 PROGRAM

While performing its mandate, the consultant will have to meet, among others, the following requests (see sections “Required Services” (RS) and “Additional Services” (AS) for a more detailed description):

As part of step 1 :

- Review and analyze all the documentation available;
- Prepare and assist working sessions with PWGSC in order to follow up on project’s evolution and answer questions from both PWGSC and the consultant (meetings every two weeks)
- Carry out a complete survey of the facades and roofs by 3D laser scanning to obtain precise images that will identify each of the building's stones, as well as a survey of the land, facilities and structures in the potential contractor's possible development zone during the work to be carried out. Complete this initial survey with interior 3D laser scanning surveys in each of the disciplines in order to have a complete survey of the walls and roof (interior and exterior). Ensure that each of the building components, including the mechanics and structure of the building, are included in the complementary surveys.
- Perform a thorough inspection to assess in detail the condition of the masonry, as well as the condition of the others components of the building envelope and roofing;
- Perform exploratory borings outside to confirm the wall composition and assess in depth the condition of the envelope in locations where elements are currently especially deteriorated;
- Perform exploratory borings inside to validate the evolution of the wall condition where exploratory breakthroughs have been made in 2012 and elsewhere;
- Integrate the temporary accommodations required for the swing space of employees in both phases of work;
- Analyze and propose the appropriate phasing for the project

- Prepare a site organization plan (depending on the particular location), landscaping, environmental, mechanical and all other specialties required for this project (see a detailed, non-exhaustive list in section PD8 of this document).
- Prepare a report including the description and analysis of the deteriorations observed, the complete inventory of repairs to be made, as well as a recommendation with regards to the preferred approach to perform the required work, while respecting the spirit of the Standards and Guidelines for the *Conservation of Historic Places in Canada* (second edition);
- This first step of the mandate will be executed by a multidisciplinary team conducted by an architect and a structural engineer, but also composed of a mason and other experts identified in this document (sub consultants), all specialized in the condition assessment, repair, and restoration of heritage buildings of traditional masonry.

As part of Step 2 (only if the project receives all required approvals and adequate funding):

- Prepare final drawings and specifications for tenders for the building envelope repairing, windows and doors, temporary layouts and in all the above-mentioned specialties, following the approach defined in the RS-3 report and PWGSC's approval of the options and recommendations issued during the first phase of the project.
- Prepare and assist working sessions with PWGSC in order to follow up on project's evolution and answer questions from both PWGSC and the consultant (meetings every week)
- This second phase of the mandate will be executed by the architect and structural engineer who were involved in the first phase, as well as with help of any other specialist, as required. However, the mason will not be permitted to participate.

As part of Phase 3 (only if the project receives all required approvals and adequate funding):

- Assist the Department representative during the tendering process and execution of the work (management of the construction contract), and inspect on a continuous basis the execution of the repairs on the worksite;
- Develop and implement a preventative maintenance program of the building envelope
- This third phase of the mandate will be executed by the architect and structural engineer who were involved in the first phase, as well as with help of any other specialist, as required. However, the mason will not be permitted to participate, apart from performing the actual repairs (if selected through the public call for tenders).

The consultant will have to work in cooperation with the representatives of PWGSC in order to ensure that the anticipated interventions meet the rules, policies, laws and requirements of the Departments involved.

PWGSC's project manager will act as the authority, and will rely on the Heritage Client Service Team of PWGSC; a multidisciplinary team including architects, engineers and landscape architects specialized in this domain as well as by Architectural and Engineering Services (AES) for the other areas.

PWGSC's project manager will also be helped by the PWGSC's Property and Facilities Manager responsible for Louis-S.-St-Laurent Building.

PWGSC is responsible for coordinating the environmental management of these projects with the Canadian Environmental Assessment Act (CEAA), the preliminary characterization, and development of mitigation measures to be implemented.

These various specialists will form the project management team. The consultant must integrate the various mitigation measures planned by the stakeholders of PWGSC at every stage of the project (study, drawings and specifications for tenders, construction).

PD 6 PROJECT OBJECTIVES

6.1 Quality

6.1.1 *Design Principles – General*

The Department representative expects the Consultant to maintain a high standard of architectural and engineering design, based upon recognized contemporary design/heritage conservation principles. All design elements, planning, architectural, engineering and landscaping, must be fully coordinated, and consistent in adherence to good design principles.

The level of quality is to be consistent with other Government of Canada Buildings.

The project is to be implemented in an environmentally responsible manner.

Quality of materials and construction methods shall be commensurate with the type of building and the budget. Avoid experimental materials. Take into account the total life-cycling of the building.

Operating costs must be kept to a minimum and reflect the projected operating costs in the cost plan.

6.1.2 *Design principles - Specific*

Typical elements :

- Restoration, renovation of historic structures – federally “recognized” building, located inside the Québec historic district (provincial jurisdiction)

6.2 Sustainable development

The Canadian Federal Government has begun a series of initiatives to ensure that sustainable development principles are built into the policy of all federal organizations.

PWGSC like all federal departments require to have a Sustainable Development Strategy (SDS). Real Property Services Branch of PWGSC has developed their Strategy Plan, that sets out principles, goals and actions for integrating sustainable development principles into its policies and operations. The Branch has established the following sustainable development goals under the issues of management, leadership and operation. See details of the strategy and elements applicable to the project over the life of the project in Appendix F - Sustainable Development.

6.3 Waste management

The Construction, Renovation, and Demolition (CRD) Non-hazardous Solid Waste Management Protocol to which Real Property Services (RPS) is bound, provides directions on the undertaking of non-hazardous solid waste management actions for CRD projects. The protocol is designed to meet the requirements of federal and provincial policies and the objectives of the RPS Sustainable Development Strategy (SDS) as these relate to non-hazardous solid waste generated in CRD projects.

For all Real Property Services projects where the area exceeds 2,000 m², a solid waste management program must be implemented. This requirement exists by regulation in the province of Ontario and by policy for the rest of Canada. For projects where the area is less than 2,000 m², a preliminary waste management evaluation of the economic feasibility of a waste management program must be carried out.

The results from the RPS CR&D waste management pilot projects have been very positive. Based on these results and results obtained from similar projects that have been completed by other organizations, the following can be said:

- Approximately 50% to 95% of the waste generated during CR&D projects can be diverted from landfill through reduction, reuse, and recycling initiatives.
- Approximately 40,000 tonnes of waste are produced for every one billion dollars that is spent on construction projects.
- Contractors and projects managers must plan for extra project time when implementing CR&D waste diversion initiatives. However, added labour hours costs can be recuperated and a savings of up to 30% of the waste management costs (approximately 10% of the total project budget) can be achieved through reduced tipping fees, avoided haulage costs, and the sale of reusable and recyclable materials.

6.4 Code compliance

Codes, regulations, by laws and decisions of “authorities having jurisdiction” will be observed. In cases of overlap, the most stringent will apply.

The Consultant shall identify other jurisdictions appropriate to the project.

6.5 Risk management

A risk management strategy is crucial for PWGSC Project Management and integrates project planning into procurement planning. All the stakeholders of a project will be an integral part of the risk management strategy, culminating in an integrated product team.

The consultant must consider that services at the risk management level must be applied in an integrated manner at each stage of the mandate.

The consultant must provide support to the Project Manager to identify risks throughout the life of the project .

See “Doing Business with PWGSC” for Risk Management “Definitions” and “Checklist”.

Risk management process

- Identify risk events based on past experience and using proposed checklist or other available lists;
- Qualify/quantify probability of risk event (Low, Medium, High) and their impact (Low, Medium, High);
- Prioritize risk events (i.e. concentrate efforts on risk events with High probability and Medium to High impact);
- Develop risk response (i.e. evaluate alternatives for mitigation. This is the real added-value of risk management); and,
- Implement risk mitigation.
- Work along with the departmental representative. At each stage of the work (from the beginning of the mandate to the end of construction):
 - provide a comprehensive list of risks and update it as the work progresses.
 - Coordinate monthly risk management meetings with the departmental representative at each stage of the mandate.
 - Provide, with each cost estimate, a risk management plan updating the project risks, the costs associated with them and the possible mitigation measures.

A risk management model is provided to the consultant detailing the categories of risks that PWGSC wishes to have addressed by the consultant (see PD4.1). The provision of this document does not in any way relieve the consultant of his responsibility to present a risk management plan in the format preferred by the consultant, but rather constitutes a working basis to be followed. In addition, the consultant should not limit itself to this general list but should also list the risks specific to the work of this project.

6.6 Health and safety

PWGSC recognizes the responsibility to ensure the health and safety of all persons on Crown construction projects and the entitlement of both federal employees and private sector workers to the full protection afforded them by occupational health and safety regulations.

In keeping with the responsibility and in order to enhance health and safety protection for all individuals on federal construction sites, PWGSC will voluntarily comply with the applicable provincial/territorial construction health and safety acts and regulations, in addition to the related Canada Occupational Safety and Health Regulations.

6.7 Heritage

Considering that :

The Louis-S.-St-Laurent Building was recognized as a National Historic Site of Canada in 1983, that it was recognized as a classified building by the Federal Heritage Buildings Review Office (FHBRO) and that it continues to contribute to the prestige of the old Quebec, based on its use and history, its size, strategic location, as well as the quality of its architecture and materials.

The project of building envelope repairing will have to:

- Respect the characteristics related to the original design of the building;
- Respect the *Standards and Guidelines for the Conservation of Historic Places in Canada* (second edition), good practice of the domain, as well as the recommendations of the authorities having jurisdiction on the Customs Building in this matter.

6.8 Integrated design process (IDP)

In collaboration with the Departmental Representative, the Consultant must adopt and lead a holistic, integrated approach to the design of this project. In so doing, the Consultant Team will apply an efficient, cost effective and environmentally responsible approach, implementing strategies that can facilitate future changes in use and occupancy, while meeting user needs and project requirements.

This establishes a collaborative strategy that must:

- Consider the design, construction and occupancy of the building over its complete life cycle;
- Engage the users and other stakeholders early in the project to develop and realize a common vision, performance priorities and clearly defined functional, environmental and economic goals and objectives;
- Proceed from whole building system strategies for design of the building's technical installations working through increasing levels of specificity to gradually add details that lead to optimal, integrated solutions;
- Organize and lead team workshops/partnering sessions as key decision-making tools to initiate and stimulate discussions, evaluate options and build consensus.

6.8.1 *General*

The Integrated Design Process (IDP) is a collaborative and multidisciplinary process that aims to generate integrated, optimal, innovative and sustainable solutions with the highest possible efficiency. It is to be implemented in this project and applied in RS1 to RS4.

The following paragraphs describe the process, roles and responsibilities of the various stakeholders involved in the Integrated Design Process (IDP). For the sake of clarity, the full description of services is included in this section.

- Consider the design, construction and occupancy of the building over its complete life cycle;
- Engage the users and other stakeholders early in the project to develop and realize a common vision, performance priorities and clearly defined functional, environmental and economic goals and objectives;
- Proceed from whole building system strategies for design of the building's technical installations working through increasing levels of specificity to gradually add details that lead to optimal, integrated solutions;
- Organize and lead team workshops/partnering sessions as key decision-making tools to initiate and stimulate discussions, evaluate options and build consensus.
- Assemble a multi-disciplinary consulting team that has the experience and skills required to address design issues

Deliver the Project utilizing best practices in support of user's needs, respecting the approved cost, schedule, scope, quality requirements, and sustainability objectives.

Integrated project delivery includes, but is not limited to:

- A partnership and open communications between all members of the Project Team and stakeholders throughout the design and delivery processes of the Project;
- Meticulous quality assurance reviews during the design and construction phases and commissioning of facilities;
- A meticulous quality management plan in order to address and correct, in a timely and effective manner, all issues as they arise. The plan must address the technical aspects of the project. The performance of components and systems must be tested according to expected performance and life cycle analyses;
- A Consultant, with vast experience in major projects, who must be responsible for the production and delivery of all documents, and must ensure that there is a continuity of key personnel working in the integrated dedicated Team, for the entire duration of the project;
- Monitoring the work of the contractor selected through a public call for tenders, as provided for in this project
- The use of best and professional practices in the management of budget, schedule, quality and scope at all stages of the project;
- The implementation of a continuous risk identification and management program based on effective methods. The program must ensure the safety of construction work and minimize claims;
- The continuous and comprehensive documentation of the project at all stages of project implementation

6.8.2 *Integrated design workshops*

For this project, the Consultant will require the services of an expert in IDP to ensure the logistics and smooth running of the workshops. He/she will:

- Develop the overall IDP action plan and workshops, present them and have them adopted;
- Update the action plan;
- Write the detailed agenda and objectives for each workshop in collaboration with the Consultant and the Departmental Representative;
- Identify the required workshop participants and define their duties and responsibilities, in collaboration with the Consultant and the Departmental Representative;
- Identify the inputs (preparatory work) necessary for the smooth running of the workshops;
- Coordinate with each discipline's BIM manager to obtain the required models for the workshops;
- Organize, convene, facilitate and lead workshops;
- Ensure that the workshops achieve their intended objectives;
- Ensure that consensus and action items are known (for the report to be written by the Senior Consultant);

Without limitation, the following elements of the required services (RS) are the responsibility of the Consultant and his/her team:

- Actively participate in workshops;
- Develop a Communications Management Plan integrating the IDP;
- Provide the information and inputs necessary for the smooth running of the workshops (including BIM models);
- Produce and distribute a report following each workshop;
- Ensure a follow-up of the actions required between each workshop and the integration of the decisions taken at the workshops.

6.9 Building information Modeling (BIM)

Building information modelling (BIM) (referred to as the "Model") is a digital representation of a project's configuration, characteristics, and physical and functional attributes and will be used to execute this project.

BIM supports an integrated design process (IDP) built around coordinated, reliable digital information about a project from design through construction. BIM, facilitated by a common data environment, will be used on this project for visualization, analysis and communication of project information for and between all stakeholders (the Project Management Team, the Consultant Team, Departmental representative, etc.). It represents a shared data resource that will assist in the decision-making and approval processes, as well as augment productivity, efficiency and quality of the end product delivered.

In collaboration with the departmental representative, the consultant must establish a spirit of collaboration that promotes the monitoring and coordination of the design and execution of the work.

The working methods of the various stakeholders including the Senior Design BIM Manager and Discipline BIM Manager are documented in the BIM execution plan responding to the BIM Management Plan (BMP). The Senior BIM Manager must submit it to the Senior Consultant, who must then read, understand and enhance it at the project's BIM management meetings. These methods must be adjusted to the needs of the Project so that the BIM brings real added value to the work of the consultant and the departmental representative. The BIM implementation plan will establish the collaborative methods, the level of modeling detail (minimum DRL 300) meeting the objectives to be achieved in the BMP.

The Senior Consultant shall support the Senior BIM Design Manager and participate actively and in close collaboration with all stakeholders involved, as well as with the Departmental representative, in the

meetings described in this document, in order to meet the conceptual needs arising from the established objectives.

In addition, he/she shall :

- Designate a BIM Manager for each of the disciplines, who will be the main contact with the Senior design BIM Manager for the planning and deployment of the BIM approach;
- Deploy and ensure compliance with the BIM approach within its team in accordance with the BMP presented in Appendix F;
- Provide the contractor and his subcontractors with design models to optimize the constructability analysis, including, among other things, system coordination and work planning and monitoring
- Plan drawings in 2D (AutoCAD) and 3D (Revit) at RS 2, RS 3 and RS 4 (75%, 99% and 100%) and plans and specifications for submission. Between each issuing, PWGSC will provide comments to be incorporated into the models produced;
- All plans and specifications issued must be submitted in 2D format (AutoCAD).
- Professionals will be required to produce signed and sealed plans for submission and construction (2D). 2D documents should be extracted directly from the BIM models and transmitted in both paper and PDF formats. These documents will be the contractual documents. The 3D models will be used for design only. Specialized contractors will be able to refer to them for a better understanding when submitting their bid. If there are conflicting elements, 2D documents take precedence over models.

6.9.1 *General*

The Department's goal is to implement an innovative strategy to improve performance in the reduction of changes during the project and to integrate the BIM process to take advantage of the various models and information that will be developed during the process of designing and developing tender documents.

The following paragraphs describe the process, duties and responsibilities of the various stakeholders involved in the BIM process

6.9.2 *Description of services*

For this Project, BIM must support the IDP by focusing the work of all stakeholders on the production and analysis of a model of all Project data. The data thus centralized within the digital models are used to document and support the design, as well as to simulate the construction of the Project, including the regular sharing of digital models. The BIM brings together all the Project players throughout the design process (steps RS 1 to RS 4) and will continue during the call for tender and construction period with the collaboration of the general contractor (RS 5 and RS 6)

The application of the BIM to the Project must address, but is not limited to, the following aspects:

- Serve as a design support and concept validation tool for monitoring client functional requirements, by synchronizing data between modelling and the functional and technical requirements deliverable (FTP);
- Serve as a communication and visualization tool during the integrated design workshops and design review workshops to stimulate exchanges and optimize decision-making;
- Serve as an interdisciplinary coordination tool throughout the design until the construction batch tendering and during the construction period in order to avoid conflicts within disciplines before call for tender period (RS 5);
- Allow visual reviews of the models and interference detection analyses to be carried out and monitored (3D coordination);
- Produce the required plan specifications in batches at the various stages of the Project;

- Achieve the other objectives described in the BIM Management Plan (BMP).

6.9.3 Senior BIM manager

The lead consultant may use an external firm or an internal resource for the senior building data modeling manager. This resource must, however, be a different person from the consultant's BIM manager or the BIM managers of its sub-experts. The Senior BIM Manager shall, as part of the project, establish a frame of reference based on the BIM objectives defined in the BMP, ensure its application and perform quality control throughout the project development process, in collaboration with the Departmental Representative.

He must also produce a general schedule of activities and deployment phases within 20 days of contract award.

The lead consultant will be required to provide the necessary staff to carry out this mandate. At a minimum, the consultant shall designate a senior BIM design manager.

6.9.4 Senior BIM design manager

The Senior BIM Design Manager acts as the BIM representative for the design team.

The BIM Manager must hold a university degree. He/she must have a minimum of 10 years of recent experience in consulting in the construction industry, including experiences within the last 5 years as a senior BDM manager on institutional building construction projects.

Objectives

- Ensure optimal deployment of the BIM approach;
- Ensure that the BIM approach adds value to the various implementation activities, that it supports the IDP and that its implementation allows the Project's objectives to be achieved;
- Provide quality control to ensure that the work and deliverables of the Project teams comply with the BMP.

