



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Travaux publics et Services gouvernementaux
Canada

Voir dans le document/

See herein

NA

Québec

NA

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

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

Title - Sujet A&E Rehabilitation residence GG A&E Rehabilitation of buildings envelope - Residence of the Governor General	
Solicitation No. - N° de l'invitation EE520-211284/A	Date 2020-11-29
Client Reference No. - N° de référence du client EE520-211284	
GETS Reference No. - N° de référence de SEAG PW-\$QCM-034-18041	
File No. - N° de dossier QCM-0-43126 (034)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Eastern Standard Time EST on - le 2021-01-14 Heure Normale du l'Est HNE	
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: Kirouac, Jennifer	Buyer Id - Id de l'acheteur qcm034
Telephone No. - N° de téléphone (418) 953-4110 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: MINISTERE DES TRAVAUX PUBLICS ET SERVICES GOUVERNEMENTAUX CANADA 3, PASSAGE DU CHIEN D'OR QUEBEC Québec G1R3Z8 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

THIS PROCUREMENT CONTAINS A SECURITY REQUIREMENT

REQUEST FOR PROPOSAL (RFP)

A&E Consultant services for the Rehabilitation of buildings envelope - Residence of the Governor General of Canada, Commander's Residence and Officers' Mess at the Citadelle of Québec

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Id de l'acheteur - Buyer ID
QCM034

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R.102959

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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 jennifer.kirouac@tpsgc-pwgsc.gc.ca as early as possible. Enquiries should be received no later than 5 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 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.;
 - (d) the Proponent's proposed location of service performance or document safeguarding must meet the security requirement as indicated in Supplementary Conditions SC1.
 - (e) the Proponent must provide the address(es) of proposed location(s) of service performance or document safeguarding as indicated in the Declaration/Certifications Form.
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.

IP7 OPTIONAL SITE VISIT

There will be no site visit.

SI8 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>

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.tpsgc-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.tpsgc-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.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>);
 - b. it understands that certain domestic and foreign criminal charges and convictions, and other circumstances, as described in the Policy, will or may result in a determination of ineligibility or suspension under the Policy;
 - c. it is aware that Canada may request additional information, certifications, and validations from the 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
 - f. it is not aware of a determination of ineligibility or suspension issued by PWGSC that applies to it.

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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.

GI2 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

G13 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.
 - 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.

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R.102959

File No. - N° du dossier
QCM-0-43126

N° CCC / CCC No./ N° VME - FMS

GI4 Procurement Business Number

Proponents are required to have a Procurement Business Number (PBN) before contract award. Proponents may register for a PBN online at <https://srisupplier.contractscanada.gc.ca/index-eng.cfm?af=ZnVzZWJdGlVbj1yZWdpc3Rlci5pbmRybyZpZD0y&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.

GI5 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.

GI6 Completion of submission

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

GI7 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.

GI8 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).

GI9 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.

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.

GI16 Submission of proposal

GI16.1 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 GI14.
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 GI16.2.1 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.

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.
- 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

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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 Insurance
 - (c) Agreement Particulars
 - (d) Project Brief / Terms of Reference;
 - (e) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";
 - (f) the Security Requirements Check List (SRCL);
 - (g) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;
 - (h) 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)

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.
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.

SC4 DURATION OF THE CONTRACT

The consultant must perform and complete the services described in the project statement by April 30, 2026.

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%
December 2018	1.5%
January 2019	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.

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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.

APPENDIX A - TEAM IDENTIFICATION FORMAT

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 – Architecture):

Firm or Joint Venture Name:

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

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II. Key Sub Consultants / Specialists:

Structural Engineering

Firm Name:

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

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Electrical engineering

Firm Name:

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

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APPENDIX A - TEAM IDENTIFICATION FORMAT (CONT'D)

Mechanical Engineering

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

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

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Costs management

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

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM

Project Title:

Name of Proponent:

Street Address:

Mailing Address:

Telephone Number: ()

Fax Number: ()

E-Mail:

Procurement Business Number:

Type of Organization: _____ Sole Proprietorship _____ Partnership _____ Corporation _____ Joint Venture	Size of Organization: Number of Employees _____ Graduate Architects / Professional Engineers _____ Other Professionals _____ Technical Support _____ Other _____
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APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

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.

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

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

- () 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)

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.

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: 2012-2 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.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

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.

APPENDIX C – PRICE PROPOSAL FORM

INSTRUCTIONS: Please complete this Quotation Form and submit it with 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.

**** PROPONENTS MUST NOT AMEND THIS FORM ****

Project title:

Name of the proponent:

The following elements will be an integral part of the evaluation process.

1. PROPOSED FEES FOR SERVICES

Unless otherwise specified herein, clauses R1230D (2018-06-21), General Conditions (GC) 5 - Terms of Payment - Architectural and/or Engineering Services apply to the project. Based on the services to be rendered, fees will be determined according to the formulas defined in points 1.1 to 1.3.

Steps in carrying out the mandate¹

In this document, fees are to be proposed for the entire mandate, as defined in the Project Brief, i.e. for the following steps :

- Step 1: Analysis, Identification and Evaluation of Options (RS1, RS2 and AS4)
- Step 2: Preparation of plans and specifications (RS3, RS4 and AS1) (optional)
- Step 3: Project Implementation (RS5, RS6 and AS2) (optional)

However, initially, the contract between PWGSC and the consultant will cover the services to be rendered in Step 1 of the mandate, with **Step 2 and 3 remaining optional**.

1.1 Percentage fees for services required RS1 to RS6

The fees for the required services RS1 to RS6 will be determined according to the percentage fee formula in accordance with the terms of R1230D GC5.2. Determination of Fees for Services.

Estimated cost of construction work (category D, excluding applicable taxes)		Firm percentage of	Total Percentage Fees
9 025 000 \$ ²	X	%	\$

¹ See details for project milestones and related services in the Project Statement - Project Description - RFP 8 Consultant Services - Section 8.2 Consultant Milestone.

² See details for amount in Project Statement - Project Description - PD 2 Project Identification - Section 2.2 Cost

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

The following elements will be an integral part of the evaluation process.

1.2. Fixed fee for required services RS7 to RS9 and additional services AS1 and AS3

The fees for the required services RS7 to RS9 and additional services AS1 and AS3 will be determined according to the fixed fee formula in accordance with the terms of R1230D GC5.2. Determination of Fees for Services.

Services	Fixed fees
RS7 Risk management	\$
RS8 Commissioning of the facility	\$
RS9 Cost Estimation and Planning	\$
AS1 Bilingual construction documents	\$
AS3 Building data modeling	\$
Total for fixed fees :	\$

1.3. Time based fees for additional services AS2 and AS4

Fees for additional SA2 and SA4 services will be determined using the time-based fee formula, based on the estimated number of hours listed in Tables 1 and 2 provided on page 3 of this Schedule, in accordance with the terms of clause R1230D GC5.2. Determination of fees to be paid for services.

Services	Maximum fees based on time
AS2 Enhanced Work Supervision Service (See Table 1)	\$
AS4 Surveys, probing, inspections and exploratory breakthroughs (See Table 2)	\$
Maximum for time based fees :	\$

2. DISTRIBUTION OF FEES ACCORDING TO PROJECT STAGES

In accordance with the requirements of R1230D GC 5.4 - Payments for Services, payment of fees for the required services SR1 to SR9 and the additional service SA3 will be made up to the amounts indicated below for each phase of the project :

- Step 1: Analysis, surveys, and evaluation of options: 10% of the total fee for each service
- Step 2: Production of plans and specifications: 60% of total fees for each service
- Step 3: Project Implementation: 30% of total fees for each service

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

The following elements will be an integral part of the evaluation process.