Roles and Responsibilities

- Produce an BIM Execution Plan (BEP) that determines how the objectives of the BMP are achieved.
- Revise the BEP of the various stakeholders;
- Develop and define the different modeling strategies with the BIM Managers of each discipline;
 - Ensure during these workshops that the information incorporated into the BIM Model is consistent and coordinated.
 - Prepare workshop proceedings and distribute copies to all participants within 48 hours.
 - Coordinate the BIM component of coordination meetings;
 - Coordinate BIM coordination and management meetings. The Manager shall :
 - Invite the Senior Consultant and the Senior MDB/BIM Managers from each of the Consultant and Sub-Consultant disciplines to the workshops;
 - Ensure during these workshops that the information incorporated into the BIM Model is consistent and coordinated.
 - Prepare workshop proceedings and distribute copies to all participants within 48 hours.
- Coordinate the work of all BIM Discipline Managers;
- Supervise and validate the conformity of the mock-ups in relation to the BMP;
- Oversee the choice of BIM tools and ensure the interoperability of all data created and software used by Design Professionals;
- Monitor the availability and capacity of BIM resources required to achieve the Project's objectives;
- Deposit weekly the most recent version of the virtual mock-up on the hosting site provided by the consultant;
- Coordinate and monitor the achievement of objectives;

- Act as the primary contact for BIM issues.

6.9.5 *BIM MANAGEMENT PLAN (BMP)*

The purpose of these dispositions is to allow the establishment of rules and modalities for the development, use, transmission and exchange of digital data for the project, in particular for the creation and management of digital data, the realization of digital mock-ups, and coordination throughout the BIM process

The parties agree to incorporate these rules and terms and conditions into their relationships with other stakeholders involved in the BIM approach to the project who may make use of this digital data. Before transmitting or allowing access to digital data, a party to the BIM Agreement may require another stakeholder involved in the BIM Approach to provide reasonable and tangible evidence that it has incorporated these rules and conditions into any contractual agreement with a subcontractor or third party involved in the Project.

The consultant has the obligation to deliver a mock-up with a level of development that will be defined in the information exchange matrix and an appropriate level of information with the objective of reducing change requests during the realization phase. The working methods of the various stakeholders are documented in the BMP.

During the pre-BIM Agreement period: If a party to the BIM Agreement receives a digital model or mock-up prior to the signing of the BIM Agreement, that party shall use, transmit or rely on such digital data with caution. In this context, any use or transmission of such model or mock-up, in particular, shall be made without liability to the communicating party, its consultants, subcontractors, agents and employees. Upon signature of the BIM Agreement, each of the signatories shall take the appropriate measures to adjust the digital data created and processed beforehand according to the rules and terms and conditions set out in the BIM Agreement.

During the period subsequent to the BIM Agreement: After the signing of the BIM Agreement, if a party to the BIM Agreement uses or relies on a digital model or mock-up for a purpose other than the Authorized Uses identified in the BIM Agreement, such use is at the risk of the receiving party. A party to the BIM Agreement may rely on a model or mock-up only in accordance with the Level of Development (LOD) identified in the BIM Agreement depending on the progress of the project, even if the content of a model element or mock-up includes data that exceeds this level of development.

PD 7 ISSUES

7.1 Major cost issues and cost management

Cost management is a major component of the project. The basic and specific services required for the execution of the project must be delivered continuously throughout it (as part of the Required Services (RS) and Additional Services (AS)). The payment for these services is integrated into the various budget items, including all the items relating to the cost specialist described below as well as the specific activities explained and emanating from the members of the consultant team.

7.1.1 Cost specialist

Delivering this project on time and within budget is an absolute priority. That is why the Prime Consultant must retain the services of an experienced, fully qualified cost estimating, cost planning and cost control team, with a demonstrated record of success with major construction projects. This team, referred to as the Cost Specialist Consultant in this section, must master all aspects of construction cost estimation at the various stages of the studies and exploit the techniques of component cost analysis, risk analysis, life-cycle costing, value analysis and management through value analysis.

Cost planning and control allows the financial objectives of the project to be achieved and is part of a continuous and interactive process involving planning, intervention, measurement, evaluation and review.

7.1.1.1 Scope of services

The Cost Specialist Consultant must provide an interactive and continuous cost consulting service from the commencement of project design through to construction completion. It must prepare exhaustive estimations of costs for all disciplines, cost escalation, inflation and contingency costs.

The Cost Specialist Consultant must provide the Department Representative and the Consultant with cost advising and cost monitoring/reporting services.

The Cost Specialist Consultant is to be available for, and attend, all project meetings. It must be ready to submit estimates to the Department Representative and to justify them, as necessary.

7.1.1.2 Basic activities

The Cost Specialist Consultant must cooperate with the Consultant and the Department Representative and formulate advice on the cost of components for the building and the various facilities. Estimates should be detailed and cost summaries presented in the form of a cost per item analysis. Acceptable submission formats are outlined in the Submission Requirements section below.

7.1.1.3 Reporting

▪ Progress reports

At each moment specified in this document, the cost specialist must submit a complete statement that includes the required summaries and all supporting worksheets clearly outlining the process used to prepare the estimates. PWGSC will rely primarily on the worksheets and the specific information they contain to review the estimates. They should also include cost comparisons and cost reports identifying variances between successive estimates, the reasons for these variances and their impact on the cost of the project. In addition, the cost specialist must coordinate all estimates with schedules.

A typical progress report will contain the following elements:

1. Summary of Project Cost Estimates
2. Summary of cost estimates by component
3. Details Supporting the Estimates :
 - Basic data used to calculate cost escalation, inflation and potential costs;
 - Detailed reports and prices
4. Description section
 - Summary description of the basis for the estimates
 - Description of the information used for the estimates, including the date of reception;
 - List of items included
 - Liste of items excluded
 - List of high-risk aspects of the project
 - Notes on past and future activities of the cost specialist
5. Comparison of estimates
 - Comparison with the latest submission
6. Comparison with the construction cost plan
7. Every other relevant item

▪ **Monthly reports**

In addition to the progress reports, the Cost Specialist Consultant must produce Monthly Reports on the status of the last month's activities, sensitive aspects, new data, forecasts and proposed revisions to current estimates. The report must contain, in particular, the updated Elemental Cost Summary:

1. A summary of project cost estimates
2. Elemental cost summaries
3. Narrative
 - i Description of the basic elements of the estimate revision
 - ii Description of the new data included in the estimates and indication of their date of receipt;
 - iii List of elements included
 - iv List of elements excluded.
 - v List of high-risk items/aspects
 - vi Notes on Cost Specialist Consultant's past and planned activities.

▪ **Variance report**

The Cost Specialist Consultant must provide continuous cost monitoring, timely identification and early warning of all changes that affect or potentially affect the estimated construction costs of the project.

If the estimate falls short of or exceeds the Construction Cost Limit due to such changes, the Cost Specialist Consultant with the Consultant Team must fully advise the Department Representative. The Cost Specialist Consultant with the Consultant Team must submit to the Department Representative proposed alternative design solutions. Thereafter, the most recent estimates must be revised.

A Variance Report will include sufficient description and cost detail to clearly identify, among other information:

- Scope Change: Identifying the nature, reason and total cost impact of all identified and potential project scope changes affecting Construction Cost Estimate.
- Cost overruns and under-runs: Identifying the nature, the reason and the total cost impact of all identified and potential cost variations.
- Options enabling a return to the Construction Cost Estimate:
- Identifying the nature and potential cost effects of all identified options proposed in order to return the project within the Construction Cost Estimate.

7.1.1.4 Submission requirements

- **Summary format**

1. Cost analysis by cost component: Summaries of estimates should be presented in an agreed and consistent analysis format. The format to be used by the firm must be submitted for approval during the project. In addition to the agreed format, the estimate must also be broken down by activity in the Work Breakdown Structure (WBS) as described in DP7.2 and in the Uniformat II format. All the Class "A" and "B" estimate should also be presented in the form of a cost breakdown by trade to allow for bid analysis.
2. Discipline Abstracts: Use discipline abstracts that follow the model of the Normative Directory unless methods in use in the region offer more appropriate solutions.
3. Breakdown of project costs: Costs for each phase of construction should be presented separately in the estimates, where applicable.

- **Presentation support**

1. Provide PWGSC with three (3) hard copies of all reports with only the summaries of the estimates, and one (1) additional hard copy of the report including the supporting data for the estimates.
2. Provide global estimates, summaries and supporting data in the agreed submission format and in electronic format.

- **Delay**

Given that estimates must follow the design decisions to which they relate, it is normal that their release is delayed. The cost portion of progress reports may be published after the fact but, unless otherwise specified by the departmental representative, the delay should not exceed two weeks.

- **Use of available information**

The cost specialist must provide complete estimates even if the information available to the cost specialist at the conceptual and design development stages and early in the preparation of working drawings is incomplete. In such cases, assumptions should be made and, after verification with the consultant, either presented as such or incorporated into a preliminary specification, which the consultant will modify as necessary.

7.1.1.5 *Techniques*

The cost specialist will need to be familiar with a wide range of techniques, especially the following:

1. **Risk analysis:** All construction estimates (except the final pre-tender estimates) must include and identify design, estimating, inflation and currency exchange allowances as are deemed necessary in light of the current information available. The Cost Specialist Consultant must provide the necessary justification for the level and/or amount of these allowances for each estimate.
2. **Scheduling:** The Cost Specialist Consultant must provide the Consultants and the Specialist Consultants with the quantitative information, information on the building systems and other quantifiable parameters deemed appropriate for establishing a justified Project Schedule. The Consultant must assist the Cost Specialist Consultant by keeping the schedule of all design activities up to date as well as by updating the call tender and construction schedules that the Cost Specialist Consultant will include in the estimates in a timely manner.
3. **Life cycle costing:** In advising the consultant on the cost of alternative materials, methods and systems, the cost specialist should use all available information to ensure that the consultant has a complete cost profile for use in making design and construction decisions.
4. **Continuing estimate process:** The Cost Specialist Consultant may apply a process of continual adjustments of previous estimates in place of total re-measurement at each milestone reporting point. If the Cost Specialist Consultant chooses this approach, it must nevertheless submit, for each phase, a complete and current Elemental Cost Summary including a separate, complete and detailed supporting file, as described earlier.
5. **Project research:** The Cost Specialist Consultant must obtain the necessary information from the Consultant in order to become familiar with the condition, accesses, etc., of the proposed and alternative construction sites. For the purpose of determining price levels, it must also analyze the local context in terms of labor and procurement, as well as the call tender methods and the competition. He must produce a detailed report on his visit.
6. **Value Analysis/Value-Based Management:** PWGSC may request that a value analysis and a management study based on the value analysis be undertaken. The consultant's team will have limited involvement in the study but will be required to answer questions and provide additional information to the VMA management team when requested. The cost specialist will provide the value-based management team with the most recent cost estimates and any additional relevant information.

7.1.1.6 *PWGSC responsibility*

It is the responsibility of PWGSC to verify all aspects of the work performed by the cost specialist on an ongoing basis to determine the validity and completeness of the information provided. In cases where PWGSC appears to have identified sensitive areas, including errors and omissions, as well as areas that are inadequate or require further explanation, the cost specialist must re-examine the estimates provided and make such revisions as are subsequently deemed necessary and/or provide sufficient acceptable evidence that such corrections or changes are not necessary.

No acceptance or approval by PWGSC, whether express or implied, is intended to relieve the Cost Specialist or consultant from professional or technical responsibility for the cost estimates and cost reports.

Acceptance of an estimate by PWGSC does not in any way abrogate the consultant's responsibility to maintain the agreed construction cost plan throughout the life of the project, or the need to redesign if the lowest acceptable bid differs materially from the agreed construction cost plan, unless otherwise specified in writing by the Departmental Representative.

7.1.2 Services – special activities

7.1.2.1 General

Project analysis stage

Review and report on the Category D estimate and propose revisions. Do not begin the analysis until the cost specialist, the consultant and PWGSC have accepted the revised Class D estimate. The revised Class D estimate will become the construction cost plan.

Concept study

A Category C estimate should be prepared using detailed costs and elementary costs whose accuracy is proportional with the available information.

Design development

At the end of design development, a Category B estimate should be prepared representing the increased level of detail in the available design details. The report will be based on more precise (itemized) costs based on measured quantities and will contain as few allowances or lump sums as possible. Upon final acceptance, the Class B estimate will become the construction cost plan.

Construction documents

During the production of contract documents, a continuous cost control process takes place. With each review of the contract documents, updated estimates must be consistent with the construction cost plan. In the event of discrepancies, contract documents should be reviewed.

Pre-tender Construction Cost Estimates

Upon completion of the contract documents, prepare a Category A (pre-tender) cost estimate using the measured quantities.

Break down the estimated costs by job category. This breakdown will be used to review the bids and cost breakdown of the successful contractor.

7.1.2.2 Services – particular activities (cost specialist)

Submission stage

- 1. Call for tender :** During the tender Period, the Cost Specialist must identify and report any impact of addenda to the tender or contract on the cost of the project. These impacts should be incorporated into the final pre-tender estimate (itemized and discipline costs) prior to receipt of bids.
- 2. Bid review and analysis** The Cost Specialist is to assist the Departmental Representative, as required, by analyzing and agreeing on variances between the pre-tender estimate and the bids submitted.
- 3. Negotiation** If negotiations with a bidder are required prior to contract award, the Cost Specialist must be prepared to provide all required cost information and to participate in negotiations, if requested.
- 4. Reconciliation:** Once the contract has been concluded with the contractor, the Cost Specialist will, where applicable, reconcile, in detail, the cost estimate by component and the cost estimate by discipline with the agreed contract amount. These adjusted estimates will be used by the construction project team during the execution phase of the project.

Cost Specialist Services During Construction

During construction, the Cost Specialist should assist the construction project team by providing cost guidance.

The services of the cost specialist are required for, among others, the following activities:

- Change order analysis
- Analysis of monthly amounts
- evaluation of claims;
- evaluation of completed work;
- cash-flow valuation
- evaluation of advances by fiscal year;

The cost specialist should assist the team by providing the necessary details on cost trends for the project.

7.2 Major time elements and time management

Project schedule control and monitoring are crucial activities that should be carried out by experienced and qualified project managers and specialists in the field. The detailed design and construction schedule should be presented using a proven methodology and should be updated regularly (at each deliverable) and at the request of PWGSC. PWGSC project approval stages must also be considered and the schedule should be revised to reflect the actual time taken by these approvals. The same applies to the input of each of the sub-consultants, resources and/or disciplines.

Time management is a major component of the project. The basic and specific services required for the execution of time management must be provided continuously throughout the project (as part of the Required Services (RS) and Additional Services (AS) package). Payment for these services is integrated into the various budget items.

7.2.1 Planning and sequencing requirements and implementation

Planning and sequencing are high priorities for all federal government projects. They should facilitate the achievement of project objectives through a continuous, interactive process of planning, intervention, measurement, evaluation and revision.

7.2.2 Development of consultant project schedule and project control system

Consultants should develop a project schedule using network analysis techniques such as Critical Path Methodology (CPM) or Program Evaluation and Review technique (PERT) to plan, schedule, monitor and report on the project. The choice of technique used to develop the schedule must be justified to the Departmental Representative. A project control system is also required to validate progress against the baseline schedule. The preferred method is earned value management.

7.2.3 Personnel

Skilled and experienced **planning and scheduling** specialists must occupy key positions in the process of **developing and monitoring** the project schedule. These specialists must provide their services to the consultant from the start of the Project Studies Phase (RS1) through to the completion of the building's commissioning. The consultant must provide planning and scheduling services in accordance with general and specific guidelines.

7.2.4 Purpose of the proposal

The following is a list of the main planning and scheduling tasks to be performed at the design, plans and specifications, and contract award stages:

- Participate in the definition of project objectives

- Develop a work breakdown structure by integrating SPAC activities and identify the costs associated with each work package.
- Develop the project network by defining the relationships between activities.
- Establish, control and maintain the project schedule, work breakdown structure, and milestone dates listing.
- Assessing actual progress and compare it to the baseline schedule using the earned value method
- Identify activities at risk of creating delay and provide recommendations for interventions to be implemented to avoid or minimize impact.
- Attend meetings
- Define the specific technical requirements of the tender and the work execution sequences.
- Define the requirements for coordinating the work of the design team.
- Prepare progress reports (monthly or as required).
- Update the schedule to the level of detail required.

7.2.5 Planning

7.2.5.1 Work breakdown structure

Establish a work breakdown structure (WBS). The WBS is the tree structure of the services and other work within the project, and is used to organize, define and graphically present the project. The WBS must be established for at least each of the following elements: project, phase, element, sub-element and work package. In addition, the consultant must pay particular attention to the requirement for a project breakdown sequence, which must be provided to the contractor in the tender specifications.

7.2.5.2 Cash flow projection and baseline schedule

The project breakdown structure must include the budgets associated with each work package. This analysis should also be integrated with the baseline schedule to assess the corresponding cash flow forecast that encompasses all major activities and cost items planned for the project. This will involve verifying the validity of the alternatives for the milestone events originally defined in the proposed Key Milestone Schedule. The main stages in the project delivery process are: scheduling, conceptual studies, design development, preparation of working drawings and specifications, tendering, contract award, and execution of the work.

Unless otherwise prescribed in this section, the durations expressed in days correspond to working days, i.e. five (5) days per working week.

The baseline schedule may be modified only at the request of the Departmental representative, if circumstances require it. When the baseline schedule is modified and there is an impact on the interrelationship of activities, the adjustments must also be incorporated into the project breakdown structure. All changes to the baseline schedule must be accompanied by a narrative report justifying the need to modify the schedule and the impact of this intervention. The report should also address changes to cash flow projections and link them to previous projections and schedules to provide a continuous audit trail.

After five (5) working days to review the above, the Planning and Scheduling Consultant will meet with the Project Team to agree on a baseline schedule and cash flow forecast acceptable to all parties.

7.2.5.3 Progress report

The consultant will provide the initial progress report and subsequent progress reports including the following:

- A narrative explanation of the progress of the project, the difficulties encountered, the potential risks, and the adjustments required.
- Evaluation of the progress of the project by indicating the percentage of completion of each activity
- The analysis of actual progress according to the baseline schedule and the results of the analysis using the earned value management method.
- Variations noted between cash-flow projections and actual expenditures.
- The identification of critical activities and those with a risk of creating a delay.
- Provide intervention strategies to be implemented in order to avoid or minimize the impact of a potential delay.

The progress report will be submitted on a monthly basis during the planning and design phases (RS1 to RS5) and every two (2) weeks during the implementation phase (RS6).

7.2.6 Scheduling

7.2.6.1 *Schedule – design, drawings, tendering and contract award*

Preparation of the schedule and project breakdown structure

The consultant must produce a project schedule. It should include activities for all phases of conceptual and preliminary studies and all necessary reviews and approvals. It should also include the activities related to the working drawings and specifications leading to the key approvals milestones of 75%, 99%, 100% completion and submission percentages. It should also include the coordination and review activities leading to the final bid documents (final submission) and a description of the tendering process leading to contract award.