**TABLE 1 – TIME-BASED FEES FOR THE ADDITIONNAL SERVICE
AS2 Enhanced Work Supervision Service**

Description	Nbre d'heures estimatif (A)	Taux horaire* (B)	Prix estimatif (A x B)
Architecture – Principal Senior Site Supervisor.	1 200 hours	\$ / h	\$
Structural Engineering – Intermediate staff	750 hours	\$ / h	\$
Electrical Engineering – Intermediate staff	250 hours	\$ / h	\$
Mechanical Engineering – Intermediate staff	150 hours	\$ / h	\$
Maximum des honoraires fondés sur le temps pour le service additionnel AS2 Enhanced Work Supervision Service: (Transfer this amount to Article 1.3 on page 2 of this Appendix)			\$

**TABLE 2 – TIME-BASED FEES FOR THE ADDITIONNAL SERVICE
SA4 Surveys, probing, inspections and exploratory breakthroughs**

Staff category *	Hours planned (A)	Hourly rates** (B)	Estimated fees (A x B)
Architecture – Senior staff	75 hours	\$ / h	\$
Architecture – Intermediate staff	225 hours	\$ / h	\$
Architecture – Junior staff	125 hours	\$ / h	\$
Structural Engineering – senior staff	75 hours	\$ / h	\$
Structural Engineering – Intermediate staff	175 hours	\$ / h	\$
Electrical Engineering – Intermediate staff	125 hours	\$ / h	\$
Mechanical Engineering – Intermediate staff	75 hours	\$ / h	\$
Maximum based time fees for the additionnal service AS4 Surveys, probing, inspections and exploratory breakthroughs : (Transfer this amount to Article 1.3 on page 2 of this Appendix)			\$

* Staff category: Junior staff: up to 5 years of experience / Intermediate staff: 5 to 9 years of experience / Senior staff: 10 to 14 years of experience / Principle senior staff: 15 years and more

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

N° de l'invitation – Sollicitation No.
EE520-211284/A

N° de la modif – Amd. No.

Id de l'acheteur – Buyer ID
QCM034

N° de réf. du client – Client Ref. No.
R.102959

N° du dossier – File No.
QCM-0-43126

N° CCC / CCC No./ N° VME – FMS

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

The following elements will be an integral part of the evaluation process.

MAXIMUM TOTAL PROPOSED FEES FOR REQUIRED SERVICES AND ADDITIONNAL SERVICES FOR ALL STEPS OF THE PROJECT

Total percentage fees for services required RS1 to RS6

As set out in section 1.1 of this appendix

\$

Total fixed fees for required services RS7 to RS9 and additional services AS1 and AS3

As set out in section 1.2 of this appendix

\$

Maximum time based fees for additional services AS2 and AS4

As set out in section 1.3 of this appendix

\$

\$

Maximum total proposed fees:

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

The following elements WILL NOT be an integral part of the evaluation process.

3. 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.

Disbursements	Amount
– Masonry work related to drill holes and exploratory breakthroughs	60 000 \$
– Rental of equipment or machinery (with operator) for miscellaneous surveys	25 000 \$
– Television inspection of networks	10 000 \$
– Scanning of buildings by 3D scanning	100 000 \$
– Services of a land surveyor	15 000 \$
– Services of Archaeology (construction)	80 000 \$
– Laboratory in environmental management (industrial hygiene and contaminated soils)	20 000 \$
– Materials Quality Management Laboratory	20 000 \$
– Other disbursements	20 000 \$
Maximum amount for additionnal disbursements :	350 000 \$

4. ADDITIONNAL TIME-BASED FEES (NOT INCLUDED TO PROJECT BRIEF)

- Fee for additional services

50 000 \$

(The rates used for this additional service will be the rates presented by the consultant to Appendix C – Table 2 - Time-Based Fees - (SA4). If the required source streams are not listed in SA4, the Consultant will be required to submit the resources required to do the work, including the CV and hourly rate, for information written by the project manager.)

Maximum amount for additional fees :

50 000,00 \$

END OF THE PRICE PROPOSAL FORM



Services publics et
Approvisionnement Canada

Public Services and
Procurement Canada

Canada



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	IO1, IO2, 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]



Services publics et
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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	IO1, IO2, 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]

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 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

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;
- 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 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.
 - 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**

- 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 its 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.
 - 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

- 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.

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

- 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.
- 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.



Au service du
GOUVERNEMENT,
au service des
CANADIENS.

Serving
GOVERNMENT,
serving
CANADIANS.

Project name

Rehabilitation of buildings envelope, sewer system and replacement of the generator set

**Residence of the Governor General of Canada,
Commander's Residence and Officers' Mess at the
Citadelle of Québec**

BIM Management Plan

Centre of Expertise - Professional and Technical Services

ISSUE : V2.0
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Services publics et
Approvisionnement Canada

Public Services and
Procurement Canada

Canada

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)

[illegible]

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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 completion of major projects.

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.

Méthode de structuration des données selon la norme Uniformat II :

Uniformat	Tables	Utilisation
Niveau 1 à 3	OBJECTIFS DE PERFORMANCE	EXIGENCES TECHNIQUES DU DONNEUR D'OUVRAGE
	NORMES ET RÉFÉRENCES	
	EXIGENCES DE PERFORMANCE (Prescription techniques)	
Niveau 3	CONCEPTS TECHNIQUES	Brèves descriptions répondant aux exigences techniques
Niveau 4	SOUS-ÉLÉMENT DE NIVEAU 3	
Niveau 5	RÉFÉRENCES TECHNIQUES	Brèves descriptions techniques associées à <u>l'objet</u>
Niveau 6	ITEM	Type de l'objet tel que décrit dans les plans et devis
Niveau 7	COMPOSITION	Assemblage selon les sections de devis

2. PROJECT DESCRIPTION

2.1 Project Identification

Client	PWGSC
Project name	
Project number	R.102959
Project address	1, côte de la Citadelle, Québec (Québec) G1R 3R2
Description of project	

2.1.1 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.

2.1.2 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.

2.1.3 Project Timeline and Milestones

Refer to the project schedule with key deliverable dates.

2.1.4 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.).