Some of the activities in the schedule will be further detailed in later stages. The consultant must submit a project breakdown structure and associated schedule within 10 days of receiving the inputs. The schedule will include key activities that will become summary activities at subsequent stages. Key activities include all required services (RS) and additional services (AS), tendering, contract award, execution, and commissioning. The consultant will meet with the Departmental Representative to agree on the structure and information presented in the schedule. When the document is acceptable to all key stakeholders, this version of the schedule will become the baseline schedule

In developing the options to be incorporated into the concept study, the consultant must consider the intricacies of each option and the impact on the project schedule. To this end, a project schedule and project breakdown structure must accompany each option when the concept study is issued. At that time, all summary activities must be broken down to present all associated activities. The only activity that does not require a sub-division at this stage is the implementation period. When breaking down the summary activities, if the baseline schedule cannot be met, the departmental representative should be notified immediately. The progress report at this stage must mention this problem and present the relevant justifications.

When submitting plans and specifications that are 75% complete, the project breakdown structure and schedule must also be submitted considering a complete division of the construction period. The descriptions must be sufficiently explicit to show the order of succession and interdependence of all tasks in the contract and to facilitate the coordination and control of all project activities.

The schedule should be sufficiently detailed to be used to ensure proper planning and control of the progress of the work. It is also recommended that the duration of activities should not exceed ten (10) days, both for tasks during the studies and design and for tasks during the work performed by the contractor. Specific activities must always relate to the milestone dates defined and approved in the project baseline schedule

Wherever possible, activities with zero margin, which constitute the "critical path", should be identified and clearly marked in the logic network as being part of a seamless sequence of activities from start to finish of the project. Critical or near-critical activities should not represent more than 25% of the total project activities. Quasi-critical activities are those within one to five working days.

Review and approval of the detailed schedule

The consultant should allow one week for each schedule verification completed and submitted.

Following the review, any required changes must be submitted to the Departmental representative no later than one week after the request is made.

The consultant shall, upon request and at no additional cost, provide any additional information that will facilitate the analysis of the proposed schedule.

Respect of baseline schedule

The consultant must work within the approved baseline schedule. The consultant must also lead the sub-consultants in planning and coordinating their work within the approved baseline schedule

7.2.6.2 Work progress monitoring and reporting

During the planning, design and implementation services (RS1 to RS6), the consultant shall report on progress once every two (2) weeks, in collaboration with all parties involved. The consultant shall include the following information in each progress report:

- A narrative explanation of the progress of the project, the difficulties encountered, the potential risks, and the adjustments required.
- Evaluation of the progress of the project by indicating the percentage of completion of each activity.
- The analysis of actual progress according to the baseline schedule and the results of the analysis using the earned value management method.
- Variations noted between cash flow projections and actual expenditures.
- The identification of critical activities and those with a risk of creating a delay.
- Provide intervention strategies to be implemented in order to avoid or minimize the impact of a potential delay
- Potential delays, open issues and concerns of the design teams, as well as possible solutions to serious planning and scheduling problems.
- A Critical Path Report presenting all milestone activities and events with a total negative margin, zero margin, and no more than five days margin, which will be used to quickly identify the critical or near-critical path throughout the life of the project. Indicate the "latest" and "earliest" start and completion dates, durations, codes and margin for the critical activities presented.
- A progress report at the preliminary stage prior to the commencement of work, listing for each specialty, all activities that must be started, in progress or completed within two months of the monthly calendar update date. Indicate the activity identification number, the description and duration of the activity. Include columns for recording the actual start and completion dates of the activities, the remaining duration and comments on action to be taken.

The consultant must also include the progress report with the updated schedule. Updates to the schedule should not affect the structure, relationships or constraints of the activities, but only the percentage of completion of the activities and the actual and anticipated dates. The document must include the following information:

- All required timing and cash flow information.

- The actual start and finish dates of all controlled activities in the network as recorded;
- The percentage of completion associated with each activity.
- Expected start and end dates for all activities requiring modification.
- Classify the activities by identification number with related descriptions. Indicate the "latest" and "earliest" start and completion dates as well as the durations, codes and margin of the activities.

7.2.6.3 *Tendering and Scheduling Requirements*

Construction and commissioning periods

As the studies progress and the work to be carried out becomes clearer, the consultant should develop a schedule detailing the summary activities and further detail the cash flow to illustrate the sequence of tasks related to the activities of other markets or the constraints imposed by other markets. When submitting the specifications and drawings completed at 75%, The implementation period must also be detailed This work will allow:

- Confirm or question the duration and previously established stages of execution of the work;
- Develop more accurate cash flow projections for the work;
- Identify coordination needs and/or possible sources of conflict;
- Review and assess the financial implications of the schedule established by the successful contractor using the Critical Path Method.

Before tendering period (at the stage where documents are completed at 75%), the consultant must develop the specifications regarding the planning and scheduling of work. This section will be provided by PWGSC and the consultant will be responsible for ensuring its integration with all relevant contract administration requirements. The consultant shall incorporate, in this section of the specifications, the project breakdown structure previously approved by the Departmental Representative.

7.2.7 *Project control during construction*

7.2.7.1 *Consultant's role*

The Consultant shall :

- Verify that planning and sequencing are consistent with the specifications;
- Provide the contractor with the information to be included in the master plan;
- Review the contractor's submissions for completeness, accuracy and treatment;
- Determine in detail the required swing-spaces
- Provide advice on and prepare gap analysis reports.

The contractor must prepare the required planning and sequencing documents in accordance with the applicable specifications.

Within five (5) working days of the contract award, the Consultant and the Departmental Representative shall meet with the contractor to review the scope of the work and construction package methods. This meeting is an opportunity to emphasize the importance of meeting the planning and sequencing requirements set out in the contract documents. Moreover, the consultant must provide the contractor with the project breakdown structure.

Within five (5) working days of receiving the master plan and initial cash flow prepared by the contractor, the Consultant shall verify the appropriateness and accuracy of these documents by comparing them with the construction baseline schedule prepared by the Consultant prior to contract award. The Consultant shall formally submit its findings and recommendations to the Departmental Representative for discussion with the contractor.

Once accepted by the departmental representative, the schedule submitted by the contractor is retained and becomes a later version of the baseline schedule. The Contractor shall update the schedule every two (2) weeks. Updates to the schedule must not affect the structure, relationships or constraints of the activities, but only the percentage of progress of the activities and the actual and anticipated dates. The Consultant shall use these updates to develop progress reports and compare its assessment of progress with the data submitted by the Contractor. When the baseline schedule needs to be modified, such as when a change in scope of work is issued, the contractor will be required to submit a new version of the baseline schedule. The consultant will be required to assess the impact on the baseline and provide recommendations in the next progress report.

Upon receipt of the updated schedule and request for partial payment, the consultant shall verify the contents as follows:

- assess overall progress to date, and
- Compare the current status of the detailed schedule and cash flow with previous documents.

7.2.8 Building and data management modelling

The consultant's planning and scheduling specialists will need to ensure the BIM objective of constructability of the design in the BIM plans. The mock-up shall be used to simulate the construction work (4D schedule). For work planning purposes, the model shall be used to sequence the construction work, including site preparation, temporary work, relocation and any other activity related to the operation of the site and having an impact on the schedule.

7.3 Heritage

The selection of appropriate solutions and quality control of the construction work are key activities which must be given to experienced and qualified consultants. Decisions must be documented and be based upon the spirit of the *Standards and Guidelines for the Conservation of Historic Places in Canada* (second edition).

7.4 Accessibility issues (barrier-free design and universal, safe access)

All Canadians deserve to be able to fully participate in the life of their community and their workplace and to have an equal chance of success. The Government of Canada adopted the Accessible Canada Act in order to eliminate the obstacles to inclusion that disabled persons continue to face in their day-to-day life in society.

PWGSC must meet accessibility requirements in providing access to and use of its buildings. These requirements include building components, entrances, passenger elevators, public areas and federal work areas. These are minimum requirements.

As part of this project, the objective is to exceed the minimum requirements set out in the Treasury Board of Canada Secretariat's Accessibility Standard for Real Property, by improving full and equal participation in society by all, especially disabled persons, through the elimination and prevention of barriers, among other measures.

Achieving the government's accessibility objectives is thus a key issue for this project. Compliance with the accessibility standards required by SPAC must therefore be included (compliance with the B651-2018 Handbook or the most up-to-date standard).

PD 8 CONSULTANT SERVICES

The consultant team for this project must be capable of providing the following services:

Architecture	Structural engineering
Schedule control	Industrial hygiene
Cost management	Masonry
Sustainable development	Electrical engineering
Heritage	Information and telecommunication technologies
Universal accessibility	Fall protection
Non-contaminated waste management	Landscaping
Contaminated waste management	Information and telecommunication technologies
Civil Engineering	Construction and Building Code Specialist
Fire safety	Physical Security
3D laser scanning survey	Geotechnics/ Laboratories
Mechanical engineering (including CVAC, plumbing and Indoor air quality)	Traffic
Signage	Programming
Archaeology	Building Data Management and Modeling (BIM)
Temporary interior fittings design	
Commissioning	
Laboratories	
Risk management	

DESCRIPTION OF SERVICES - SERVICES REQUIRED (RS)

RS 1 PROJECT REQUIREMENTS ANALYSIS

1.1 Objective

Related to the objectives usually included in the project requirements analysis:

- The purpose of this service is to ensure that the *consultant* has reviewed and considered all project requirements, identified and assessed any conflicts or problems, proposed alternative solutions, and submitted a work description containing a delivery approach, schedule, and estimates to ensure consistent project delivery, which were approved. These approved documents will constitute the scope of services that will be used throughout the project as a reference document.
- Conducting relevant surveys and surveys to support assumptions

1.2 Service scope

1.2.1 *General*

In relation to the generalities usually found in the analysis of project requirements (services required - RS 1), the *consultant* shall :

- Visit the building/site and verify the availability and capacity of the services required for the project.
- Attend the project kick-off meeting.
- Analyze the program and project requirements.
- Review all available existing material related to the project.
- Review the planned project schedule to ensure that all milestones can be met.
- Review the budget/cost plan to ensure that costs are realistic and can be met.
- Identify and verify all competent authorities in the project.
- Inventory applicable codes, regulations and standards.
- Pay attention to the reduction of environmental effects in a manner that is appropriate to the objectives of the project and that takes into account the economic constraints on the project.
- Review the factors likely to have an impact on the environment and the aspects of the project affected by the *Canadian Environmental Assessment Act (CEAA)*.
- Review updated regulations on accessibility in federal buildings.

1.2.2 *Analysis of Available Literature*

The *consulting* team will be required to:

1. Carefully study the reports previously written on the various elements of the project and take into account the recommendations made therein (see list of inputs at PD4.1);
2. Consult the official documents that describe the heritage value of the building :
3. Analyze the original plans, sections, and elevations, and understand how the building was designed and how its envelope behaves.
4. Analyze the plans for the 1912-1919 expansion project and the 1983 major redevelopment project;
5. View more recent plans and elevations of the building. These documents will be provided for reference purposes only, and will need to be verified and updated following the 3D laser scan survey (in conjunction with the data provided by PWGSC and completed by the consultant).

1.2.3 3D Laser Scanning Survey

The consulting team will be required to:

1. Submit to the Departmental representative for approval all relevant information (name, experience in projects of similar type and scope, references) concerning specialized firms capable of carrying out such a survey. The firms in question will have to demonstrate that they fully understand the nature and scope of the mandate, that they possess the necessary equipment and that they master the software for processing the data in order to achieve the desired result;

1.3 Deliverables

This section incorporates the deliverables normally described in the RS 1 Required Services.

Throughout the duration of RS1, the consultant shall provide monthly progress, variance and variance reports related to the monitoring of detailed budgets and schedules to RFP 7.1 and 7.2.

1.3.1 Work Plan

The *Consultant will* provide, but is not limited to, the following products in the form of a work plan no later than six (6) weeks after the award of the mandate:

- Written identification of problems, conflicts or other perceived information/clarification assumptions for consideration by the Project Manager;
- A schedule indicating the timing and duration of surveys, soundings (interior and exterior) and inspections to conduct a detailed assessment of the condition of the masonry and existing systems in the building;
- For each facade of the building, an elevation showing the location and dimensions of the test pits in the masonry walls (from the outside);
- For each of the floors of the building, a plan showing the location and dimensions of the test pits in the masonry walls (both inside and outside, in the ground and above ground);
- For each floor of the building, a plan showing the location and dimensions of openings in existing elements (interior walls, ceilings), as well as areas where additional surveys are required as part of the evaluation of interior systems (architectural, mechanical, structural, etc.).
- Confirmed or adjusted schedule;
- Revised category D estimate;
- The list of speakers.

RS 2 CONCEPTUAL STUDY

2.1 Objectives

Purpose: The purpose of the following services is - through a survey, detailed inspection, surveys and in-depth analysis - to assess in detail the condition of the envelope (including all services listed in DP8 above) of the Louis S. St. Laurent Building, which will then confirm the scope of work and define an approach to intervention.

Related to the objectives usually included in conceptual studies:

- The purpose of this service is to translate the project requirements into working documents, explore a minimum of four intervention approaches (including status quo) and analyze them in relation to the program priorities and objectives identified above. Following this process, an intervention approach will be recommended for design development.
- Conducting relevant surveys and surveys to support assumptions.

2.2 Scope of services

2.2.1 General

In relation to the generalities usually found in conceptual studies (services required - RS 2), the *consultant will* have to :

- Carry out all required surveys (indoor and outdoor), exploratory breakthroughs and others to confirm assumptions made on the basis of the inputs. The consultant must anticipate that this activity will take place during the winter period in order to respect the established schedule. Complementary summer work must be planned to complete some final surveys.
- Present a minimum of four intervention approaches (including status quo) that are viable and feasible to implement.
- Analyze each solution according to the project objectives, including project cost and schedule.
- Recommend an option for further development with all supporting documentation and technical justifications.

All surveys must be georeferenced to the most up-to-date NAD 83 system. Accuracy in x, y and z must be within 6mm. For 3D laser surveys, see BMP for expected accuracy.

Inspections and soundings, both exterior and interior, shall be carried out jointly by the project architect, structural engineer and mason, and not by an intern or technician.

PWGSC will provide preliminary plans for temporary accommodation for the two (2) phases of work at the start of RS2.

2.2.2 3 D Laser Scanning Survey

The *consulting* team will be required to:

1. Carry out a 3D laser scanning survey of the entire building (interior and exterior) and all the land surrounding it as described in point DP5 of this document by a specialized firm. This survey will have to :
 - a. Provide drawings of each of the building's facades, roofs and floors, to scale, in the form of 2D Autocad and 3D Revit files;

- b. Provide black and white and color photographic quality images of each of the building's facades in ".jpeg" file format. These images must be capable of being inserted in an Autocad and Revit file, scaled and annotated to identify the stones and indicate the scope of the work;
 - c. Be accurate enough (see RS2.2.1) to identify, number and size all stones. The texture of the stones, mortar joints and decorative elements, among others, must be clearly visible.
 - d. In the event that surveys are carried out in the winter period and sectors are not accessible or visible during these surveys, the consultant must ensure that additional surveys are carried out in the summer period.
2. Provide all the safe means of access (scaffolding, gondola, crane or other) necessary to allow 3D laser scanning surveys, and combine them, as much as possible, with those required for inspection and soundings.
 3. Apply to the City of Québec for a permit to occupy a public thoroughfare and for any other authorization required to carry out the surveys. Plan the time required for this process in the schedule;
 4. Coordinate all building inspection activities with PWGSC to provide advance notice to users, and be accompanied by a custodian (inside and on the roof, among other things). On site, also provide some coordination with the Building Manager, BGIS.
 5. This survey should be conducted as early as possible in the mandate so that the images can be used during the inspection.

2.2.3 *On-site Inspection*

The *consulting* team will be required to:

1. Perform a complete and thorough inspection to assess in detail the condition of the masonry, roofs and other components of the building envelope. The list of activities below is not exhaustive, and it is the *consultant's* responsibility to ensure that all necessary exterior and interior components are inspected. Be sure to cover all relevant elements and do not neglect any discipline including those named in PD 8.

Outside the building, this inspection shall include, but not be limited to, the following activities:

- Visually check the condition of the mortar joints and of each of the stones to verify the presence of any defects or deterioration (flaking, erosion, cracks, breakage, etc.). This includes, but is not limited to, the stone facing as well as parapets, cornices, colonnades, lintels, pediments, carved elements, the rotunda, the chimney, the flashings, ramps, roofs and stairs, etc;
- Probe all stones with a hammer to check for delamination and/or voids behind the facing, especially in the case of stones laid in delinquency;
- Photograph each deteriorated stone for which an intervention is necessary, number the file in ".jpeg" format according to the numbering of the stones and classify by facade, provide all these photos on a USB key as an appendix to the report;
- Assess the condition of openings (doors, windows, etc.);
- Assess the condition of the slabs/murets on the ground floor (Canada Post area);
- Assess the condition of roofs and flashings;
- Photograph each of the doors and windows, number the file in ".jpeg" format according to the numbering of the doors and windows and classify by facade, provide all these photos on a compact disk or USB key as an appendix to the report;
- Check the condition of the roofing, all parapets, cornices and their membranes and flashing;
- Evaluate surface fouling and possible additions to reduce it;
- Confirm the presence or absence of plaster on facades
- Evaluate in detail the condition of all external cast iron components
- Assess urgent work and provide for the repair of items that may pose a risk to users or to the health and safety of workers before the Contractor begins work. Repairs may be done at the same time as the inspection with the mason or in a subsequent intervention.

- Assess the condition of any other elements in contact with the exterior masonry (canopies, signage, ashtrays, light fixtures, wiring, piping, handrails) that may need to be removed and reinstalled during masonry repair work;
- Assess the condition of the facilities around the building to validate the methods of access to the envelope during the work. Assess the structures and other elements that will be affected (relocation, demolition, etc.) during the consultant's work and the general contractor's work.
- Make exploratory breakthroughs below ground level to determine the condition of the masonry and concrete foundation and the presence of remains along the foundation with an excavation contractor, an archaeologist and the mason (see RS2.2.4).
- Plan for this inspection to be carried out during the winter period. Additional surveys should be scheduled in the summer for small areas that will be inaccessible due to snow or other reasons such as temperature.

Plan for the presence of the department representative during the on-site inspection (minimum two (2) days), so as to observe and discuss with him the condition of the stone facing, using all means of access set up by the masonry contractor.