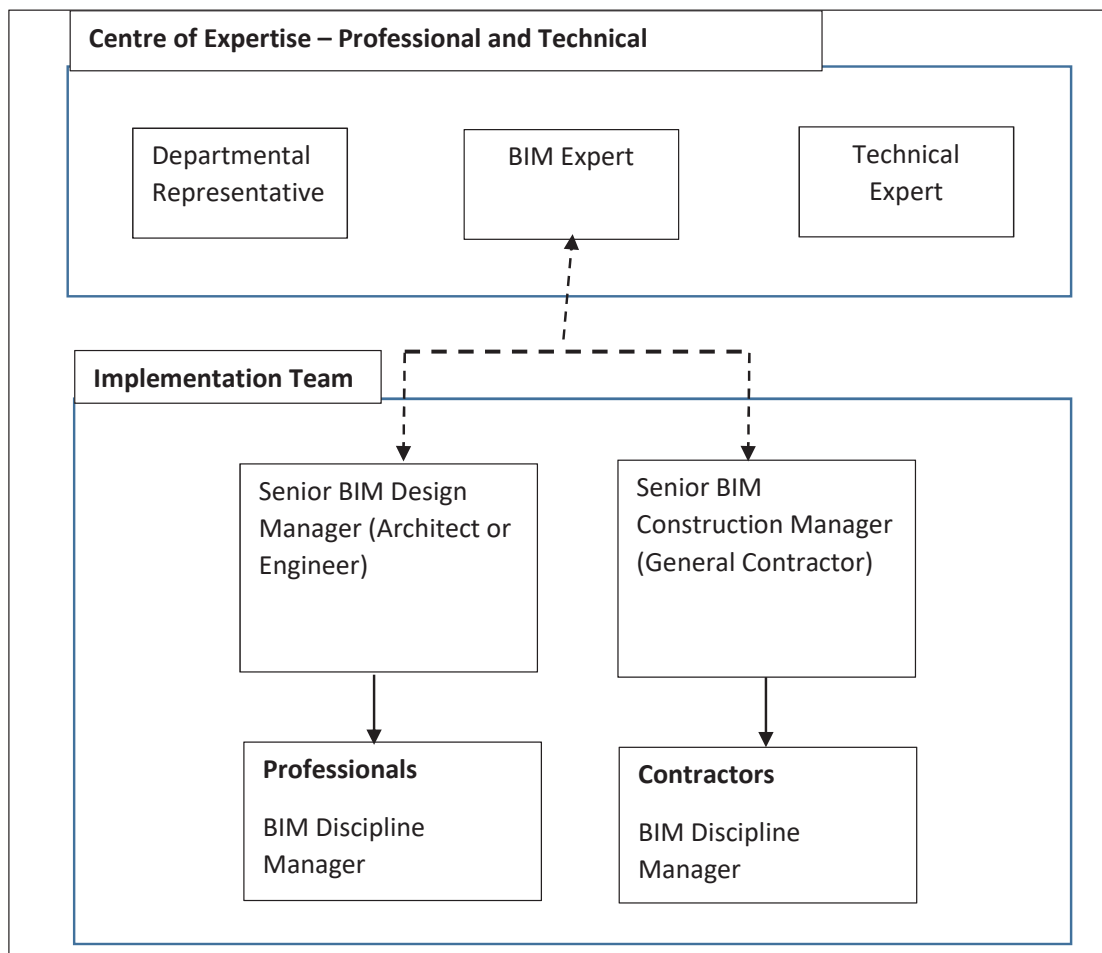
SUBJECT	ADDRESSEE	CONFORM COPY
Specific to BIM	BIM Managers (disciplinary and senior; PWGSC BIM Expert)	Project Officers; Departmental Representative
Project management impacting BIM	Project Officers; Departmental Representative	BIM Managers (disciplinary and senior; PWGSC BIM Expert)



3 Roles and Responsibilities

3.1 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.



3.2 Scope of Responsibilities

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

3.2.1 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.

3.2.1.1 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;

3.2.2 Senior Design BIM Manager

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

3.2.2.1 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;
- S'assurer de répondre aux demandes de TPSGC en termes de données numérisées qui sont créés ou traitées dans la maquette pour des fins de revue de conception ou d'estimation
- 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.

3.2.3 Senior Construction BIM Manager

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

3.2.3.1 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

3.2.4 BIM Discipline Manager

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

3.2.4.1 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 the transfer of asset information for operation and maintenance according to PWGSC requirements.

4. 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.



5. 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
Modélisation précise des conditions existantes	Modélisation des conditions existantes à partir des scans 3D (Nuages de points)
Project documentation	<ul style="list-style-type: none"> • 2D Documentation • 3D Modeling • Updating of the mock-ups • Updating the object library
Compliance with technical requirements	<ul style="list-style-type: none"> • Validation des exigences techniques à partir des concepts techniques • Revue de conception à partir des références techniques (sont décrites dans le tableau des Usages BIM - Respect des exigences techniques)
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 • Mise à jour de la base de données TPSGC
Cost estimation and analysis	<ul style="list-style-type: none"> • Prise de quantités (5D) à partir des maquettes selon une structure de classification Unifomat II(Niveau à définir selon l'étape SR) • 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
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
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.

5.2 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.
Compliance with technical requirements	<ul style="list-style-type: none"> Ensure the follow-up of the technical requirements and their characteristics foreseen in the project à partir des concepts techniques selon la norme Uniformat II – ASTM E1557 Niveau 3 établis au SR2; ; Serve as a design support and proof-of-concept tool for monitoring technical requirements, à partir des références techniques selon la norme Uniformat II – ASTM E1557 Niveau 5 renseignées dans les maquettes au SR3 qui seront synchronisées avec une base de données centralisée regroupant les exigences techniques ; les concepts et les références techniques du projet. Voir la définition des niveaux 	The design mock-ups are an accurate representation of the technical requirements of client departments entered in the TFP.

	Uniformat dans la section 1.5 Définitions	
Documents retrievable by the customer for quality control and operation	<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. Mise à jour de la base de données TPSGC 	Recoverable mock-ups for quality control and exploitation
Cost estimation and analysis	<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. (le niveau sera préciser pour chaque SR) Quantity of building elements and systems from BIM models, according to their state of maturity and the LOD matrix. 	At each stage of the project, the various professionals refer to the BIM mock-ups to ensure that the budget is respected;

Understanding design intent	<ul style="list-style-type: none"> - Support the different implementation hypotheses des travaux de réfection ; ; - 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). 	Obtaining a federated BIM mock-up allowing for a review of design intent and informed decision making.
Constructability of the concept	<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 	Respecting and optimizing the costs of the budget envelope and schedule
Design mock-up issued in call for tenders	<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 	Complete and coordinated mock-up allowing contractors to bid and carry out the work based on the design mock-ups

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
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

5.3 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
Modélisation des conditions existantes	Processus qui consiste à utiliser des outils, tel que les relevés par balayages laser, pour la création des données d'entrée du projet; Utilisation du géo-référencement permettant une intégration optimale en planification et en réalisation
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.
Integration and validation of technical requirements	Processus qui consiste à créer et intégrer dans la maquette une bibliothèque de contenu pour les exigences techniques, intégré sous format de référence technique avec un code identifiant d'Unifomat Niveau 5 et un bref descriptif qui sera associé aux différents éléments de la maquette. voir la définition des niveaux Unifomat dans la section 1.5 Définitions

	Le processus de validation permettra de comparer les exigences techniques avec la proposition conceptuelle des concepteurs.
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.
Updating models and object library	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.
Quantity taking (5D) and cost estimation	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 (Unifomat 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.
3D Design	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.
Visualization	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.
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.
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.

5.4 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									
2D Documentation								Designer, Contractor	Revit, DWG, PDF
3D Modeling								Designer, Contractor	Revit
Updating of the mock-ups								Designer, Contractor	Revit
Updating the object library								Designer, Contractor	Revit
Compliance with technical requirements									
Intégration des concepts techniques selon les exigences techniques voir la définition des niveaux Uniformat dans la section 1.5 Définitions								PWGSC, Designer, Contractor	Revit, Database
Design review								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									
Updating of the mock-ups								PWGSC, Designer	Revit

<i>Work planning</i>									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
Sustainable development										
<i>Energy efficiency</i>									Designer	Revit, Revizto, PDF,
<i>Design review</i>									PWGSC, Designer, Contractor	Revit, Revizto, PDF,

6. Quality assurance and control

6.1 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.

6.2 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
[Additional check]			

6.3 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

7. Collaboration

7.1 Types of data

7.1.1 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

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

Digital data containing confidential information belonging to the Communicating Party.

7.1.3 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

8. BIM Deliverables

8.1 Format of Deliverables

8.1.1. *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.

8.1.2. *Electronic Deliverables*

8.1.2.1. 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.

8.1.2.3. .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.

8.1.2.4. .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.

8.1.2.5. .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.

8.1.2.6. 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. références techniques associés aux éléments modélisés et non modélisés extraites ou pas des maquettes sous format Excel et / ou base de données. La structure des tableaux sera sous la forme suivante :

Code	Élément	Description	Niveau
A	INFRASTRUCTURE		1
A10	FONDATIONS		2
A1010	FONDATIONS STANDARDS		3
A101001	Semelles de fondation		4
A101001.01	Semelles filantes standard	Semelles filantes incluant excavation, remblais, coffrage, béton et accessoires de béton.	5
A101002	Murs de fondation		4
A101002.01	Murs de Fondation standard	Murs de Fondation standard, incluant excavation, remblais, coffrage, béton et accessoires de béton.	5

8.2 BIM Deliverables - Start-up Stages

	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
Concept technique <u>au SR2</u>	Professionnels de la conception		.PDF OU .XLS	<ul style="list-style-type: none"> Description sommaire du concept technique selon la norme Uniformat II – ASTM E1557 Niveau 3 établis au SR2; voir la définition des niveaux Uniformat dans la section 1.5 Définitions

8.3 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
Références techniques traduisant les concepts techniques <u>au SR3</u>	Professionnels de la conception		.rvt .xls	Références intégrées dans les maquettes associées aux éléments modélisés (Items) et extraites des maquettes sous format de tableau Excel. Références renseignées pour les éléments (Items) non modélisés sous format de tableau Excel. voir la définition des niveaux Uniformat dans la section 1.5 Définitions
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.

8.4 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.

8.5 Schedule of BIM Deliverables

Refer to tender documents.



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		2. Branch or Directorate / Direction générale ou Direction Public Works and Government Services Canada 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 Services d'experts-conseils en architecture et génie		
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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?		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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)		<input type="checkbox"/> No Non <input checked="" type="checkbox"/> 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.		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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?		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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 type="checkbox"/>	NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>
PROTECTED B PROTÉGÉ B <input checked="" type="checkbox"/>	NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>
PROTECTED C PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>
SECRET SECRET <input type="checkbox"/>	COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>
TOP SECRET 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 ☐ Yes
Non 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 ☐ Yes
Non 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 ☒ Yes
Non Oui
If Yes, will unscreened personnel be escorted?
Dans l'affirmative, le personnel en question sera-t-il escorté? ☐ No ☒ Yes
Non 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 ☒ Yes
Non 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 ☐ Yes
Non 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 ☐ Yes
Non 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 ☒ Yes
Non 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 ☐ Yes
Non 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 CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET	NATO RESTRICTED NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET COSMIC TRÈS SECRET	PROTECTED PROTÉGÉ			CONFIDENTIAL CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET
											A	B	C			
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).



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	
Tremblay, Lucie	Gestionnaire de projets		Tremblay, Lucie 2020.10.05 09:59:50 -04'00'
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
418-454-5926	418-648-4762	lucie.tremblay@tpsgc-pwgsc.gc.ca	2020/10/01

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature	
Fleury, Jean-Michel	SO		Digitally signed by Bouchard, PierreLuc Date: 2020.10.05 13:52:58 -04'00'
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
819-639-9758	--	jean-michel.fleury@tpsgc-pwgsc.gc.ca	

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?

☐ No / Non ☐ Yes / Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature	
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	
Anik Farrell - CSO 613-946-5194 anik.farrell@tpsgc-pwgsc.gc.ca			Digitally signed by Farrell, Anik Date: 2020.10.06 13:35:39 -04'00'
Telephone	de télécopieur	E-mail address - Adresse courriel	Date

N° de l'invitation – Sollicitation No.
EE520-211284/A

N° de la modif – Amd. No.

Id de l'acheteur – Buyer ID
QCM034

N° de réf. du client – Client Ref. No.
R.102959

N° du dossier – File No.
QCM-0-43126

N° CCC / CCC No./ N° VME – FMS

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SUBMISSION REQUIREMENTS AND EVALUATION (SRE)

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)
Price Rating x 10%	=	Price Score (Points)
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) 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")
- 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 (RFP) 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 thirty (30) 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)
- cover page and table of contents of the proponent's offer.

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 listed in this section will render the proposal as non-responsive and no further evaluation will be carried out.

The proponent is an entity headed by an architect(s), member(s) in good standing with the Ordre des architectes du Québec or who must be able to obtain a permit to practice issued by the Ordre des architectes du Québec.

The Proponent shall provide the valid license number of the Architect(s) designated as the "Proponent's Representative" as defined in Article 3.2.3 of this Agreement, or indicate how the Proponent intends to meet provincial licensing requirements.

3.1.1 Licensing, Certification or Authorization

The proponent must be accredited, certified or licensed to provide the required architectural and engineering services to the full extent prescribed by provincial or territorial legislation in force 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
- Major Sub-Consultants / Specialists:
 - Structural Engineering
 - Electrical Engineering
 - Mechanical engineering (HVAC, plumbing, fire protection)
 - Cost management

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

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, GI9 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 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 (GI1), Integrity Provisions – Proposal, **section 3a**.

3.2 RATED REQUIREMENTS

The elements of relevance and comparability sought for the submitted projects are as follows:

- institutional context;
- heritage context;
- masonry works;
- scale and level of complexity.

3.2.1 Achievements of Proponent (architect) on Projects

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

Select two (2) recent, relevant and comparable projects completed (Certificate of Substantial Completion issued) within the last ten (10) years. Proposals submitted by a joint venture must not exceed the maximum number of projects. Only the first two (2) projects submitted in order will be considered and all others will receive no consideration as if they had not been submitted.

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

Information that should be supplied:

- project title and location
- the performance period (including the date of issuance of the certificate of substantial completion)
- 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.
- 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

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.

The proponent must demonstrate that the contribution of its entities has been significant and decisive in the realization of joint venture projects. Please indicate the responsibilities and involvement (including percentage) of each of the joint venture 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. For evaluation purposes, the key sub-consultants are those identified as follows:

- Structural Engineering
- Electrical Engineering
- Mechanical engineering (HVAC, plumbing, fire protection)
- Cost management

Select a maximum of eight (8) completed projects (Certificate of Substantial Completion issued) within the last ten (10) years. A maximum of two (2) projects should be submitted for each major sub-consultant. Only the first two (2) projects submitted in order (by sub-consultant or specialist) will be reviewed and all others will not be considered as if they had not been submitted.

Information that should be supplied:

- project title and location
- the performance period (including the date of issuance of the certificate of substantial completion)
- 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.
- 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

The Sub-consultants should have knowledge of the above projects. Previous project experience of entities other than the proponent will not be considered in the evaluation unless the entities are part of the proponent's joint venture.

Sub-consultants and specialists must demonstrate that the contribution of its entities has been significant and decisive in the realization of joint venture projects. Please indicate the responsibilities and involvement (including percentage) of each of the entities in this joint venture 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.

If the same key staff member will have to perform many functions, indicate this here.

The following key personnel should be introduced and meet the criteria mentioned :

3.2.3.1 Proponent Representative (Senior Architectural Project Authority)

Demonstrate that the applicant's representative is an architect who has been a member in good standing for at least fifteen (15) years of the Ordre des architectes du Québec or another recognized professional order. He (she) must have at least ten (10) years of recent relevant experience (within the last ten (10) years), as a senior project manager (project director), for all phases of projects of similar size, complexity and scope to the present project.

He/she must have the knowledge and skills to develop, approve and coordinate work plans to meet project cost, quality and schedule objectives.