Inside the building, the inspection shall include, but not be limited to, the following activities:

- Visit the interior of the building to understand its features, including structural characteristics, paying particular attention (but not limited to) to areas where significant deterioration has been noted on the exterior;
 - Arrange for the assistance of a surveyor to project important architectural, structural or mechanical elements onto the exterior envelope to simplify inspection and design work.
 - Investigate the role of ventilation and air conditioning on the pressure that is maintained inside the building, and check for condensation, infiltration and special deterioration around windows.
 - Check how the windows are installed. Depending on the installation method, they can only be removed inwards when replacing them;
 - Check the condition of the foundations (visible parts in the basement), as well as the presence of infiltrations in the basement. This activity should be carried out in parallel and at the same time as the exploratory breakthroughs for areas near the breakthroughs.
2. Provide all necessary secure means of access for inspection and combine them, as far as possible, with those required for laser scanning and soundings. The use of a gondola and/or crane is mandatory in order to inspect all elements closely (inspection with binoculars or from floors is not sufficient). During this activity, the analysis of the method that could be used by the contractor for each facade should be validated and analyzed in order to provide feasible options in the following reports and estimates.
 3. Apply to the City of Québec for a permit to occupy a public thoroughfare. The consultant must also consider having to reach an agreement with all owners bordering the site under study in order to access and/or intervene on land belonging to them.
 4. Coordinate all building inspection activities with PWGSC to provide advance notice to users, and be accompanied by a custodian (inside and on the roof, among other things). On site, also provide some coordination with the Building Manager, BGIS.
 5. Systematically record (text, table, sketches, annotated plans and photos) the findings made, and prepare a table listing all stones (to be numbered on the plans and/or images produced following the laser scan survey), the damage to them, and the intervention(s) required (see deliverables below).

2.2.4 *External Surveys*

The *consulting* team will be required to:

1. Indicate on the elevations the location of the test pits (curettage, stripping, dismantling/reassembling stones or other) required to verify the composition of the exterior walls and/or to further assess the condition of the envelope in places where elements are displaced or particularly deteriorated (including rotunda, roofs, openings and others). Submit this document to the Departmental Representative for approval before proceeding with any survey. The objective is to gather as much information as possible in order to define the most precise intervention approach possible and to minimize surprises during the work;
2. Indicate on a plan the location of the exploratory excavations required to verify the condition of the masonry below ground level. Submit this document to the Departmental Representative for approval before proceeding with any excavation. Carry out interventions on federal property, when possible. Otherwise, reach an agreement with the owners of the lands on which interventions are required and submit the agreements to the Departmental Representative. Locations where excavations are required to specify archaeological information must be carried out at the same time as exploratory excavations for foundations. The consultant's archaeologist must be on site at all times during the excavations and backfilling of the excavations.
3. Issue the necessary instructions to have these exploratory breakthroughs and excavations carried out by the masonic contractor on the team.
4. Use the mason's expertise both to analyse the deterioration observed and to propose solutions. However, this does not take away the obligation of professionals to keep a critical eye and carry out their own analysis by considering the situation as a whole;
5. Seek advice, if necessary, from manufacturers of mortar and masonry restoration products. This does not, however, remove the obligation of professionals to keep a critical eye and carry out their own analysis by considering the situation as a whole;
6. Provide all necessary tools and safe means of access (cradle, crane or other) to allow for soundings and excavations, and combine them, as much as possible, with those required for laser scanning and inspection;
7. Apply to the City of Québec for a permit to occupy a public thoroughfare, and plan and obtain any required agreement with the owners of adjacent land (access and/or work).
8. Coordinate all activities related to external surveys with PWGSC in order to provide advance notice to users. On site, also coordinate with BGIS.
9. Provide for the on-site presence of the Department representative during external surveys (minimum two (2) days), so as to observe and discuss with him the condition of the stone facing as well as the envelope components located behind the facing using all means of access set up by the masonry contractor.
10. Systematically record (text, sketches, annotated plans and photos) the type, extent and exact location of all surveys actually conducted, as well as the findings for each.
11. Plan to conduct these surveys during the winter period in order to maintain the project's planned schedule.

2.2.5 Indoor Surveys

The *consulting* team will be required to:

1. Perform all exploratory breakthroughs and ceiling openings required to assess the condition of the existing building envelope, walls, interior, structural and mechanical systems. Check for the presence of convection movements within the voids between the exterior wall and the terracotta block partition. Check for the presence of several water infiltrations.. Take the time to perform some checks in the ceiling spaces between ceilings, and make other exploratory penetrations (allow a minimum of four (4), 610 x 610 mm). The location of the holes must be submitted for approval by the Departmental representative prior to the work. Get it all straightened out once the polls are done.
2. Coordinate all activities related to indoor surveys with PWGSC in order to provide advance notice to users, and to be accompanied by a custodian. On site, also provide some coordination with BGIS. Provide for the fact that these surveys will have to be conducted outside the normal working hours of the building occupants in order to minimize disturbance. If the work cannot be completed before operations resume the next day, the area must be sealed and cleaned to allow the occupants to work around and near it.
3. These soundings should also cover surveys and tests on the building to confirm or invalidate any assumptions made in the seismic analysis conducted in 2017. The results will be used to update this analysis and its conclusions.
4. Due to the presence of traces of asbestos in old plaster and other building components, follow the procedures and take the necessary precautions defined by PWGSC Environmental Services when testing this material (high risk to be considered).
5. Leave the surveys open for a reasonable period of time to observe and discuss the condition of the walls on site with the Departmental Representative.
6. Survey the entire original substation including, IT and substation electrification infrastructure, IT and electrical outlets and others.
7. Systematically record (text, sketches, annotated plans and photos) the type, extent and exact location of all surveys actually conducted, as well as the findings for each.

2.2.6 Thermographic and Hygrothermal Study

It is necessary to conduct a thermographic and a hygrothermal study of the entire building as part of this mandate. As for the thermographic study, it must be carried out twice, before the design process and after construction.

The negative pressure brought to PD 2.1.5 must be addressed during the studies and adjustments must be made by the consultant following approval of the reports.

2.2.7 Geotechnical and Hydrogeological Study

The consultant shall carry out a geotechnical and a hydrogeological study for the entire building as part of this mandate.

2.2.8 *Sustainable Development Strategies*

The purpose of this service is to study and review (in detail) a wide range of sustainable development strategies, including, but not limited to :

1. Reduced energy consumption and greenhouse gas (GHG)/carbon footprint emissions
2. Water management and landscaping
3. Building and sustainable transport
4. Deconstruction of existing infrastructure
5. Life cycle costs and cost-benefit analysis.

Scope of Work

The Consultant shall thoroughly study and review the sustainable development strategies applicable to the project and make recommendations. The Consultant shall :

- Examine the factors likely to have an impact on the environment and the aspects of the project identified in the Environmental Impact Assessment (EIA) report;
- In order to reduce the production of greenhouse gases and save costs, with respect to the management of fill soils, it is expected that the designer will consider the storage and reuse of excavated soils generated during the construction of the building for backfilling following the deconstruction of the existing building or for integration into landscaping. The specifications of the call for tenders should also encourage the reuse of controlled fill already present on the site. This strategy is recommended insofar as the environmental quality of the backfill soils is established following soil characterization and deemed favourable to their reuse.
- As stipulated in the Project Description (PD) section, the design of the new structures (building and parking lot) will have to integrate sustainable development elements in order to meet the objectives of the various sustainable development policies and strategies developed by the Government of Canada.

The following elements should be taken into consideration:

1. Reduced energy consumption and GHG emissions/carbon footprint
 - Use building materials with a lower carbon footprint (using a life cycle assessment (LCA) approach) than traditional products and containing fewer hazardous substances: The Departmental Representative will provide the architectural firm with carbon footprint data for several categories of building materials so that the firm can take this into account in the design of the new construction. Targeted materials include structural materials, insulation and exterior cladding;
 - Use only building automation systems and building components that are compatible with an open protocol (BACnet);
2. Water management (drinking water, domestic wastewater and stormwater)/landscaping
 - Design landscaping to reduce the use of cleaning products and ban the use of toxic pesticides. This design should take into account techniques for selecting species capable of adapting to local constraints.
3. Building and sustainable transport

- Conduct a Life Cycle Assessment for major building components using the Athena Sustainable Material Institute's Environmental Impact Estimator and EcoCalculator or equivalent;
 - Research and identify the green building materials required for the project, indicating the source (to meet government objectives, a single source is required). Verify with the client department, make necessary modifications and obtain approvals;
 - Develop innovation pilot projects that take advantage of new technologies to improve the performance of buildings to meet mission zero objectives (energy, GHGs, water and waste);
 - Management of domestic residual materials: provide for an adequate interior layout for the selective collection of waste: recycling, composting and final waste in order to achieve a minimum threshold of 75% diversion of domestic waste;
 - Construction/Renovation/Demolition Residue Management (CRD): For this project, the target to be achieved is the diversion of at least 90% by weight of all construction waste. The percentage of diversion will have to be calculated in relation to the overall weight of construction waste/residues generated.
4. Deconstruction of existing infrastructure
- Stormwater management: develop sediment, erosion and stormwater management plans. Management techniques should reduce the amount of suspended solids and the total amount of water flowing off the site after thunderstorms, heavy rains and snowmelt.
 - Construction/Renovation/Demolition Residue Management (CRD): For this project, the target to be achieved is the diversion of at least 90% by weight of all deconstruction waste. The percentage of diversion will have to be calculated in relation to the overall weight of waste/deconstruction residues generated.
 - Prepare a detailed inventory of existing non-contaminated materials, systems and equipment that can be reused or recycled; identify target markets for material recycling and provide recommendations. Verify with the client department, make necessary changes and obtain approvals;
 - Develop a plan for the reduction and management of non-hazardous and hazardous wastes (i.e. mechanical equipment with refrigerants, oil, fire extinguishing products, etc.) and make recommendations. The Consultant must verify with the client department, make the necessary modifications and obtain approvals;
 - Develop a plan for noise management during construction;
 - Develop a construction dust management plan;
5. Life cycle costs and cost-benefit analysis :
- Conduct a cost-benefit analysis and life-cycle cost analysis to be incorporated into the project's sustainable development strategy.

In all cases (.1 to .5), the Consultant must check with the Departmental representative, make the necessary modifications and obtain approvals.

2.2.9 Other steps

The *consultant will be* required to perform the following checks:

1. Assist the Departmental representative in the preparation of the project file to obtain approval from other jurisdictions;

2.2.10 *Preliminary Report*

The *consultant* will be required to provide a preliminary report. All of the information to be contained in these reports is described in detail in the item below.

Thus, the *consultant* team will be required to:

1. Prepare a preliminary report synthesizing the information gathered during the inspection and surveys, and reviewing the progress and direction of the project.

First, the objective is to identify all deteriorations as well as all necessary repairs, in order to obtain a complete picture of the current situation. This also requires identifying all the issues and constraints related to the characteristics of the building, the site and its occupation that could influence the completion of the work. The multidisciplinary team will therefore first have to work with flexibility and openness, avoiding taking a given intervention approach for granted, eliminating certain possibilities too quickly or multiplying scenarios unduly. Then, a minimum of four intervention approaches (including status quo) should be presented, explaining the reasons that led to the elimination of other scenarios (it should be possible to understand the path). The redevelopment of the occupants (swing space) before and during the work (included in the mandate) must be taken into account in the development of the scenarios and phasing presented. PWGSC will provide preliminary plans of the swing space in dwg so that the consultant can integrate them in the 3D survey and in the overall analysis.

The architect, structural engineer, mason and all other sub-experts will be required to work closely together and the report will need to incorporate input from each major discipline and the disciplines of the sub-experts as well.

Approaches to intervention will also need to be discussed between the *consultant's* team and PWGSC and approved by PWGSC prior to inclusion in the draft reports.

2.3 Deliverables

This section incorporates the deliverables normally described in the RS 2 Required Services.

Throughout the duration of RS 2, the consultant must provide progress, monthly and variance reports related to the monitoring of detailed budgets and schedules to RFP 7.1 and 7.2.

2.3.1 *Preliminary Report*

The *consultant will* provide, but is not limited to, the following products in the form of a preliminary report and detailed for each of the options presented when required (at 50% of the progress of the detailed assessment of the state of the envelope and other disciplines):

Deliverables preliminary report (Text)

- A text summarizing, for each of the elements of the building envelope (roofs, roofing, flashings, masonry, rotunda, dome, chimney, doors and windows, other openings, cast iron elements, copper elements, other elements attached to the facades, etc.) the main findings made with relevant supporting photographs. The causes of deterioration should be identified as far as possible or, at the very least,

the most plausible hypotheses should be presented. If the cause remains unknown, this should be clearly stated;

- A text summarizing the particularities of the building's existing structural system and the composition of its masonry walls, comparing the reference documents and the results of the surveys carried out both from the exterior and interior. Discuss the particular situation of the pediment;
- A text summarizing the particularities of the structural system resisting lateral loads, 2017 seismic analysis and planned analysis/testing to update the analysis;
- A text summarizing the condition of the ground floor slabs/murets (Canada Post area);
- Description of the various works present around the envelope and their impact on the possible method of mobilization of the Contractor;
- A text describing the temporary fit-up requirements by phase (based on the document provided by PWGSC at the beginning of RS2) is required. The electrification and IT work required for this work and the needs/requirements (by sectors, by stations, by meeting rooms, etc.) in these areas must also be described;
- A text describing the analysis of the project in relation to universal accessibility, the analyses as well as the modifications required on the envelope and accesses to comply with the standards in force.
- A text describing the ventilation system and its particularities, evaluating the measures that will have to be put in place to protect certain openings from dust during the work and assessing possible improvements in the performance of the systems. At this stage, the analysis must take into account the data provided by PWGSC in terms of future building occupancy (space densification and intended use);
- A text summarizing the main interventions required (preliminary update of the scope of work based on the detailed on-site assessment);
- Confirmed or adjusted project schedule and cost plan. Report on deviations from the work schedule and recommended corrective actions
- Written identification of problems, conflicts or other necessary information/assumptions to be considered in the development of the project
- A text describing the archaeological analyses already carried out on the site and the analyses to be included in this report;
- A text describing the industrial hygiene analyses already carried out on the site and the analyses to be included in this report.
- A text describing the soil and drainage conditions under and around the building and a summary description of future studies to confirm the assumptions.
- Identification of sustainable development strategies
- A text describing the MDB and PCI approach for the project;
- Category C estimate
- A draft of the main recommendations and different intervention scenarios considered, as well as a preliminary analysis of these different scenarios in order to identify an optimal intervention scenario;
- Preparation of Preliminary Commissioning Plan and specification sections
- Provide an analysis of the documentation provided regarding commissioning requirements. Risk Management Plan

Deliverables preliminary report (graphic support)

- Conceptual Design Drawings
 - a Architectural drawings
 - Building layout plan
 - Elevations of each of the facades following the 3D laser scan survey of the building;

- Floor plans (including basement, rotunda, chimney and roof) showing the location of the main mechanical installations and temporary layouts for each phase. The plans must include the 3D laser scan survey of the interiors and the adapted swing space plans.
- b Structural drawings
 - Plans, diagrams, sections and details detailing rehabilitation options
 - Proposed or alternative structural systems and a copy of the site investigation report on which the design is based.
 - System for taking up transverse loads
- c Mechanical drawings
 - Description of the main rehabilitation options, if any. All existing systems should be analysed and design solutions proposed, taking into account data on the swing spaces.
 - Plan of the survey of the original substations (IT, electrification, infrastructure (cables));
 - Preliminary electrification and IT plans (including outlets and equipment per substation) of all temporary substations for the two (2) phases of work.
- o Elements related to building data modeling (PCI and BIM) that meet the BIM objectives of the BMP.

This document should be submitted to the Project Manager for review and comments to be taken into consideration by the *consultant* and incorporated into the final report (see below).

RS 3 DESIGN DEVELOPMENT

3.1 Objective

Related to the objectives usually included in the design development :

- The purpose of this service is to further develop one or a combination of the intervention approaches presented in the conceptual studies phase. The approach selected for design development will require prior approval by PWGSC.
- Design development documents consist of drawings and other documents intended to describe the scope and nature of the project as a whole with respect to the elements relating to each of the disciplines covered by this project (see list of services PD 8), materials and other elements required if applicable.

3.2 Scope of services

3.2.1 General

In relation to the generalities usually found in design development (services required - RS 3), the *consultant* shall :

- Obtain written acceptance from the departmental representative for the development of one of the proposed intervention approaches or a combination of approaches;
- If changes are required, provide documentation to support all required changes, analyze the impact of the changes on all components of the project and resubmit the documents for approval if necessary;
- Develop and clarify the purpose of conceptual studies for each design discipline;
- Present design material to the client, design review committee or other committees as directed by the departmental representative;
- Submit the study to government or local authorities as appropriate;
- To analyse the capacity of the project and to give its opinion on the process of execution of the work and its duration;
- Analyze the implementation of electrical systems and IT networks for the electrification of temporary workstations (preliminary plans provided by PWGSC)
- Based on all the material available at this stage, develop a schedule of milestone events for consideration, with particular attention to the impact on tenants (see DP7.2);
- Continue to review all applicable laws, regulations, codes and municipal by-laws related to the design of the project;
- Provide a list and summary specification sections of all NMS sections to be used.

3.2.2 Final Report

The consultant will be required to provide a final report. All the information to be contained in the report is described in detail in the item below.

Thus, the consultant's team will have to :

- Prepare a final report (RS3) presenting all the information collected during the detailed assessment of the condition of the masonry and the structural, layout and mechanical assessments (all disciplines, see PD 8), and recommend an intervention approach that takes into account both an in-depth analysis of the data and all other factors that may influence the progress of a rehabilitation project of this scope (e.g., staggering of the work site over time, contractor mobilization costs, disturbance of occupants, occupation of the public highway, available funds, etc.). The intervention approach will also have to be based on the elements provided by PWGSC in the context of the redevelopment of spaces (blocking plan provided (.dwg) by PWGSC as part of the RS3 phase).

- Although the various approaches to intervention will have to be presented and explained, the objective is then to focus on the one that proves to be the most realistic and balanced, which takes into account the Department's willingness to carry out the necessary rehabilitation work to ensure the building's longevity, as well as the constraints specific to the context surrounding the building itself. This will require close coordination between the *consultant* team and the PWGSC Project Manager.
- In addition to the necessary texts, the final report should be the equivalent of advanced preliminary plans and specifications (see detailed list of items to be included in point 3.3 below), i.e. at least 50% final plans and specifications for tendering. They will therefore serve as a precise guide for the final preparation of the plans and specifications for the call for tenders. The final report must be sufficiently clear and complete to avoid being questioned or requiring additional checks that would delay the final preparation of the final plans and specifications for tendering.

3.3 Deliverables

This section incorporates the deliverables normally described in the RS 3. The final report must be bilingual, i.e. the document must be submitted in its original version and translated into the other official language (see also below under Additional Services AS1 - Bilingual Construction Documents). The text and accompanying photos and tables should be submitted in separate documents (one English and one French version). The plans will also have to be presented in two separate documents because of the large amount of information required (one English and one French version).

Throughout the life of RS3, the consultant must provide monthly progress, variance and variance reports related to the monitoring of detailed budgets and schedules to PD 7.1 and 7.2.

3.3.1 *Final Report*

In general, the *consultant will* provide a more detailed version of the draft report already submitted to the departmental representative in the form of a final report (100% pre-final discount for comments and a revised final discount (100%)) that will still present each of the options and further detail the recommended option. The overall objective is to further develop one of the options presented in the preliminary stages. In particular, and without limitation, the following elements should be considered to be provided:

a) Text

- A summary of the report (executive summary);
- A reminder of the mandate and context of this project;
- A text presenting the method used to prepare the report, the list of documents consulted, how the surveys, polls and inspections were carried out, with the dates, names and roles of the stakeholders involved;
- A synthesis of the analysis of the documentation provided/consulted (consultants must demonstrate their understanding of the composition of the building's framing, walls and the behaviour of this assembly as well as their understanding of the building's existing systems);
- A text setting out the main conclusions of the detailed assessment of the state of the envelope and the recommendations;
- A text presenting an in-depth analysis of the different intervention approaches envisaged, as well as the recommendation of an optimal intervention approach with all the necessary justifications;
- A text presenting, for each of the elements of the building envelope (roofs, roofing, flashings, masonry, rotunda, chimney, doors and windows, other openings, cast iron elements, copper elements, other elements attached to the façades, etc.) all the findings made with relevant supporting photographs. The causes of deterioration should be identified as far as possible or, at the very least, the most plausible

hypotheses should be presented. If the cause remains unknown, this should be clearly stated. This text should also include a detailed version of the summaries presented in the preliminary report on the building's structure and the composition of the masonry walls (comparison of plans and soundings) and the ventilation system (openings to be protected during work).

- The text should show that the findings and recommendations of the structural engineer and mason are well understood and that they have been integrated into the definition of an intervention approach.
- A text summarizing the particularities of the building's existing structural system and the composition of its masonry walls, comparing the reference documents and the results of the surveys carried out both from the exterior and interior;
- A text summarizing the particularities of the structural system resisting lateral loads and the conclusion of the tests carried out to confirm or invalidate the assumptions made in 2017. The text must also present the work required to bring the building up to seismic standards and a summary of the updated seismic analysis presented in the appendix. The work in the report must include both the work on the envelope and the work to be done on the interior (subsequent phase);
- A text describing the condition of the ground floor slabs/murets in detail (Canada Post area) and the recommended options and solutions;
- A text describing the various structures around the envelope and their impact on the Contractor's possible method of mobilization;
- A text describing the mechanical systems and its particularities, and evaluating the measures that will have to be put in place to protect certain openings from dust during the work (ventilation) and other measures for other disciplines;
- A text describing the temporary interior layout work that will be required according to the different options as well as the mechanical/network work required for this work, including temporary workstations, noise barriers to be installed and separations between the areas under construction and the office workstation areas of the temporary layouts. An update of needs/requirements (by sectors, by stations, by meeting rooms and others) in electrification and IT is required compared to the previous step;;
- A text summarizing the main interventions required (preliminary update of the scope of work based on the detailed on-site assessment);
- A detailed description of surface fouling. The various options for reducing fouling must be listed in detail and the optimal and acceptable solutions from a heritage point of view must be recommended;
- A text summarizing the particularities of the building's existing structural system and the composition of its masonry walls, comparing the reference documents and the results of the surveys carried out both from the exterior and interior;
- A text describing in detail the archaeological analyses already carried out on the site and the additional analyses carried out in this report concerning the work to be carried out in the project. The main conclusions and recommendations must be mentioned in the report with reference to the appendix. The archaeologist's report on the project must be attached as an appendix.
- A text describing in detail the industrial hygiene analyses already carried out on the building and the additional analyses carried out in this report concerning the work to be carried out in the project. The main conclusions and recommendations must be mentioned in the report with reference to the appendix. The report of the industrial hygiene specialist to the project must be attached as an appendix.
- A text on the sustainable development strategy. Take environmental protection strategies into account in the development of various intervention scenarios, including sustainable development, waste management and others. Conduct the environmental assessment and prepare the Canadian Environmental Assessment Act (CEAA) screening report (including comments on all proposed design options).
- A text describing the analysis of the project in relation to universal accessibility, the analyses as well as the modifications required on the envelope and accesses to comply with the standards in force.
- A text outlining the necessary interventions (updating the scope of work based on the detailed on-site assessment);
- A text describing in detail the BIM and IDS approach for the project;

- A revised schedule, explaining any deviations from the originally envisaged work schedule if necessary;
- An estimate of the cost of Category B work. It must be possible to distinguish between interventions that are aesthetic and/or functional in nature and those that are related to the integrity of the building;
- A revised and comprehensive risk management plan
- In appendix, a revised seismic analysis is attached as an appendix to the input to this document;
- In appendix, a revised seismic analysis following the input of this document and updated assumptions following the tests and surveys conducted in SR1/SR2 of this mandate;
- In the appendix, the reports on the following studies : Thermographic, Hygrothermal, Geotechnical and Hydrogeological Studies
- In appendix, Fire Protection Engineer's report including requirements, strategies or actions to ensure the protection of the building and its occupants.
- In the appendix, provide the archaeologist's report on the excavations carried out prior to the project as well as the archaeological excavations carried out in this project.
- In the appendix, provide the report of the industrial hygiene specialist on the tests/tests already carried out prior to the project as well as the tests/tests carried out in this project.
- Attached to the report is a preliminary cost estimate including a table of contents for the entire document, as well as the following detailed sections :
 - a) Site Facilities (and/or any other relevant sections regarding building and site specific constraints);
 - b) All relevant sections related to masonry repointing, as well as dismantling, repair (mortars and veneers), replacement and cleaning of stone in historic structures.
- A list of documents to be included in the project archives.
- Additional elements related to building data modeling (IPC and BIM) that meet the BIM objectives of the BMP.

Drawings related to building data modeling

b) Graphic support

A table listing all the stones (using the same numbering as on the plans and/or images produced as a result of the laser scan survey), their dimensions, the damage to them, and the intervention(s) required. The information should be presented at least as clearly and effectively as in the table provided as an example below (this table is not exhaustive and may be improved);

- b. Plate #2: The type of deterioration that affects each of the stones. For example, the legend can identify each type of deterioration by means of a colour;
- c. Plate #3: Areas where repointing of mortar joints is essential, for example, using a light grey screen if the information is presented on a drawing (rather than an image);

These plates must be submitted in hard copy in A1 format, as well as in electronic format.

- Perform the same exercise using a reflected ceiling plan for all overhanging parts of the building;
- On the same elevations, or on other elevations if clearer, number all doors and windows with reference to the table describing the deterioration noted and the repairs required, mentioned above;
 - Site plan showing the building and existing surrounding elements (access, parking, landing, special features and street furniture around the building, public roads, outside stairs, terraces nearby, buried utilities, and any other relevant elements/information to be taken into account when setting up site facilities);
- Floor plans encompassing all disciplines and showing in detail all the elements necessary to make all design decisions and to evaluate the cost of the project;
- Wall sections and relevant details of any particular intervention (architecture, structure, masonry) that, at this stage, require illustration or explanation (e.g. typical interventions, consolidation of the masonry mass).
- Phasing plans;
- Demolition plans;
- Surface fouling plans with recommended solutions;

Commissioning

- Define operational requirements.
- Define commissioning requirements.
- Discuss relevant sections of the NMS and present the Commissioning Plan
- Prepare a Commissioning Brief describing the major commissioning activities for testing of mechanical installations, electrical installations and integrated systems.
- Define and establish the specific documents to be included in the project archives.

Preliminary drawings (50%):

Architectural/civil design/landscape design

- Site plan showing the existing or proposed building and environmental features, including but not limited to :
 - Traffic routes: pedestrians, vehicles, public transport, service roads, parking lots, etc.
 - Earthworks: existing and proposed elevations.
 - Civil engineering: site drainage, details
 - Landscaping: Main planting areas and grassed areas. Where possible, indicate the relative location of buried utilities and proposed plantings. Specify the role of these plantings, e.g., wind cutting, screening, erosion control, etc.
- Floor plans of each floor showing all required spaces, including all required circulation areas, stairways, lifts, etc., and ancillary spaces provided for the purpose of service spaces. Define the areas that can be used as safety shelters. Indicate the building layout, modules, etc., and the dimensions of the main elements.
- Layout plan for furniture and equipment, including temporary workstations, noise barriers to be installed and separations between areas under construction and office workstation areas of temporary

layouts; Elevation views of all the external facades of the building showing all the elements of the envelope with the exact dimensions and interventions.

- Elevation views of all the external facades of the building showing all the elements of the envelope with the exact dimensions and interventions.
- Cross-sections through the building(s) showing floor levels, room heights, interior corridors, etc.
- Details of cross-sectional views of walls or any special design features that, at this stage, require illustration or explanation, including methods of fire protection.
- Architectural, civil engineering, carpentry and finishing details to determine the choice of materials and finishes.

Structural drawings

- Drawings showing the proposed structural elements, building materials, wall and exterior cladding restraint details, and any other significant or unusual details proposed. The drawings must be separate from the architectural drawings. Include a copy of the site investigation report for the site on which the design is based.
- Drawings showing the proposed structural elements, construction materials, ground floor slab and low wall restraint details (Canada Post area).
- Drawings showing the interventions concerning the lateral load bearing system proposed in 2 distinct phases as mentioned above.

Mechanical drawings

- Site plan showing the location of water supply, sanitary and storm sewer and utility service entrances, including all key invert levels.
- Drawings showing the initial size of the HVAC locations and the layout of all major equipment within the mechanical rooms.
- Item movement plan for both phases and the original item plan;
- Final electrification and IT plans (including outlets and equipment per substation) of all temporary substations for the two (2) phases of work.

These documents must be submitted to the Project Manager who will review them and provide comments that will be taken into consideration by the *consultant* and incorporated into the revised final report (100%). However, PWGSC expects the *consultant* team to conduct a thorough quality check of all documents submitted. Any documents or parts of documents that are not of satisfactory quality to PWGSC will be returned immediately to the *consultant* for correction and return of revised documents within 72 hours. This applies to **ALL** deliverables described in the Required Services (RS) and Additional Services (AS) sections.

The submission of the revised (100%) final report to the satisfaction of the Departmental Representative completes Step 1 of the project, as previously described in the implementation strategy and schedule.

Five (5) days following the submission of the RS3 final report, the Consultant shall schedule a specific meeting (in addition to the meetings already mentioned) with SPC and the PWGSC IT expert. SPC shall provide its requirements to the experts for the design of the IT network architecture and its other requirements at that time.

SR 4 CONSTRUCTION DOCUMENTS

4.1 Objective

To prepare drawings and specifications setting forth in detail the requirements for the construction and final cost estimate of the project. Construction documents shall be elaborated based on the proponent's final report, described in the previous section (RS3 - Design Development), and which is equivalent to advanced preliminary drawings and specifications (meaning final drawings and specifications for tenders at least at 50%).

- 75% indicate that the technical development of the project is fairly advanced - i.e., specifications, bills of materials, details and more elaborate architectural and engineering plans.
- 99% indicates the submission of complete implementation documents in preparation for the tender and submission to local authorities for review prior to applying for the required permits.
- 100% indicates the submission of complete execution documents in preparation for the call for tenders and the final presentation before signatures and seals are affixed;
- The final submission (for tender) incorporates all revisions required as a result of previous versions (99% and 100%) and is intended to provide PWGSC with a complete version of the signed/sealed working documents for the purpose of posting the solicitation.

4.2 Generalities

Activities are similar at all three stages; completeness of the project development should reflect the stage of a submission.

4.2.1 *Scope of Work*

- Obtain Project Manager approval for documents submitted at all stages of design development (75%, 99%, 100% and final (for submission)).
- Confirm the format for submitting drawings and specifications.
- Specify, if necessary, or reiterate the specific methods selected in the final report (i.e., phased delivery of the work).
- Submit drawings and specifications at the required stages (75%, 99%, 100% and final for submission) for all disciplines listed in PD 8.
- Provide a written response to all review comments and incorporate them into the construction documents as appropriate.
- Use the Quebec Region specific OHS and schedule specifications (not the NMS for these 2 parts). The basic specifications for these two parts will be provided by the departmental representative. Update the project schedule.
- Inform on the status of cost estimates and present updated cost estimates as the project progresses.
- Review specifications for construction materials and processes and confirm that they meet sustainable development objectives.
- Review plans and specifications
- Update the contractor's project schedule and provide :
 - The list of minimum tasks to be included in the Contractor's basic schedule.
 - all activities, milestones, critical deadlines.
 - items with a long delivery time.
- Prepare and provide the updated risk management plan.
- Prepare a revised Category B estimate with the 75% discount and a final Category A estimate with the 100% discount.
- Submit the mock-up and all documentation related to the IDS/BIM at each remittance.

Throughout the SR4 phase, the Consultant shall provide monthly reports on budget and schedule tracking details to PD 7.1 and 7.2 in addition to the specific discounts described below.

4.3 Scope of work and services

4.3.1 *Technical information and production meetings (once a week)*

- The production of implementation documents will be reviewed at these meetings organized by the departmental representative and the *consultant*.
- Representatives of the client department(s) and PWGSC support staff must attend meetings arranged by the Project Manager.
- The *consultant* shall ensure that staff members and representatives of sub-consultants attend technical and production briefings.
- The *consultant* must make arrangements to provide all required data, progress diagrams, etc. The *consultant* must also provide a copy of the project plan.
- The *consultant* shall prepare minutes of the meetings and distribute copies to all participants.
- L'expert-conseil doit intégrer, dans les plans et devis, les nouveautés qui auront été décelés aux inspections et travaux d'urgence réalisés par BGIS entre l'inspection initiale du présent projet et la réalisation de la présente étape du projet.

4.3.2 *Progress Review*

- As working drawings are developed, submit drawings, bills of materials, details, relevant calculation data and an updated project cost plan and schedule as required.
- Submit the quotation and a table of contents for the sections of the quotation. The specification shall consist of typed and annotated PWGSC edited NMS sections, PWGSC Master Specification sections and NMS sections, except for 2 sections (see SR4.2.1).

4.4 Deliverables

The deliverables are similar at all steps; the step of project development should correspond to the stage of the submission being addressed.

For electronic copies, native files are required (Word, revit, autocad, mpp and other files). .dwg files must be cleaned up and submitted in addition to the revit files.

4.4.1 *Revised Final RS3 Report Following Emergency Inspections and Repairs Conducted by BGIS*

- Revised final report.
- The final approved RS3 report submitted in the previous stage must be reviewed in light of the emergency inspections and repairs performed by BGIS between the consultant's inspection at the beginning of the project and the completion of the plans and specifications.
- This report may be revised in parallel with the 75% submission and submitted at the same time.

4.4.2 *75% Presentation :*

Complete draft specifications and working drawings.

- Particularly for swing space layouts, the plans should at a minimum include furniture, IT socket symbols, electrical outlets, columns, IT rooms, cable trays and others. In addition, SPC's IT requirements should be included following the final SR3 submission.
- Draft technical data to be respected (reference samples for materials, colours or other).

- Draft Location Data
- Draft design criteria, studies, etc., required by PWGSC Technical Services for final verification and archiving.
- Updated draft project cost and schedule plan.
- Draft final risk management plan.
- Revised Class B construction cost estimate.
- Progress reports and variances in estimates.
- BIM presentation and documentation according to the BIM objectives listed in the BMP
- Commissioning plan 75% complete and facility operations manual.

4.4.3 99% presentation :

This presentation incorporates all revisions required as a result of the 75% revision of the presentation. Provide the following:

- Complete specifications and working drawings.
- A copy of the technical data to be respected (reference samples for materials, colors or other).
- A copy of the location data
- A copy of the design criteria, studies, etc., required by PWGSC Technical Services for final verification and archiving.
- A copy of the updated project cost plan and schedule.
- A copy of the updated risk management plan.
- Progress reports and variances in estimates.
- BIM presentation and documentation according to the BIM objectives listed in the BMP
- Commissioning plan 99% complete and facility operations manual.

All of the above discounts must include comments on the 75% presentation.

4.4.4 100% presentation :

- Complete set of working drawings.
- Complete sets of the quotation.
- Estimated Class A construction costs.
- Final Risk Management Plan for RS4.
- Updated project calendar.
- Complete set of technical data to be observed (reference samples for materials, colors or others).
- Progress reports and variances in estimates.
- BIM presentation and documentation according to the BIM objectives listed in the BMP
- Commissioning plan and facility operating manuals

All of the above discounts must include comments on the 99% presentation.

4.4.5 Final Presentation :

This presentation incorporates all revisions required as a result of the 100% revision of the documents produced.

- Complete set of execution drawings signed and sealed.
- Complete sets of the signed and sealed quotation.
- Estimated Class A construction costs.
- Final Risk Management Plan for RS4.
- Updated project calendar.
- Complete set of technical data to be observed (reference samples for materials, colours or others).

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Amd. No. - N° de la modif.
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QCM039

Client Ref. No. - N° de réf. du client
R.069144.102

File No. - N° du dossier
MTC-9-42118

CCC No./N° CCC-FMS No./N° VME

- Progress reports and variances in estimates.
- BIM presentation and documentation according to the BIM objectives listed in the BMP
- Commissioning plan and facility operating manuals

All of the above discounts must include comments on the 100% presentation.

As a safeguard against loss or damage to original documents, keep a complete set of drawings in reproducible form and a copy of the specifications.

Presentation to PWGSC Review Committee

- Following the 75% and 99% submissions, schedule three (3) meetings with the PWGSC Review Committee to provide an update on comments and guidance.
- Submit the required plans and specifications to the PWGSC review committee for approval prior to solicitation.

PWGSC expects the proponent's team to perform a thorough quality review of all documents submitted. Documents or portions of documents for which PWGSC will consider the quality to be inadequate will be immediately returned to the proponent, who will have to perform the appropriate corrections and submit the revised documents within 72 hours.

RS 5 TENDER CALL, BID EVALUATION & CONSTRUCTION CONTRACT AWARD

5.1 Objective

To obtain and evaluate bids from qualified contractors to construct the project as per the Tender Documents. To award the construction contract according to government regulations, including Federal Rules for Bid Depositories.