He/she will act as the representative of the proponent (architect(s)-led entity or joint venture) to the PWGSC Project Manager and will act as the administrator for the overall management of the proponent's team.

He/she will be responsible for the relationship and communications between the Proponent (architect(s)-led entity or joint venture) and the PWGSC Project Manager and will handle all contractual matters related to the Proponent's architectural and engineering services with PWGSC.

The Manager will be responsible for the services provided by the Proponent (Architect(s)-led entity or joint venture) in relation to the overall objectives of the Project. He/she will act as the Project Director for the architectural discipline for the duration of the project.

3.2.3.2 Senior Architectural Site Supervisor

The Site Supervisor must be an architect with 8 years' experience OR an architectural technologist with 15 years' experience in site supervision.

Demonstrate that this key person has relevant experience in their area of expertise and on projects of similar size, complexity and scope to this project.

3.2.3.3 Engineering Project Managers: (a separate Project Manager for each specialty - structural, electrical, mechanical)

Demonstrate that this key individual has at least ten (10) years of relevant experience in their area of expertise and in projects of similar size, complexity and scope to this project.

The key person must be a member in good standing with the Ordre des ingénieurs du Québec.

3.2.3.4 Cost Management Project Manager

Demonstrate that this key individual has at least ten (10) years of relevant experience in their area of expertise and in projects of similar size, complexity and scope to this project.

The key person must be a member in good standing with the Association des Estimateurs et des Economistes de la Construction du Québec (AEÉCQ).

3.2.3.5 MDB/BIM Senior Manager

Demonstrate that the Senior MDB/BIM Manager has a minimum of ten (10) years of progressive consulting experience in the construction industry, including experience in the last four (4) years as a BIM Manager on projects of similar size, complexity and scope to this project.

He must have completed at least 2 projects involving the implementation of BIM and the coaching of stakeholders concerned by the BIM approach.

Information that should be provided for each key individual:

- name of the resource

- professional certification(s) and/or professional order, including year of registration
- degrees and area(s) of specialization(s)
- relevant experience, competence and number of years of experience
- achievements/achievements/excellence awards
- key achievements; for each project, the information presented includes, but is not limited to, the following:
 - Project identification (title);
 - Project location;
 - Client name and the name of the client's representative;
 - Date/period of completion (indicate the date of completion of the project);
 - Estimated fees for services performed;
 - Role, responsibilities and level of involvement of key person;
 - Project completion and delivery.

3.2.4 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
- quality control and quality assurance
- project schedule - proposed schedule for completion of key services at specified milestones
- project cost management strategy and proposed methodology to meet the overall construction budget
- risk management strategy including availability of resources, meeting deadlines, continuation of services, and compliance with roles and responsibilities.

3.2.5 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
- service management procedures to ensure continuity and consistency of control and the production and effectiveness of communications
- the team structure and its integration into the existing firm structure
- the way in which the team is managed.

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

3.2.6 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 Achievements of Proponent (architect) on Projects	1,5	0 - 10	0 - 15
3.2.2 Achievements of Key Sub-consultants and Specialists on Projects	2,0	0 - 10	0 - 20
3.2.3 Achievements of Key Personnel on Projects	3,5	0 - 10	0 - 35
– Proponent's Representative - Architectural Project Manager	(0,8)	(0 – 10)	(0 – 8)
– Senior Site Supervisor in Architecture	(0,4)	(0 – 10)	(0 – 4)
– Project Manager – Structural Engineering	(0,5)	(0 – 10)	(0 – 5)
– Project Manager – Electrical Engineering	(0,5)	(0 – 10)	(0 – 5)
– Project Manager – Mechanical Engineering	(0,5)	(0 – 10)	(0 – 5)
– Project Manager – Cost Management	(0,4)	(0 – 10)	(0 – 4)
– Senior Manager MDB/BIM	(0,4)	(0 – 10)	(0 – 4)
3.2.4 Scope of Services:	1,0	0 - 10	0 - 10
3.2.5 Management of Services	1,0	0 - 10	0 - 10
3.2.6 Design Philosophy / Approach / Methodology	1,5	0 - 10	0 - 15

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QCM034

N° de réf. du client – Client Ref. No.
R.102959

N° du dossier – File No.
QCM-0-43126

N° CCC / CCC No./ N° VME – FMS

Technical Rating			0 - 100
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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.

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.

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 PWSGC » and « Doing Business with PWSGC – 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 DESCRIPTION (PD)

PD 1 PROJECT INFORMATION

It is the intention of Public Works and Government Services Canada (PWGSC) to engage an architect-led entity to act as the prime consultant and to develop a multi-disciplinary team of sub-consultants and specialists, including building structural, mechanical, electrical engineering and cost specialist to provide the services required for this project.

1.1 PWGSC PROJECT TITLE:

Rehabilitation of buildings envelope, sewer system and replacement of the generator set |
Residence of the Governor General of Canada, Commander's Residence and Officers' Mess at the
Citadelle of Québec

1.2 PROJECT ADDRESS:

1, Côte de la Citadelle, Quebec City (Quebec) G1R 3R2

1.3 PWGSC PROJECT NUMBER:

R.102959

1.4 CLIENT / USER:

The Office of the Secretary to the Governor General (OSGG) | Department of National Defence (DND) |
Public Works and Government Services Canada (PWGSC)

PD 2 PROJECT IDENTIFICATION

2.1 DESCRIPTION

2.1.1 Project Summary

Public Works and Government Services Canada (PWGSC) is planning major work at the Governor General's Residence, the Commandant's Residence and the Officers' Mess at the Citadelle of Québec, as well as three other adjacent buildings: the Cap-aux-Diamants Redoubt, the pumping station and the former latrines. This project aims to ensure, on the one hand, the conservation of these heritage structures by repairing the building envelopes (masonry, doors, windows and certain roofs), on the other hand, the proper functioning of the infrastructure by repairing part of the sewer system and finally, the safety and compliance of the emergency facilities by replacing the generator set at the Governor General's Residence. To this end, PWGSC hereby solicits the services of a multidisciplinary team of consultants and specialists to evaluate, design and ensure the completion of this project.

The Residence of the Governor General at the Citadelle of Québec serves as the second official residence of the Governor General of Canada, who stays there during his stays in Québec City. PWGSC acts as the building's custodian and provides property management, as do the Cap-aux-Diamants Redoubt, the pump depot and the old latrines. The Commander's Residence and Officers' Mess is the permanent residence of the Commander and Sergeant Major of the 22nd Regiment and the Department of National Defence is the custodian department. These buildings were built between 1693 and 1985 and are recognized by the Federal Heritage Buildings Review

Office (FHBRO) for their heritage value based on their historical, architectural and environmental values. The work resulting from this project must respect and preserve their heritage value.

2.1.2 Brief Site Description

The Citadelle is located at the highest point of Quebec City, Cap Diamant, and is an integral part of Quebec City's fortifications. It was built mainly between the 1820s and 1850s by British troops. Some buildings, however, date from before these years during the French regime, namely the Cap-aux-Diamants Redoubt, dating from 1693, which is in fact one of the oldest French military building in Canada, and a former powder magazine dating from 1750. A few buildings were also built around the 1950s.

To this day, the Citadel is still occupied by the Royal 22nd Regiment, and the Department of National Defence (DND) is therefore the main custodian department. The site houses the administrative offices of the 22nd Regiment, as well as the permanent residences of the Commander and the Regimental Sergeant Major (RSM). Military activities are still numerous (ceremonies, training, exercises, gatherings and others), especially during the summer period. The second official residence of the Governor General of Canada, established in 1872, is also located on the site. The Governor General occasionally stays here during the year, and certain events and diplomatic meetings take place there. PWGSC is the custodian department for this residence, as are the buildings of the Cap-aux-Diamants Redoubt, the pump house and the former latrines.