5.2 Generalities

Scope of Work :

- Attend information meetings for bidders.
- Draft addenda, including their appendices (in both official languages) on the points raised during these meetings, to be distributed by the departmental representative.
- Answer questions issued during the bid solicitation and submit them to the procurement officer who will respond to the bidders.. Maintain the question and answer log. Questions will be forwarded by the Departmental representative.
- The questions and answers will have to be translated into both official languages by the consultant.
- Provide the Departmental Representative with all the information bidders need to properly interpret the construction documents. The Departmental Representative will provide this information to all participants (bidders) in the form of addenda.
- Keep complete notes of all enquiries made during the bidding period and submit them to the Project Manager at the end of the period for inclusion in the PWGSC file.
- Participate in the evaluation of bids by providing advice on the following:
 - the completeness of the submission documents in all respects;
 - the technical aspects of the bids;
 - the impact of alternative options and expertise that may have been included in the bid;
 - the ability of bidders to carry out the full scope of work;
 - the availability of adequate equipment to carry out the work.
- If PWGSC decides to re-tender, provide advice and assistance to the departmental representative.
- Review and amend the working documents to bring the cost of the work below the established limits.
- Identify and report any impact of tender or contract addenda on project cost and schedule.
- Provide a revised project estimate at the end of the addendum period prior to the bid opening date.

5.3 Deliverables

- Original documents of drawings and specifications issued for construction
- Electronic copies of drawings and specifications (3D revit file and 2D autocad).
- Addenda and annexes translated.
- Questions and answers translated.
- Changes to the documents, if a new tender is required.
- Updated cost estimate.
- Updated project schedule.
- Updated risk management plan.
- Progress reports and final variances on estimates and timelines.
- BIM presentations according to the BIM objectives listed in the BMP.

RS6 CONSTRUCTION AND CONTRACT ADMINISTRATION

6.1 Objective

To implement the project in compliance with the Contract Documents and to direct and monitor all necessary or requested changes to the scope of work during construction.

6.2 Generalities

- During the implementation of the project, perform the services required by the Departmental Representative to the extent set out in this document.
- Review work in progress at appropriate intervals to determine whether it conforms to the contract documents.
- Keeping PWGSC informed of the progress and quality of the work, and reporting any errors and deficiencies in the work identified during the on-site review.
- Determine the amounts owing to the contractor based on the progress of the work and certify payment of those amounts to the contractor.
- Interpret the requirements of contract documents.
- Provide advice on all aspects of project costs during construction.
- Notify the departmental representative of any possible changes to the scope of work during project implementation.
- Review the documents submitted by the contractor.
- Prepares notices of proposed changes (signed and sent to the contractor by the Departmental Representative), negotiates costs and recommends acceptance of additional charges to the Departmental Representative.
- Support the Departmental Representative in the creation of Change Orders (CAs). Change Orders will be created and distributed by the Departmental Representative with the support of the consultant.
- Indicate any changes or substitutions of material/equipment on the project's archival records.
- During the twelve (12) month warranty period, investigate all defects and allegations of non-performance and issue appropriate instructions to the Contractor.
- Carry out the final review of the warranty.

PWGSC will provide the consultant and the contractor with the necessary official forms templates.

6.3 Special features

Scope of Work :

6.3.1 *Pre-construction briefings*

- Immediately after contract award, convene a briefing meeting with the contractor and the Departmental Representative. Prepare minutes of the meeting and distribute copies to all participants and others approved by the Departmental Representative.
- Convene site meetings as often as necessary (minimum of one meeting every two weeks), starting with the pre-construction briefing. In addition to the PWGSC Project Manager, the following individuals should participate in the meetings: general contractor foreman, *consultant* project manager, *consultant* site supervisor, major subcontractors, affected sub-consultants and Supply Operations representatives as required. Prepares minutes of meetings and distributes copies to all participants. The departmental representative may invite client departments to attend any of these meetings.

6.3.2 *Project Schedule*

- As soon as the construction contract is awarded, obtain the project schedule and ensure proper distribution.
- Review the contractor's scope of work and methods of delivery, and verify the adequacy and accuracy of the schedule against the schedule prepared prior to contract award. Formally report its findings and recommendations to the Departmental Representative;
- Verify that the construction work is proceeding according to the approved schedule, take the necessary steps to ensure that the schedule is adhered to, and submit a detailed report to the Departmental Representative regarding delays.
- Maintain an accurate record of the causes that cause these delays.
- Make every effort to assist the contractor in keeping the project on schedule.
- Use the Scheduling Analysis Specialist to support the Senior Consultant.

6.3.3 *Extension of time limits*

- Only the Departmental Representative may approve a request for an extension of the deadline. The Project Manager will issue a written authorization to this effect.
- The consultant must only make recommendations on this subject, always based on the contractor's critical schedule.

6.3.4 *Cost Breakdown*

- Prior to contract award, analyze the detailed breakdown of the single lump sum cost submitted in accordance with the breakdown requested in the quotation and submit it to the Departmental Representative no later than (3) days after receipt to recommend award to PWGSC Procurement Services. This breakdown will be the same as the one used in the first Request for Payment and all subsequent Requests for Payment.

6.3.5 *Replacement of subcontractors*

- The Contractor is required to employ subcontractors who are on the list provided by the Contractor following bid opening unless the Departmental Representative authorizes a replacement. Subcontractor replacements must, among other things, be analyzed in a context where they target key project disciplines (e.g. heritage and related sub-disciplines) and could affect technical compliance. No increase in cost is acceptable in the context of a subcontractor replacement initiated by the contractor. Review all subcontractor replacement requests and make recommendations to the Project Manager.
- In cases where subcontractors have not been included in the list provided above, obtain the list of subcontractors from the Contractor no later than 10 working days after the date of contract award.

6.3.6 *Labour requirements*

- The Contractor is required under the Contract to employ competent and experienced workers throughout the duration of the Project and to comply with the terms and conditions of employment issued by Human Resources and Skills Development Canada. Inform the Departmental Representative whenever a labour or working conditions situation appears to require corrective action by the Departmental Representative.
- The *consultant* shall ensure that a copy of the working conditions has been posted in a conspicuous place on the job site.

6.3.7 *Compliance with Municipal By-Laws*

- Ensure that construction complies with applicable by-laws and regulations. Questions should be referred to the Departmental Representative.

6.3.8 Construction safety

- Any work site on a construction project where federal employees are present during the work must comply with the *Canada Occupational Health and Safety Regulations*.
- Fire safety measures during construction must comply with FC 301 and 302 standards administered by the Federal Fire Commissioner.
- In addition, the Contractor shall comply with all applicable safety laws and municipal by-laws as well as all directives issued by officers belonging to organizations with expertise in the field of worksite safety (refer to the relevant sections of the specifications and, in particular, to the PWGSC health and safety provisions specific to the Quebec Region).
- Ensure that the contractor has obtained approval to coordinate, isolate, protect and re-commission fire protection and fire suppression systems during construction. Report to the Property Manager when these systems will be decommissioned and when they are scheduled to be returned to service. Verify that the contractor has obtained approval from the Fire Marshal to provide a monitoring service as per FC 301.
- Require the contractor to provide an update at each site meeting on its construction safety follow-up actions. Support site stakeholders in the analysis of proposed work methods and daily site safety audits.

6.3.9 Site visits

- Provide work inspection services other than ongoing site inspection services. Ensuring that the work conforms to the contract documents.
- Ensure the services of qualified people who are fully aware of the technical and administrative requirements of the project.
- Make a written agreement with contractors as to which stages or aspects of the work are to be inspected before recovery.
- Assess the quality of the work and report in writing to the Contractor and the Departmental Representative any defects in workmanship and deficiencies found during these inspections.
- Inspects materials, prefabricated assemblies and components at the point of supply or manufacture as required to ensure progress.
- Submit any deficiency list, direction or clarification in writing to PWGSC.

6.3.10 Clarifications

- Provide clarification on plans and specifications or site conditions as required to ensure that the project is not delayed.

6.3.11 Progress Reports

- Inform the Ministerial Representative regularly on the progress of the work. To this end, submit reports once a week. These written reports should be clear and concise, presented in an 8 ½ x 11 format, and illustrated with photos. They must briefly recall the main activities carried out by the general contractor and its subcontractors during the week, clearly present any issues or problems arising from the work, as well as the changes and/or solutions considered and/or implemented, and their impact on the quality of the work, the project schedule and costs. The percentage progress of each part of the project (elevations, each sector and type of masonry cladding, doors and windows, interiors, etc.) must be detailed and separated into sectors. It is imperative that the photos submitted include the date and time they were taken.

6.3.12 *Measurement of work*

- If the work is based on unit prices, measure and record quantities for verification of monthly progress claims and the final certificate of measurement.
- In general, PWGSC expects the consultant to handle quantity tracking rigorously and close monitoring will be done by the departmental representative. Prior to the commencement of work, present to the departmental representative the tools developed for quantity tracking for the project. These tools must be accepted by the Departmental representative before work begins.
- Where a Notice of Proposed Change is to be issued based on unit prices, maintain an accurate record of the work. Record dimensions and quantities.
- The Departmental Representative must be notified as soon as a unit payment exceeds a 75% payment advance and/or if it is agreed that a scheduled quantity will possibly be exceeded. No payment for an item will be made in excess of 100% unless a Contract Amendment Authorization is prepared by the Departmental Representative and signed by the financial delegation holder.

6.3.13 *Detail drawings*

- Submit drawings for information to the Departmental Representative containing additional details, as required, to further interpret or clarify the contract documents.

6.3.14 *Shop drawings and data sheets*

- During the project, all shop drawings and data sheets can be exchanged in electronic format (PDF).
- Upon completion of the project, forward three hard copies and one electronic PDF copy of the revised shop drawings and data sheets to the Departmental Representative. Ensure that the project number appears on the shop drawings and that they are filed in order.
- Check the number of copies of shop drawings and data sheets required. Consider additional copies for review by client departments. Ensure that shop drawings and specifications are stamped "verified and certified for construction" by the contractor and "reviewed" by the *consultant* before being returned to the contractor.
- Ensure shop drawings are signed/sealed by an engineer when they do not accurately represent a detail already signed/sealed to the construction drawings.
- No request for material substitution should be processed via shop drawings only. If a substitution is requested as part of the shop drawing submission, analyze the substitution and make the recommendation to the departmental representative. If applicable, complete the required proposed change notice to formalize the substitution. No monetary implications will be accepted in the context of a material change resulting from a contractor's request, notwithstanding the cause of the proposed change.
- Ensure that the processing of shop drawings and data sheets required for the work is carried out in a proactive manner.
- Prior to the site start-up meeting, provide a list of required shop drawings to the Departmental Representative and the contractor to ensure progress of the work.

6.3.15 *Inspection and Testing*

- If necessary, the *consultant will* have to obtain the services of firms specializing in different inspections and tests.
- Prior to soliciting bids or quotes from sub-experts, provide the Departmental Representative with a list of tests that should be performed, including field and plant tests.
- Ensure that all tests to be carried out are indicated in the commissioning plan.
- Review all test reports and take appropriate action with the contractor in cases where the work does not conform to the contract documents.

- Immediately notify the Departmental Representative when testing demonstrates that the work does not meet the project requirements and that the required corrective work will affect the work schedule.

6.3.16 Training

- If necessary, the *consultant will* have to obtain the services of firms specializing in different training courses.
- Before going out to tender, provide the Ministerial Representative with a list of training courses that should be taken. This training should be part of the commissioning plan.

6.3.17 Change in work

- It is not the responsibility of the *consultant to* change the work or the contract price.
- All changes that affect the cost of the project or conceptual studies must be approved by the Departmental Representative.
- Upon approval of the Departmental Representative, request the contractor, through a Notice of Proposed Change, to submit a detailed quotation. Review the quotation, negotiate with the contractor if required and make recommendations to the Departmental Representative immediately. No additional work should be undertaken until the overall change of work procedure outlined in this section has been completed.
- Carry out all negotiations related to the proposed changes with the contractor, involving the departmental representative at all times. Consider that proposed modifications may require a sustained effort to obtain a settlement.
- The Departmental Representative will issue change orders to the contractor confirming approval of the quotation and will provide a copy to the *consultant*.
- All changes, including those that do not affect the cost of the project, must be described in change orders.

6.3.18 Progress Claims Submitted by the Contractor

- Each month, the contractor must submit a progress claim for work and materials as required by the construction contract.
- Applications should be made by completing the following forms where applicable:
 - Request for progressive payment.
 - Breakdown of costs for unit price or combined price contracts.
 - Cost breakdown for lump sum contract.
 - Statutory Declaration - Request for partial payment.
- Review and sign the identified forms and forward them promptly to the Departmental Representative for processing.

6.3.19 Acceptance Committee

- The *consultant* shall inform the Departmental Representative when satisfied that the work is substantially completed. The consultant must ensure that the consultant's representative, the representative of the consultant's sub-consultants, the site supervisor and the representative of the consultant's sub-consultant, the contractor and representatives of major subcontractors are an integral part of the project acceptance committee and attend all meetings arranged by the Departmental Representative.

6.3.20 *Inspection upon Substantial Completion of the Work*

- The Acceptance Committee must inspect the work and record all unacceptable or incomplete work on a designated form. The committee must then approve the project as executed by the contractor subject to the removal of defects and completion of the listed and evaluated incomplete works. The list of incomplete work and deficiencies must be forwarded to the departmental representative. Through this list, it must be possible to differentiate the costs of the work to be completed and deficiencies separately.

6.3.21 *Certificates of Substantial Performance*

- In order for this payment to be made, the parties concerned must complete and sign the following documents:
 1. Certificate of Substantial Performance
 2. Cost Breakdown for Fixed Price Contract
 3. Cost breakdown for unit price or combined price contracts
 4. Inspection and acceptance
 5. Statutory Declaration - Certificate of Substantial Performance of Work
 6. Certificate from the Commission de la santé et de la sécurité du travail (CSST).
 7. Verify that all items are properly recorded and ensure that the completed documents and all supporting documentation are submitted to the Departmental Representative for processing.

6.3.22 *Building Occupancy*

- The Departmental Representative or Client Department may occupy the building in question after the date of substantial completion of the building by the Acceptance Committee. The date of acceptance normally corresponds to the date of issuance of the Certificate of Substantial Performance by the contractor. On the date of such acceptance, the Departmental Representative or Client Department (as applicable) will assume responsibility for the following :
 - The security of the structure(s);
 - General maintenance and cleaning of the structure(s);
 - The maintenance of the premises, the proper operation and use of the equipment installed as part of the project (with the exception of the maintenance of the landscaping provided for in the contract).

6.3.23 *Operations and Maintenance Data Manual*

- 4 sets of each volume prepared by the contractor and verified for completeness, adequacy and format by the architectural, mechanical and electrical consultants, must be submitted to the Departmental Representative. These copies must be submitted prior to provisional acceptance or actual commencement of work and the training period, whichever comes first. The Contractor shall retain one copy of each volume for its own records and use during the training period.

6.3.24 *Instruction of Operating Personnel*

- Arrange for and ensure that departmental operations staff are properly instructed in the operation of all services and facilities, using the final manuals as a reference. The consultant should provide training sessions, as required, on the design intent and operation of the facilities. Use the facility operations manual for training sessions.

6.3.25 *Keys*

- Ensure that all keys and lock combinations are provided to the Departmental Representative and/or client department, as applicable.

6.3.26 *Inspection upon completion of work*

- The *consultant* is required to inform the Departmental Representative when satisfied that all the work set out in the construction contract has been completed, and that the deficiencies and deficiencies to be completed listed on the Inspection and Acceptance Form following the Substantial Completion Inspection have been corrected. The Departmental Representative then requests the Acceptance Committee to conduct a final inspection of the project. If all the work has been completed to the satisfaction of the committee, the committee definitively accepts the project completed by the contractor.

6.3.27 *Certificate of Completion*

- For the final payment to be made, the parties concerned must complete and sign the following documents:
 1. Certificate of Completion
 2. Cost breakdown for lump sum contract
 3. Inspection and acceptance
 4. Statutory Declaration - Certificate of Completion
 5. Cost breakdown for unit price or combined price contracts
 6. Clearance certificate from the Commission de la santé et de la sécurité du travail (CSST)
 7. Inspection certificate from the power company.
- Verify that all items are properly recorded and ensure that the completed documents and all supporting documentation are submitted to the Departmental Representative for processing.

6.3.28 *Support*

- Formal ownership of the project, or parts of the project, completed by the contractor is determined by the PWGSC project team, which includes the *consultant* and the client department. The date of the Departmental Representation signature signify the commencement of the 12-month warranty period for work completed on the date shown on each certificate, in accordance with the General Conditions of the contract.
- Provide the Departmental Representative with the original copy of the Contractor's warranties for all materials and work covered by an extended warranty in accordance with the terms of the specifications. Verify their completeness and extent of coverage.

6.3.29 *Final plans and specifications*

- After taking over the work, obtain from the contractor an annotated hard copy of the as-built drawings showing :
 - Significant deviations in construction from the original contract documents, including changes indicated on post-contract drawings and changes resulting from change orders or site instructions.
- Verify the completeness and accuracy of all as-built records and submit them to PWGSC.
- Prepare final plans by incorporating the finished work information into project drawings.
- Submit final drawings and specifications in the number and format required in the Consultant Services Agreement within [8] weeks of final completion of the Work.
- Provide a complete set of final shop drawings in paper and in usb support.

6.4 **Deliverables**

- Written reports on site visits, including the names of those involved.
- Written progress and cost reports at the end of each month.
- Drawings containing additional details, where necessary, to interpret and clarify benefit or to supplement construction documents.
- Drawings after contract award.
- Certificate of Substantial Performance and Certificate of Completion, as well as a list of the work to be completed and the related corrective measures to be taken.
- Post-execution records.
- List of defects covered by the warranty.
- Report on the final review of the guarantee.
- Report on commissioning activities.
- Environmental Assessment Grid
- Final plans (in .pdf, .dwg, .rvt. formats)
- Quotation for construction in Word format
- Site guidelines, MPAs (proposed amendments) and tracking tables
- Progress settlements and supporting document/calculation notes
- Minutes of meetings
- Photos are dated and filed for easy tracking and reference.
- Spare parts list (if required)
 - Commissioning plan
 - Commissioning manual
 - Commissioning sheets
 - Single line diagrams
 - Completed inventory sheets for the preventive maintenance system
- Final BIM mock-up and any complete final documentation regarding building data modelling, according to the MDB objectives listed in the BMP.
- Other relevant documents

RS 7 COMMISSIONING THE SYSTEM

As a member of the PWGSC team, the Commissioning Manager represents the interests of the Owner and User, and as such is responsible for all commissioning activities during the development, construction and post-construction periods of the project. During this phase, the Consultant and its site representatives shall work closely with the Commissioning Manager, PWGSC and the Contractor to carry out the commissioning activities and produce mutually coordinated drawings, reports and manuals in accordance with the Contract documents. The consultant shall designate a Commissioning Agent from among its members and the Commissioning Agent shall meet the requirements described in this document.

Regulatory requirements and guidelines

The project, services and commissioning documentation shall comply with the standards, policies and guidelines set out below, if required by the scope of work.