Part of the Governor General's Residence (the Residential Wing), the Commandant's Residence and the Officers' Mess occupy the same building, the former Officers' Quarters, built in 1830-1831 by military engineer Elias Walter Dunford. However, this internal division is imperceptible from the outside.

The Citadel was declared a site of national historic significance in 1980 on the recommendation of the Historic Sites and Monuments Board of Canada (HSMBC). It is also designated as a "Classified" Federal Heritage Building, as assessed by the Federal Heritage Buildings Review Office (FHBRO). In addition, it is part of the Historic District of Old Québec, which has been a UNESCO World Heritage Site since 1985.

Because of its rich history, heritage value and still active military presence, the Citadel is also a popular tourist destination year-round.



Aerial view of the Quebec Citadel

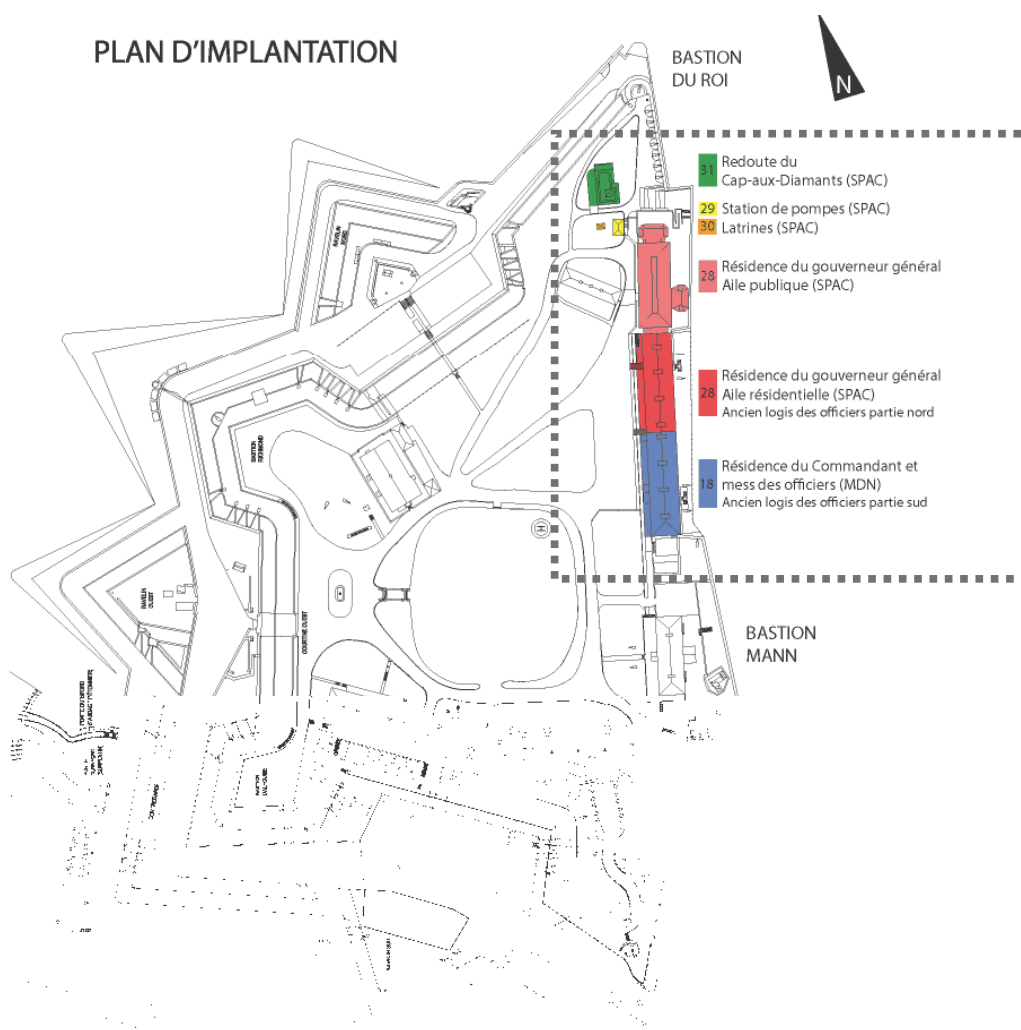
© Ville de Québec

2.1.3 Background

Over the past few years, several studies have been conducted to assess the condition of the components of the Citadel's buildings under the custody of PWGSC. The results show that major work must be planned for the building envelope, the storm and sanitary sewer system and the generator set. These studies must be updated to take into account the current condition of these components, new user requirements and new organizational objectives.

In addition, the condition of the envelope of the Commandant's Residence and Officers' Mess also requires rehabilitation work and the Department of National Defence, which manages this building, has mandated PWGSC to manage this project.

PWGSC has chosen here to combine all works into one in order to optimize efforts and expertise, ensure consistency in interventions and avoid the inconveniences of managing management of concurrent projects on site.



Implementation plan and identification of the buildings targeted by the project

Note: To facilitate their identification, the buildings at the Citadelle are identified by numbers, as shown on this plan.

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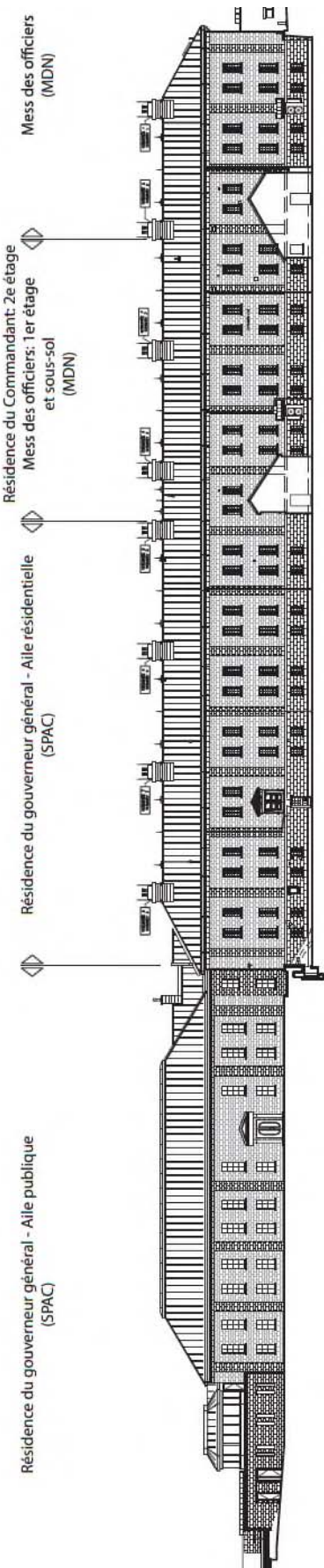
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R. 102959

N° de la modif – Amd. No.