- PWGSC Commissioning Manual (CP.1)– 4th edition – November 2006
- PWGSC Commissioning Guidelines CP.3 to CP.13.
- CSA Z320 Building commissioning standards and checklists
- ASHRAE Guideline 0
- Commissioning process
- ASHRAE Guideline 1
- The HVACC commissioning process.

Applicable codes and standards, policies, guidelines, construction and design documentation requirements

The list provided below is not exhaustive. The consultant must perform the work in accordance with all laws, codes and regulations in effect at the time of project implementation. The Consultant shall notify PWGSC formally and in an appropriate manner when it receives instructions that contravene any law, code, regulation, statute or other requirement under any applicable law.

- Part II of the Canada Labour Code - Occupational Health and Safety.
- Canada Occupational Health and Safety Regulations.
- PWGSC Health and Safety Policies and Procedures
- Provincial Occupational Health and Safety Act and Regulations
- Provincial Construction Safety Code
- All provincial health and safety regulations.
- National Building Code of Canada (NBC)
- National Fire Code of Canada
- Provincial building code
- National Fire Protection Association (NFPA) Standards
- Canadian Environmental Protection Act (CEPA)
- Canadian Environmental Assessment Act (CEAA)
- Canadian Electrical Code (CEC) - CSA C22.1
- CAN/ULC S1001-11 - Standard for the Integrated Testing of Fire and Life Safety Systems
- National Performance Standards for Office Buildings (NPS) - PWGSC - May 2016.
- ANSI/ASHRAE/IES 90.1-2013 -- *Energy Standard for Buildings except Low-Rise Residential Buildings.*
- ASHRAE standards, manuals and guidelines.

The commissioning program, services and documentation for the safety and fire protection of the systems must also comply with the following standard. - CAN/ULC S1001-11 - Integrated Testing of Fire Protection and Life Safety Systems.

The most current version of the NMS should be used as the basis for the commissioning specifications section of the project manuals for all future construction and renovation work performed by or for PWGSC.

In the preparation of the commissioning sections, the latest version of the National Master Specification (NMS) shall be used to the maximum extent applicable, in accordance with departmental policy and subject to the Consultant's prime responsibility for the content of the Construction Project Specifications. The NMS shall be amended as necessary to generate a project manual that is tailored to the particular circumstances of the project and free from conflict or ambiguity.

7.1 Roles and Responsibilities

The Consultant has overall responsibility for project design, contract documents, project delivery and compliance with applicable regulations, codes, standards and requirements.

During the planning step (Step 1), the project consultant reviews the project's statement of requirements and reference documents that specify the project objectives and functional and operational requirements. The consultant conducts its investigation and prepares the appropriate documentation. During the Design Phase (Step 2), the consultant prepares the contract documents and integrates the commissioning requirements, prepares and presents the design basis, coordinates the required interfaces between assemblies, systems and divisions within the various trades, and reviews and integrates, as appropriate, the comments of the Commissioning Team from the review of the submitted documents. During the Delivery, Acceptance and Close-out phase of the project (Step 3), the consultant participates in the training of operations and maintenance personnel, reviews and comments on test procedures and test reports.

The Commissioning Agent is a member of the Consultant's team and is responsible for the development, implementation and maintenance of the project specifications and Commissioning Plan, commissioning documentation and commissioning reports. The Commissioning Agent also organizes and monitors commissioning activities. The Commissioning Agent also organizes and monitors commissioning activities and directly supervises the performance of all commissioning inspections, verifications and tests on site. The Commissioning Agent collects commissioning data, prepares reports and submits them to the Commissioning Authority. The Commissioning Agent provides a regularly updated Commissioning Problem Register to the Commissioning Authority. The Commissioning Agent consolidates the final commissioning documentation and submits the manual and the Final Commissioning Plan to the Commissioning Authority for review and acceptance, and recommends acceptance of assemblies, systems and equipment for the project. The Commissioning Agent is responsible for the scope of commissioning and services to be performed and applies to each new, modified and existing system (when interconnected and/or integrated with new or modified systems) and project-specific equipment to the satisfaction of the PWGSC Commissioning Oversight Representative. Unless otherwise specified, the sampling rate shall be 100% of the systems and equipment involved.

The contractor is responsible for construction and installation in accordance with the requirements of the contract. With respect to commissioning, the Contractor is responsible for coordinating and performing the commissioning inspection, pre-start-up verification and performance checks in accordance with the Contract documents and commissioning specifications, and for providing the results or data and commissioning documentation to the Commissioning Agent. The Contractor shall also establish the Commissioning Schedule and coordinate the commissioning activities and the work of the Subcontractors.

7.2 Required services during step 1 (RS1 – RS3)

7.2.1 *Commissioning Team*

- Review the Project Requirements documents, including the Commissioning Requirements and Scope of Commissioning Work document for the Consultant.
- Develop analysis reports according to PWGSC procedures and respond to comments from the Commissioning Supervision Manager.
- Submit the Design Parameters to the Departmental Representative.
- Consider operational and maintenance requirements in the development of options in the conceptual studies.
- During the survey phase (Step 1), ensure inspection of all electromechanical systems as well as the existing SDC system. Verify if there are any changes to be made to the control sequence to improve system efficiency.
- Validate the capacity of the existing systems according to the planned refurbishments.

7.3 Required services during step 2 (SR4, SA1)

7.3.1 *Commissioning agent*

- Attend the Commissioning Initiation Meeting with the PWGSC Commissioning Oversight Representative and the Project Manager to review the project scope and commissioning scope and establish a line of communication and commissioning standby according to the Commissioning Agent's commissioning scope identified in this document.
- Review Owner's Requirements, Basis of Design, Analysis Report and Preliminary Project Design.
- Develop and update the Commissioning Plan for the Design Phase (Step 2). The Commissioning Plan should address all items, equipment and systems requiring performance verification. Submit to the PWGSC Commissioning Oversight Representative.
- Commissioning Plan will be included as an appendix to section 01 91 13.13 of the NMS Commissioning Plan as part of the bid solicitation.
- Prepare and update the Design Phase Commissioning (Step 2) specification sections (01 91 13, 91 13.16, 01 79 00.13) using the latest NMS version with the consultants for design progress. The commissioning specifications shall include detailed descriptions of the responsibilities of all parties, including the contractor, subcontractors, manufacturers and performance test contractors for all commissioning activities; reporting and documentation requirements, including formats; alerts for coordination problems; Commissioning problem log and corrective actions; pre-functional checklists and pre-start-up checklists; functional test requirements and procedures; instrumentation and test equipment requirements; acceptance criteria for each assembly, equipment and system forming part of the Work.
- At each of the Design Phase Progress Presentations (Step 2), review and comment on the plans and specifications for completeness in all aspects of the commissioning process and operational functionality. This also includes the review of plans and specifications for conformance with project requirements and industry standards for installation type, coordination and constructability. Provide recommendations to improve functionality, efficiency, operability, maintenance and cost savings. Report any potential issues regarding the design submission and the CX process to the PWGSC Oversight Representative.
- Develop commissioning forms for assemblies, equipment, systems and the project, including, as appropriate, pre-functional checklists*, pre-start-up checklists*, procedures and report templates for performance checks, and procedures and report templates for functional testing of integrated systems*. These requirements apply to all equipment and systems to be commissioned specified in the Scope of Commissioning. Include the forms as Commissioning Forms in section 01 91 13.16 Commissioning - Forms.
- Develop a strategic automation system trend plan for inclusion in the Commissioning Plan and submit to the PWGSC Commissioning Monitoring Representative for review and comment.

- Verify and confirm the adequacy and completeness of the requirements for Testing, Adjusting and Balancing (TAB) of HVAC facilities as well as other relevant equipment and system requirements and field quality control
- Develop a Commissioning Problem Log for use during the construction, acceptance and closure phases of the project (Step 3).
- Verify and confirm that the contract and design documents include all devices, components and instrumentation required to perform commissioning and adequately document the performance of each equipment, system and assembly.
- Verify and confirm that all relevant equipment and systems are clearly identified within their respective specification sections.
- Coordinate the integration of commissioning process requirements, commissioning plans and specifications and commissioning forms into the project specifications with the consultant or design professional.
- Develop a list of alternative documents identified in the specification document to ensure that the documents are provided to the Operations Team at the end of the project.
- Develop a list of seasonal deferred tests requiring performance verification tests with actual load.

7.3.2 *Commissioning team*

- Identify on the 75% Drawings presentation, the CMMS (Computerized Maintenance Management System) numbers of equipment parts that have been removed or modified.
- Incorporate any comments provided by the Departmental Representative into each of the Construction Document Deliverables (RS4)
- Include project-specific NMS (National Master Specification) commissioning sections (01 91 13, 01 91 13 .13, 01 91 13.16, 01 79 00.13) prepared by the External Commissioning Agent, including (if applicable) pre-functional checklists, start-up checklists, procedures and report templates for functional performance tests and procedures and report templates for integrated systems tests. These requirements apply to all project-specific systems and equipment that are new or modified, or that are existing and interconnected with new or modified systems. Attach the Commissioning Forms to specification section 01 91 13.16 at the time of submission. Include the Commissioning Agent's Commissioning Plan at the end of section 01 91 13.13.
- Provide a complete list of shop drawings required by discipline for the project and submit to the PWGSC Commissioning Supervision Representative with the final submission of specifications and drawings.
- Verify design and contract documents and confirm that they include all devices, components and instrumentation required for commissioning and to adequately document the performance of each applicable piece of equipment, system or assembly.
- Verify and confirm the adequacy and completeness of the Heating, Ventilation and Air Conditioning (HVAC) System Test, Adjustment and Balancing (TAB) Specifications and relevant system and equipment performance and quality control specifications.
- Coordinate the integration of the commissioning process requirements, commissioning plan and specifications and commissioning forms into the project specifications with the consultant or design professional.

7.4 **Required services during step 3 (RS5, RS6, AS2)**

7.4.1 *Commissioning agent*

- Participate in the work appreciation visit and the pre-proposal meeting. Present the requirements and commissioning process for the project. Answer the Commissioning Authority's questions related to commissioning.
- Participate in meetings during the construction, acceptance and close-out phases of the project (Stage 3), including the Commissioning Team meeting.
- Attend the construction meeting in person at least twice a month and all others by teleconference.

- Review shop drawings and documentation submitted by the contractor for commissioning, integration, performance, operation and maintenance. Review manufacturers' installation, operation and maintenance manuals, start-up instructions and checklists, and other relevant manufacturers' documents. Identify problems. Submit shop drawing review forms and comments to the Commissioning Supervision Manager.
- Review, adapt and update, as appropriate, the forms and test procedures of the Commissioning Plan (pre-functional checklists, pre-start up checklists, performance checks and functional tests of integrated systems) to the specifics of the approved equipment.
- Develop and submit a Commissioning Schedule to departmental officials for their review, coordination and approval.
- Conducts field visits and inspections to examine installed components, equipment and systems in preparation for installation or pre-functional checks. Submit site inspection reports within 48 hours of inspection to the PWGSC Commissioning Supervision Representative. Clearly identify any non-compliance with the specification document or drawings.
- Review the installation, operation and maintenance manuals specific to the facility, start-up instructions and checklists, and other relevant manufacturer's documents. Identify problems and report to the PWGSC Commissioning Monitoring Representative.
- Review and comments on EMIS forms prepared by contractors. Ensure completeness and submit to the PWGSC Commissioning Monitoring Representative
- Submit all project-specific Final Performance Verification Forms to the PWGSC Project Manager and Commissioning Monitoring Representative for review and approval.
- Oversee the completion of facility or pre-functional audits and attend where possible. Reviews Contractors' inspection or pre-functional audit reports for accuracy and completeness. Identify deficiencies and problems and determine corrective action required. Produce checklists and final reports using approved forms and confirm that equipment and systems are ready for operation. Submit reports to the Manager, Commissioning Monitoring for review and approval.
- Witness all pressure tests on piping and all ventilation ducts and submit the results to the PWGSC Commissioning Supervision Representative.
- Update and submit the revised Commissioning Schedule to the Project Manager and the PWGSC Commissioning Oversight Representative for their review and approvals.
- Schedule regular (bi-weekly or more frequently if required) commissioning coordination meetings with the Contractor, Subcontractors and other commissioning participants (commissioning contractors, TAB contractors, manufacturer's representatives, specialists and test contractors, others as appropriate). Conduct meetings, prepare and distribute minutes within 72 hours of each meeting. The meeting may be held at the end of a regular construction meeting if possible.
- Develop and submit automation system trend logs for all equipment/systems and submit prior to the commencement of the performance verification phase to the PWGSC Commissioning Monitoring Representative for review and approval.
- Coordinate with the Departmental Representative, witness and document all performance verification tests performed with contractors using approved forms. Supervises Commissioning Team members and participants in the completion of all tests.
- Collect, verify and confirm all test results, data and other relevant information. Prepare the Commissioning Performance Analysis Reports and submits the tests within 5 days to the PWGSC Commissioning Supervision Representative.
- Document the deficiencies and measurements of the items resulting from the performance verification tests through the approved register and their resolution.
- Recommend acceptance or rejection of systems and/or equipment commissioning. Submit full reports on the performance verification performance tests to the PWGSC Commissioning Supervision Representative for review and approval.
- Witness and document all Integrated System Tests (IST) performed by contractors. Supervise and coordinate commissioning team members and participants in the completion of tests.

- Collect and verify all results, data and other relevant information. Prepare IST commissioning reports using the approved format. Document gaps and actions arising from the IST.
- Recommend acceptance or rejection of systems and/or commissioning of equipment. Submit complete integrated test reports to the Integrated Systems Monitoring Reports and to the PWGSC Commissioning Monitoring Representative for review and approval.
- Attend the Provisional Acceptance Meeting and include deficiencies in the Consultant's deficiency list
- Regularly review the contractor's finished work drawings to ensure that they are in accordance with the facilities.
- Review the contractor's operations and maintenance manual, finished work drawings, installed product and equipment schedules and other closing documents for commissioned systems and equipment. Reviews documents for accuracy, completeness and currency. Also ensure that they reflect any changes made during the course of the project.
- Review the contractor's proposed training program. Participate in the training provided by the contractor. Review the completeness and adequacy of the training with the trainee supervisor. Recommend acceptance of the training to the Commissioning Supervision Manager or report deficiencies to the Commissioning Supervision Manager.
- Confirm the transfer of spare equipment to the Operations Team with the approval of the Operations Team Representative. Submit the signed list to the PWGSC Commissioning Supervision Representative for review and approval.
- Provide automation system trend report data (minimum 30 days) for all equipment/systems (mechanical and electrical) and submit to the PWGSC Commissioning Oversight Representative for review and approval.
- Assemble all final commissioning documents and prepare the final commissioning report. Submit the report to the PWGSC Commissioning Oversight Representative for review and approval. The Final Commissioning Report documentation must be assembled in Portable Document Format (PDF) and must include the documents listed below.
 - The final report on the commissioning process.
 - The project requirements document
 - Design documents
 - Design documents
 - Working drawings
 - Drawings of finished works
 - Single-line diagrams of finished work
 - Bills of material for installed products and equipment
 - Commissioning requirements
 - Commissioning reports (pre-functional checklist , pre-start checklist, tests, adjustments and balancing (TAB), performance checks, integrated systems functional tests, control, building automation system trend reports, data logger reports and other relevant reports)
 - The final and updated Commissioning Problem Log. All outstanding defects, problems and non-conformities should be listed. Each item should refer to the test, inspection or trend report in which it was reported. Include the following recommendations as appropriate: corrective actions, improvements, optimization, equipment and system operating parameters, performance and efficiency, subsequent actions, changes to the commissioning process, return to service, system operating manuals and standard operating procedures
 - Any other document, report and correspondence.

7.4.2 Commissioning team

- Attend the project presentation visit and pre-bid meeting. Present the project commissioning process and requirements. Answer questions related to commissioning to the Commissioning Authority.

- Attend construction, acceptance and close-out phase meetings (Stage 3)
- Review applicable Contractor's documentation and shop drawings from the perspectives of commissioning, integration, performance, operation and maintenance. Review specific installation, operation and maintenance manuals, start-up instructions and checklists, and other relevant equipment manufacturer documentation. Identify issues or problems. Submit shop drawing review forms and comments to the PWGSC Manager.
- Ensure that commissioning activities are included in the project construction schedule.
- Attend and actively participate in commissioning meetings with the Commissioning Agent, contractor(s), subcontractor(s) and other participants
- Conducts site visits and inspections to examine the installation of components, equipment and systems for pre-functional checks or facility audits.
- Oversee the completion of start-up checks by the contractor, manufacturer's representative or specialized testing contractor, as appropriate. Ensure the accuracy and completeness of start-up reports. Identify deficiencies and problems and determine corrective action to be taken. Prepare final start-up reports using start-up reports, data, results and settings provided by the contractor, and confirm the proper operation of the equipment or systems or the adequate state of readiness of the equipment and systems required to perform functional performance testing.
- Monitor and witness all functional performance tests and Integrated Systems Tests of systems and assemblies performed by the Contractor and ensure their accuracy. Supervises and coordinates commissioning team members and participants during the conduct of the tests. Compile and verify all relevant test results, data and other information from the tests. Prepares functional performance test and integrated systems test commissioning reports using approved forms. Produce the Commissioning Problem Log and document the actions to be taken in response to the Functional Performance Test and Integrated Systems Test. Recommend individual acceptance or rejection of commissioning for each system or equipment. Submit completed Functional Performance Test and Integrated Systems Test reports to the PWGSC commissioning manager for review and approval.
- Regularly review the contractor's archival drawings of the work (annotated plans) for accuracy in relation to facilities. Report any deficiencies or problems to the PWGSC Commissioning manager
- Review and comment on the completed Contractor's Computerized Maintenance Management System forms. Ensure information is complete and submit to the PWGSC Commissioning manager
- Review the Operations and Maintenance Manual, as-built drawings, schedules and finalized tables of the Contractor's products and equipment, and other "close-out" documents related to the commissioned systems and equipment. Review for completeness, accuracy and updates, including changes made during the course of the project.
- Review the Contractor's proposed training program. Attend the training provided by the contractor, review completeness and adequacy with the supervisor of the participants. Recommend training approval or problems to the PWGSC Commissioning manager
- Provide and update single line electrical schematics.
- Procedure for updating single line electrical schematics
 - The Consultant is responsible for ensuring changes to the single line diagrams.
 - The Consultant must approve the correction in the final plan.
 - The Consultant shall incorporate the single line diagram changes into the CAD and Revit version and provide 2 full size hard copies.
- Review and accept the final commissioning report
 - Final commissioning report
 - Narrative report of the activities and challenges that occurred during each stage of the project.
 - Commissioning specifications.
 - Minutes of commissioning meetings.
 - Final update and status of the Commissioning Problem Register. All deficiencies, problems and non-conforming items should be specifically included. Each item should reference and correspond to the specific test, inspection or trend log report for which it

- was identified and documented. Inclusion of recommendations for corrective actions, improvements, optimization, system and equipment operating parameters, performance and efficiency, future actions, changes to the commissioning process, return to service, etc.
- Confirmation that all tests and performance verifications have met the requirements of the specifications, the design basis (if applicable) and the project requirements.
 - Basis of Design (if applicable).
 - Schematic design documentation (if applicable).