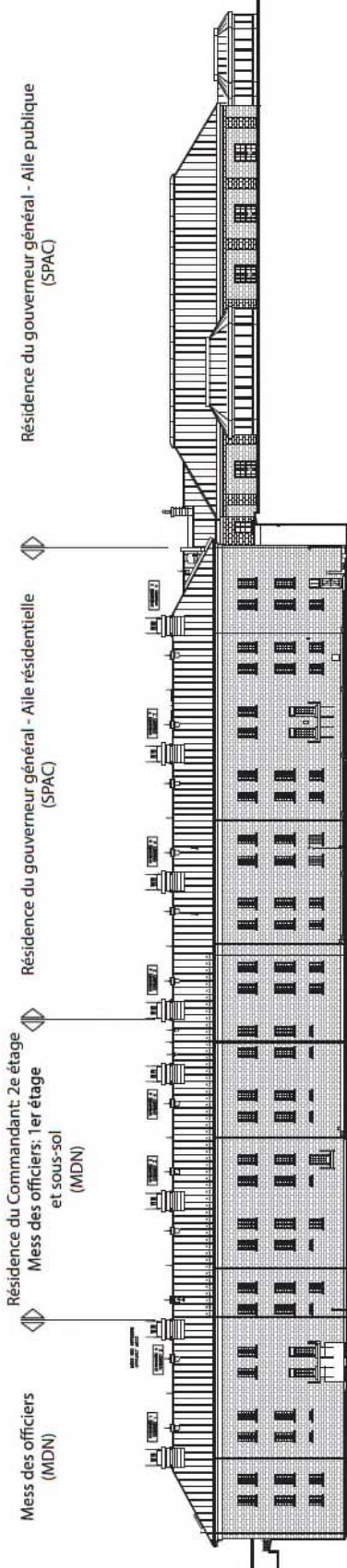
N° du dossier – File No.
QCM-0-43126

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West elevation of the residences and the Officers' Mess



East elevation of the residences and the Officers' Mess

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QCM-043126

Id de l'acheteur – Buyer ID
QCM034

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Residence of the Governor General (residential and public wings)
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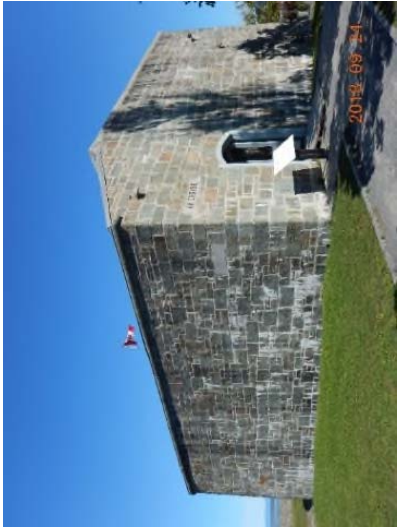
Commandant's Residence and Officers' Mess
<https://upload.wikimedia.org/wikipedia/commons>



The pumping station Building no 29
©TPSGC



The former latrines Building no 30
©TPSGC



The Cap-aux-diamants Redoubt Building no 31
©TPSGC

2.1.4 Constraints and challenges

The consultant will need to consider the following constraints and challenges:

Industrial Safety

This project has specific security requirements as outlined in the Special Instructions to Proponents (SI) and Supplemental Conditions (SC) sections. These must be adhered to by all parties involved at all stages of the project.

As in any federal building, and more specifically for the Residence of the Governor General of Canada and the Commandant's Residence, anyone accessing the interior of the buildings will have to be accompanied by a custodian (commissionaire). Visits and interventions inside the buildings must therefore be planned and coordinated closely with the PWGSC Project Manager in order to warn users and provide the necessary escorts at least (48) hours in advance.

Site occupancy

Considering that the activities of the residences and the site will not be interrupted, from the planning to the realization of the project, the consultant will have to take into consideration the logistics of the building's operations (the residence not being accessible during the Governor General's official visits), the difficulty of accessing the site, and the impacts of the work on the Citadel's military and tourist activities.

Heritage value

As part of the Federal Heritage Buildings Policy, the heritage features of the site and buildings must be considered throughout the project. The document "Standards and Guidelines for the Conservation of Historic Places in Canada" produced by Parks Canada is an indispensable reference tool. The applicant's team must be able to provide the services requested with qualified personnel or hire the services of a firm specializing in this field.

Archaeology

The buildings are located on an area of high archaeological potential. The consultant will have to work in close collaboration with the archaeologist who will be mandated to establish the mitigation measures required to ensure the conservation of the archaeological resource. The consultant will have to take this into account, particularly at times when excavation is required on the site during the various stages of the project (surveys, plans and specifications and monitoring of the work) and during which archaeological monitoring will be required.

Management of contaminated soils and products

An inventory conducted in the residence in 2014 confirmed the presence of several materials containing asbestos fibres, including most of the plaster and some insulation. Other inventories will be carried out by PWGSC to characterize other materials that may be affected by future work. The consultant will have to take all necessary measures and respect all previously referenced laws from the beginning of the project until the end of the work.

2.1.5 Key Dimensions

The buildings have the following approximate dimensions:

- The private wing of the RGG: 45.6 m x 14.6 m x variable height depending on the facades (3 floors)
- The public wing of the RGG: 43.0 m x 15.3 m x variable height depending on the facades (2 floors and a basement)
- The Commandant's residence and the Officers' mess: 50.6 m x 14.6 m x variable height depending on the facades (3 floors)

- The redoubt: 20.6 m x 15.3 m x 10 m high
- The pump station: 5.0 m x 8.0 m x 3.0 m high
- Old latrines: 8.0 m x 3.1 m x 2.7 m wall height

2.1.6 Project Implementation Strategy

The project will be carried out in traditional design-bid-build mode and the implementation of the work would be entrusted to a general contractor. Considering the nature of the interventions and the occupation of the site, the work may have to be carried out in phases in order to minimize inconvenience to users and the activities of the Citadel and the Governor General's residence.

2.2 COSTS

Based on various studies already produced, the construction cost of the project is estimated at \$ 9 025 000 plus taxes (category D). This cost is divided as follows according to the project components:

- Repair of the building envelope: \$ 6 895 575
- Repair of the drainage system: \$ 787 100
- Replacement of the generator: \$ 1 342 325

This estimate will have to be validated by the consultant based on all project considerations and the information contained herein. This estimate will have to be revised at each stage of the project, in accordance with the requirements related to the services to be rendered.

2.3 TIMETABLE

The schedule presented below is preliminary. The consultant will be asked to submit a realistic work schedule with the objective of completing the project as soon as possible. It should be noted, however, that the project will be carried out in three successive stages interrupted by approval periods (see Article 8.2).

- Request for Proposals Period: November 2020 January 2021
- Granting of the mandate to the consultant: January 2021
- SR1 Project Requirements Analysis: February 2021 to April 2021
- SR2 Conceptual studies: May 2021 à October 2021
- Project analysis and approval period: November 2021 to March 2022
- SR3 Design Development: May 2022 to October 2022
- SR4 Construction Documents: Novembre 2022 to July 2023
- Project analysis and approval period: August 2023
- SR5 Public tender: September 2023 to October 2023
- SR6 Construction Contract Administration: November 2023 to April 2026

It should be noted that the duration of activities is preliminary and it is the responsibility of the consultant, as part of its mandate, to establish the schedule, verify and confirm the feasibility of the activities.

PD 3 SITE DESCRIPTION

3.1 DESCRIPTION OF THE BUILDINGS

3.1.1 The Commandant's Residence and Officers' Mess (Building 18)

The Residence of the Commander of the 2nd Regiment and the Officers' Mess occupies the southern half of the former Officers' Quarters at the Citadel, built in 1830-1831 by military engineer Elias Walter Dunford. The other half is now occupied by the private portion of the Governor General's Residence. This internal division is imperceptible from the outside, so the entire building will be described.