7.5 Required services during the operation or occupancy of the building

7.5.1 *Commissioning agent*

Review and propose corrective actions for systems and equipment that are not operating in accordance with project requirements and the design and operating parameters specified in the design basis and contract documents.

7.5.2 *Commissioning team*

Review and propose corrective actions for systems and equipment that are not operating in accordance with the Project Requirements and the design and operating parameters set out in the Basis of Design and contract documents.

Upon completion of the Project, the Consultant shall ensure that the Contractor provides two (2) paper copies of the operation and maintenance (O&M) manuals in binders and one (1) electronic copy of the O&M manuals on USB stick. The O&M Manuals must be assembled in a three-ring binder of 1 inch or larger. The name and address of the building, the name, number and completion date (e.g., October 2016) of the project must appear on the cover and side of the binder. The O and M manuals must be indexed or divided into sections as follows :

- Cover
- Table of Contents
- Tab A - Contact Information: contact information for the consultant, general contractor and all subcontractors. Contractor Information: name, address, telephone number of manufacturers and installing contractors, 24-hour emergency services number for each piece of equipment.
- Tab B - Signed Letter of Warranty which must include the name of the project, project number, location and start date of the warranty period. This letter must specify any items for which the warranty is being extended.
- Tab C - Shop Drawings: a copy of all shop drawings reviewed by the Consultant or Commissioning Agent.
- Tab D - Reports: copies of all ERA reports, pre-functional checks, pre-start-up verification reports, functional test reports, performance monitoring forms and other documents (permits or certifications) issued by authorities having jurisdiction.
- Tab E - Sequences of Operation: Provide the designer's or manufacturer's instructions and sequences of operation.
- Tab F - Service and maintenance procedures: specific service and maintenance manual, preventive and corrective maintenance, procedures and maintenance frequencies or schedule.
- Tab G - As-built drawings: as-built drawings shall be annotated in red colour and provided in hard copy and electronic CAD and Revit files.
- Tab H - A Computerized Maintenance Management System inventory sheet must be completed for any equipment that is removed, added or replaced on site. This inventory sheet must be included in the Operations and Maintenance Manual.

- Tab I - Site Inspection Reports.
- Tab J - Final Commissioning Manual.

7.6 Deliverables

See the deliverables list below:

- Design review report and design basis
- Commissioning specifications - sections (01 91 13, 01 91 13 .13, 01 91 13.16, 01 79 00.13)
- Commissioning plan at the design stage and each subsequent update to final version
- Commissioning forms to be included in the specification (start-up test reports, test and performance verification procedures, embedded systems test procedures and report templates)
- List of shop drawings as identified in the specifications prior to the construction start-up meeting.
- Register of shop drawings with review
- Start-up test reports
- Revised Operation and Maintenance Manual
- Minutes of commissioning meetings
- List of Seasonal (Deferred) Performance Verification Tests
- Performance Audit Reports
- Integrated Systems Audit Report
- Point-to-point reporting/check forms
- Alarm configuration LOW/Reports
- Strategy BAS Trend log and reports (M-E)
- Commissioning deficiency report and log
- Spare parts log
- Review and comment on the Contractor Training Plan and Training Form (signed document)
- Final Commissioning Report (PDF)
- Inspection and Deficiency Report produced by the consultant
- Review and acceptance of start-up test reports
- Review and acceptance of performance audit reports
- Review and acceptance of the revised Operations and Maintenance (O&M) Manual
- Review and acceptance of contractor training plan and training form (signed document)
- Submission of drawings in accordance with project execution
- Presentation of the Single Line Electrical Diagram [updated] - two (2) copies size A0

7.7 Computerized maintenance management system

All work performed under the contract must meet the requirements set out in the PWGSC computerized maintenance management system. Indicate the system numbers of retired or modified equipment on the 75%, 99%, final submission and bid drawings:

- System inventory sheets must be completed for all major components and systems.
- Before removing or replacing components or systems as part of the project, note and submit their respective sequential numbers.
- Collect and record all data (inventory sheets for all new or relocated equipment that is installed, replaced, decommissioned or removed from an existing equipment inventory.
- Inventory sheets should include all product data, including serial and model numbers, equipment description and location.
- The facility operations and maintenance supervisor should provide contractors with the sequential numbers.
- Provide the Commissioning Supervision Manager with the completed inventory sheets for all new equipment two (2) weeks prior to seeking approval to identify the proposed items.
- All inventory sheets must be added to the O&M Manual.

Solicitation No. - N° de l'invitation
EE520-210282/A

Amd. No. - N° de la modif.
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Buyer ID - Id de l'acheteur
QCM039

Client Ref. No. - N° de réf. du client
R.069144.102

File No. - N° du dossier
MTC-9-42118

CCC No./N° CCC-FMS No./N° VME

- The specifications shall specify the Contractor's obligation to provide the Commissioning Supervision Representative with all required data and inventory sheets.

Note: Computerized maintenance management system applies to all major components or systems. Minor items such as switches, thermostats and the like do not need to be inventoried in the system. The Commissioning Supervision Representative must respond to any requests for clarification from contractors.

DESCRIPTION OF SERVICES ADDITIONAL SERVICES (AS)

AS 1 BILINGUAL CONSTRUCTION DOCUMENTS

Final RS3 document (including appendix) and all Construction Documents (RS4) must be submitted in both official languages as required.

Bilingual Requirements:

- The Consultant shall prepare the final version of the masonry condition assessment report, as requested in Required Services (RS) 3 - Design Development, in both official languages of Canada, because this document will be provided as reference during tender call for construction;
- The Consultant shall prepare all tender and construction documents in Canada's two official languages.
- The languages are considered equal in status; neither is considered to be a translation of the other.
- The consultant to be responsible for the accuracy and completeness of translations and the consistency of documents.
- Produce separate sets of drawings for each official language.
- Tendering documents, archival drawings and operations and maintenance documents must be provided in both official languages. The consultant must consider that all documents (including appendices) must be translated as part of the call for tenders.

AS 2 RESIDENT SITE SERVICES DURING CONSTRUCTION

2.1 Description of Services

The purpose of the Resident Site services is to ensure the presence the consultant's full-time representative on site to inspect, co-ordinate and monitor all aspects of the work during the construction of the facility, and liaise with the contractor, Public Works and Government Services Canada and other agencies as appropriate to the work. More than one person may be required to suit the hours of construction.

The Consultant Resident Site representative is responsible for providing a full time (including overtime) resident inspection for all aspects of the project, maintaining daily records of all construction work placed. He is to ensure constant communication amongst PWGSC's Project Manager, the consultant's project leader, the key sub-consultant's project leader, the resident site representative of the key sub-consultant, the Property manager designated by PWGSC (if applicable), contractor, and sub-trades.

The Consultant Resident Site representative shall be directly responsible to the Consultant.

The Consultant Resident Site representative shall become thoroughly familiar with the Contract documents, the National Building code and all Fire Commissioner of Canada Standards for Construction operations (incl. FCC No. 301 dated June 1982 and the Standard for Welding and Cutting FCC No. 302 dated June 1982). He shall also be aware of all Provincial and Municipal standards for the health and safety of construction workers.

The Consultant Resident Site representative shall become thoroughly familiar with the requirements of the Consultant Project Brief and project responsibilities of others which relate to his services.

More specifically, site supervision by the proponent's team must, at a minimum, take the following form:

- Continuous presence on site (100% of the time) of a senior architectural technician or of an intermediate architect, who will act as the resident site representative in architecture;
- Continuous presence on site (100% of the time) of a senior structural technician or of an intermediate structural engineer, who will act as the resident site representative in structural engineering;
- Occasional presence of a surveyor to measure the verticality of walls during masonry disassembly/assembly and repair work and to project important interior architectural, structural or mechanical elements onto the exterior envelope in order to clarify the inspection and monitoring work.
- Occasional presence on site of a senior mechanical technician or of an intermediate mechanical engineer, who will act as the representative in mechanical engineering;
- Occasional presence on site (minimally once a week) of a Waste Management Specialist who will act as a support to the monitoring team.
- Occasional presence on site (as required) of an Industrial Hygiene Specialist
- Occasional presence on site (as required) of an intermediate interior design architect
- Occasional presence on site (as required) of an intermediate landscaping design architect
- Occasional presence on site (as required) of an intermediate biologist
- Occasional presence on site of technical support (architecture and engineering), to assist the site supervision team (measuring, surveys, etc.).

Among the full-time resources at the site (Senior Architectural Technician / Intermediate Architect or Senior Structural Technician / Intermediate Structural Engineer), the proponent will be required to identify a person responsible for overall site supervision (senior consultant representative) at the time of service proposal.

2.2 Specific Duties and Responsibilities

Provide full-time resident inspection, co-ordination and monitoring during the construction work and be responsible to the consultant. In addition, the departmental representative may delegate additional responsibilities subject to consultants agreement.

Maintain daily records of all construction work placed and ensure constant communication amongst PWGSC's Project Manager, the consultant's project leader, the key sub-consultant's project leader, the resident site representative of the key sub-consultant, the Property manager designated by PWGSC (if applicable), Contractor, and sub-trades.

Considering the potential impacts on the project's costs and schedule, any request from the Property manager designated by PWGSC or directly from the occupants shall be treated politely, but with all the appropriate precautions and with the approval of PWGSC's Project Manager.

Co-ordinate and direct an assistant as approved by PWGSC, if required.

In case of emergencies, the Consultant Resident Site representative is empowered to stop the work, or give orders to protect the safety of the workers or Crown property. He must then immediately notify the Departmental Representative.

The Waste Management Specialist has the following summary duties and responsibilities:

- Designated Substance Report - identifies the types and locations of materials present at a site that constitute hazardous/dangerous/controlled substances under the applicable regulatory regime and recommends procedures for the proper disposal.
- Waste Audit - determines the types and volumes of construction materials that will be produced as surplus to the project. (Mandatory in the province of Ontario)
- Waste Management Workplan - describes the procedures to maximize the recovery and the value of those materials identified in the Waste Audit, including on-site practices, procedures and potential destinations for the materials recovered. (Mandatory in the province of Ontario)
- Training - includes presentation of a mandatory training session to be given prior to the commencement of the work on site and attendance at a midpoint update meeting, convened by the project manager, to discuss progress and problems of the Waste Management Workplan.
- Waste Management Report - documents the recovered construction materials to ensure that the results anticipated in the Waste Audit and Waste Management Workplan are realized to the highest degree possible. It records the results at the end of the project.

2.3 Inspection and Reporting

The Consultant Resident Site representative shall inspect all phases of the work in progress, for the purpose of bringing to the attention of the contractor, after checking with the Consultant, and Departmental Representative any discrepancies between the work, the contract documents and accepted construction procedures. He shall keep a daily log of such inspections and shall issue a weekly written report to the consultant, both for distribution, in the form directed. The Resident Site representative shall make any other reports or surveys as may be requested by the Project Manager through the consultant.

2.4 Interpretation of the Contract Documents

Interpretation of the contract documents shall be the responsibility of the consultant. The consultant may, however, have the Resident Site representative provide him with information regarding job conditions and may require him to relay day-to-day instructions to the contractor.

It shall be the duty of the Resident Site representative to assist the consultant and further inform the consultant of any anticipated problems which may delay the progress of the work. The method of relaying such information shall be determined by the consultant.

2.5 Changes in the Work

The Residents Site representatives shall not authorize or order any change in the work which will constitute a change in design or in the value of the contract except as delegated by the Departmental Representative.

The consultant may call upon the Residents Site representatives to assist in the evaluation of changes in the work, where a knowledge of job conditions is required.

2.6 Communication & Liaison

The Resident Site representatives shall:

1. Convey the Consultant's instructions regarding the required standards of workmanship to the Contractor(s);
2. Specifications, confer and obtain guidance on these findings with the Consultant. The matter is then to be brought to the attention of the Contractor's Superintendent. Although informal discussions with sub-trade superintendents are usually permissible (but only with the agreement of the contractor), the Resident Site representative should not deal directly with foreman or tradesmen, or interfere with the progress of the work.
3. Communicate formally with the contractor via memorandum form only. When this form is issued the Resident Site representative must immediately file copies with PWGSC and the consultant.
4. Contact the consultant immediately when it is apparent that information or action is required of the consultant, e.g. general instructions, clarifications, sample of shop drawing approvals, requisitions, contemplated change orders, site instructions, details, drawings, etc.
5. Accompany PWGSC representatives on inspections and report to the consultant requirements, comments or instructions of the PWGSC's forces. Note that the Resident Site representative should encourage such requirements, comments or instructions to be provided to him in writing.
6. Consider and evaluate any suggestions or modifications to the documents advanced by the contractor and immediately report these to the consultant with comments.
7. Ensure that PWGSC and the consultant are notified promptly when key pieces and/or components of materials and equipment are delivered, so that these parties can arrange for the appropriate personnel to have an opportunity to inspect same prior to installation.

The Resident Site representative will investigate, schedule and approve in writing, all temporary or permanent connections into any of the buildings' systems prior to the work being done. He shall provide advanced forecasts and advise the Departmental Representative of any interruption of normal building services with at least 24-hour notice prior to the work being undertaken, where this work cannot be done during the normal working hours.

2.7 Daily Log

The Resident Site representative shall keep a daily log recording:

1. Weather conditions, particularly unusual weather relative to construction activities in progress;
2. Work crews and equipment present on the site;
3. Main delivery of materials and equipment;
4. Daily activities and major work done;
5. Start, stop or completion of activities;
6. Presence of inspection and testing firms, tests taken, results, etc.;
7. Unusual site conditions experienced;
8. Significant developments, remarks, etc.;
9. Special visitors on site;
10. Authorities given contractor to undertake certain or hazardous works
11. Environmental incident
12. Reports, instructions from Appropriate Authorities Response Actions.
13. Any other information relevant to the proper management of construction work

Note: The log is the personal property of the Resident Site representative. Copies of the log book, certified as copies, are to be provided to PWGSC and consultant at the end of the project.

2.8 Weekly Records

The Resident Site representative shall prepare weekly reports for the consultant in the form directed:

1. Progress relative to schedule;
2. Major activities commencing or completed during the week; main activities now in progress;
3. Percentage progress of work according to each type of work and each specific sector;
4. Major deliveries of materials and/or equipment;
5. Difficulties which may cause delays in completion;
6. Materials and labour needed immediately;
7. Cost estimates of work completed and materials delivered (cost plus contracts);
8. Outstanding information or action required by Consultant or PWGSC;
9. Workforce;
10. Weather;
11. Remarks;
12. Accidents on site;
13. Life safety or building hazards caused by the work, the contractor or his agents.

2.9 Site Records

The Resident Site representative shall maintain orderly and updated files at the site for the use of the PWGSC, Consultant and himself as follows:

1. Contract and Tender Documents.
2. Approved Shop Drawings.
3. Approved Samples.
4. Samples.
5. Site Instructions.
6. Contemplated Change Orders.
7. Change Orders.
8. Contractor's contract with the tendered costs;
9. previous and current claims for payment;
10. Memoranda.

11. Test and Deficiency Reports.
12. Correspondence and Minutes of Meeting.
13. Names, addresses, telephone numbers of client representatives, consultant and all contractors, sub-trades key personnel associated with the contract; including home telephone numbers in case of emergencies.

In addition, the Resident Site representative shall maintain an updated progress schedule.

A reproduction of the original contract drawings shall be carefully preserved and shall be kept marked up to date with all addenda, change orders, site instructions, details, as-built conditions, etc., issued subsequent to the award of the contract.

2.10 Inspection of the Work

The Resident Site representatives shall make on site observations and spot-checks of the work to determine whether the work, materials and equipment conform with the contract documents and supplementary conditions. The Site consultant's representatives shall advise the contractor of any deficiencies or unapproved deviations via memorandum and report immediately to the Consultant and PWGSC Departmental Representative any of this on which the contractor is tardy or refuses to correct.

The Resident Site representatives shall arrange for the consultant's architectural, structural, mechanical, electrical in industrial hygiene, interior design, environment, landscaping, laboratories and other consultants to make the periodic inspections required by the consultant's contract, and for these inspections to be made timely with respect to the progress of the work.

The Resident Site representative shall also report if materials and equipment are being incorporated into the project prior to approval of relative shop drawings or samples.

The Resident Site representative shall assist in the preparation of all deficiency reports, interim, preliminary, and final, in collaboration with the PWGSC and Consultant's representatives.

The Resident Site representative shall be responsible for the measurement of all work to be done on a unit cost basis.

2.11 Site Meetings

The full-time Resident Site representatives shall attend all job-site meetings and statutory meetings with PWGSC also scheduled every two (2) weeks.

2.12 Inspection and Testing

The Resident Site representative must see that the tests and inspections required by the contract documents are conducted, and should observe these tests and report the results in the daily log.

The consultant should be notified if the test results do not meet the specified requirements, or if the contractor does not have tests undertaken as required.

2.13 Emergencies

In the case of emergency where safety of persons or property is concerned, or work is endangered by the actions of the contractor of the elements, to safeguard the interests of PWGSC, the Resident Site

representative shall stop the work, if required, or give orders for remedial work. He shall also immediately send a written notice to the contractor of the possible hazard, and contact both the consultant's project leader and PWGSC's Project manager.

2.14 Limitations

The Resident Site representative shall not:

1. Authorize deviations from the contract documents.
2. Conduct tests.
3. Approve shop drawings or samples.
4. Advise the user client in any matter without obtaining guidance from the consultant.
5. Accept any work or portions of the building.
6. Enter into the area of responsibility of the Contractor's Field Superintendent.
7. Stop the work unless convinced that an emergency exists as noted above.

2.15 Hazardous Construction Operations

The contractor shall under no circumstances undertake hazardous operations. Should some operation present a potential hazard, the contractor shall implement all necessary precautions and acts to safeguard the life safety of the workers and building occupants, as well as the Crown property. Any infractions may result in the Resident Site representative stopping the work.

2.16 Building Security

Special precautions must be taken at all times to prevent unauthorized entry of the building. The Resident Site representative is to ensure that all contractor-made openings and means of access, are firmly secured when the contractor leaves the site.

The Resident Site representative will liaise closely with the Consultant and PWGSC Departmental Representative on all security and/or safety problems that may arise due to the contractor's operations.