The former Officers' Quarters acts as a curtain wall between the King's Bastion and the Mann Bastion, meaning its riverside wall is an integral part of the ramparts that bound the Citadel. The building is rectangular in shape and made of Montreal limestone. It has two storeys and a basement lit on the west side by an English courtyard. Fifteen bays framed by simplified pilasters punctuate the main façade and three doors with porches are symmetrically distributed. At the rear, the basement is completely exposed. The hipped roof is covered with copper chalkboard. The building is surmounted by eight chimney stumps, each serving six fireplaces, only two of which would still be functional. The classical vocabulary, the quality of the materials, the attention to detail and the regularity and two-dimensionality of the ensemble are inspired by the neoclassical style in general and English Palladianism.

3.1.2 The Residence of the Governor General of Canada (Building 28)

The Residence of the Governor General at the Citadelle of Québec is composed of two wings, the residential wing and the public wing.

The residential wing

As mentioned above, the residential wing of the Residence of the Governor General at the Citadel occupies the northern half of the former Officers' Quarters.

The public wing

The Public Wing is a visually distinct body of building from the former officers' quarters, but is physically connected to it. Inaugurated in 1984, it is a construction that replaces without imitating the previous annexes, which were destroyed in a violent fire in 1976. Mandated by PWSGC, the architectural firm Déry, Blouin et Associés was responsible for its design. Although the public wing has a mixed concrete-steel structure, it retains several characteristics of the appearance of the former officers' quarters: the overall proportions of the complex, with its two storeys and rectangular shape; the simplified pilasters and entablature; the rhythm created by the pilasters and window duos; the hipped roof; and the use of limestone. A stone porch emphasizes the entrance, not unlike the wooden porch at the entrance to the residential wing. Two rooms stand out from the main body of the building as outwork structures: the Frontenac room to the north and the Saint-Laurent room to the east. These overhangs have a much more modern look with their abundant glass walls, supported by a steel frame. They provide access to a large terrace with a view of the river.

The public wing is mainly intended to host ceremonies as part of the Governor General's official activities. On the first floor near the main entrance and on the entire second floor, large reception rooms follow one another. In addition to the reception rooms, the first floor of the public wing has several rooms for staff accommodation, offices and a kitchen. The basement is occupied by the mechanical rooms.

The Residence of the Governor General at the Citadelle of Québec is designated a "classified" federal heritage building by the Federal Heritage Buildings Review Office (FHBRO) (FHBRO 90-313).

3.1.3 The Cap-aux-Diamants Redoubt (Building 31)

Built in 1693-1694, the Cap-aux-Diamants Redoubt is the oldest existing military building in Quebec City and one of the oldest in Canada. It was designed by Josué Dubois Berthelot de Beaujours at the request of Governor Frontenac, during the first phase of construction of defensive buildings to protect the city from a siege or European-style invasion.

The Cap-aux-Diamants Redoubt is a massive silhouette building, approximately 20 m by 15 m at ground level. On the western flank, it can be considered to be a lean-to building, in the sense that it is a structure that leans against the wall of the rest of the building. This distinction is not visible from the main (south) facade, but it is accentuated on the north side by a quarter-circle end. The redoubt is one storey high, but part of the roof terrace for artillery fire can be accessed from the interior. The roof on the west side is single-pitched, with a conical shape on the north side to follow the circular course of the wall.

The walls are of load-bearing masonry with irregular Sillery green sandstone facing. Despite their thickness, the walls are plumb, except for the north wall, which has a more pronounced fruit than the others.

The Redoubt is a Federal Heritage Building Review Office (FHBRO) "classified" building since May 16, 1991 as "Building 31" (No. 89-163).

3.1.4 The Pump Station (Building 29)

The pump station was designed and built by the Royal Engineers in 1855. Originally built to house fire pumps, it was converted during the 20th century to house the air conditioning equipment for the nearby Governor General's Residence. The former Pump House still serves this purpose.

The building is rectangular in plan and has one storey. It is topped by a hipped roof of the "tin-rod" type with a masonry chimney block to the southeast. The walls are composed of large squared blocks of Sillery sandstone, laid in regular courses. To the north, an old window has been enlarged to create the main door, and to the west, the old door, crowned by a flower bed, is covered with a grille. There is a window on the east elevation, with the same inverted U-shaped lintel as the opening on the north elevation. Inside, there are no divisions, the masonry is exposed, and the ceiling is made of wooden slats. The fireplace is on the south wall.

Since 1993, the former pump house has been a Recognized Federal Heritage Building.

3.1.5 The old latrines (Building 30)

The building that houses the old latrines and the old Battery Store was constructed under the supervision of Lieutenant-Colonel John Oldfield in 1842. Designed as a latrine for the Prison, this small building was also to serve as an ammunition store. The division wall, which delineated these two functions, was demolished and Building 30 is now used to store propane gas tanks used at Government House.

This single-storey, massive-looking building with a rectangular plan is the smallest of the buildings in the King's Bastion. The thick masonry walls are topped by a hipped roof with two ventilation ducts and a "chalkboard" type hipped roof. The limestone blocks from the Pointe-aux-Trembles quarry are upright and their base is regular. The north and south facades have no openings. The east and west façades each have a door topped by a flowerbed; the original building was divided in two in its center. These interior spaces, now unified, are covered with an exposed brick vault.

Since 1993, the Old Latrine Building has been a Recognized Federal Heritage Building.

3.2 RECOGNITION AND DESIGNATION OF THE HERITAGE VALUE OF THE SITE

The buildings involved in this project are located in the Quebec Citadel National Historic Site of Canada. This 1946 designation confirms the national heritage value of the Citadel complex, but is more symbolic than binding, so no special permission is required for any project. However, it reminds us to pay particular attention to the built environment in which the Governor General's residence is located and its relationship with the buildings surrounding it.

The Citadel is also on the territory of the declared heritage site of Old Quebec, a heritage protection granted in 1964 by the Government of Quebec. This status has a legal scope under the Quebec Cultural Heritage Act. In principle, modifications to the appearance of buildings located within the perimeter of a declared heritage site must be approved by the Minister of Culture and Communications. In the case of the heritage site in Old Québec, the municipality of Québec City and the Commission d'urbanisme et de conservation de Québec should also be consulted. However, since the Citadel buildings are federal property, they are not required to have the approval of either the provincial or municipal government.

Finally, the Citadel is part of the Historic District of Old Québec, which has been on the UNESCO World Heritage List since 1985. The site's inscription is based in part on the fact that the historic district is an "outstanding example of a fortified colonial city, by far the most complete north of Mexico" (criterion iv). It is clear that the Québec Citadel and its components are a contributing element to the heritage value of the site. Although UNESCO does not have the coercive means to impose heritage protection and conservation, this international recognition has a far-reaching symbolic, tourist and diplomatic significance. SPAC's responsibility is mentioned directly on the UNESCO World Heritage Centre's website: "The Department of National Defence, which is responsible for the Citadel, and Public Works and Government Services Canada [formerly SPAC] both have a role to play in the preservation of the district's heritage. »

The historical and heritage value of the Citadel has been recognized several times at the federal level (Site of National Historic Significance of Canada since 1980, Classified Federal Heritage Building). In addition, it is part of the historic district of Old Québec, which has been a UNESCO World Heritage Site since 1985.

This designation requires that heritage conservation specialists be consulted before carrying out any work that could affect its heritage value. SPAC's obligations are detailed in the Real Property Management Policy and in the Guide to Real Property Management.

PD 4 PROGRAM

Findings and needs are drawn from the various studies produced recently and are presented for each of the three components of the project, buildings envelope, sewer system and generator set.

4.1 BUILDING ENVELOPE

4.1.1 Findings

Masonry walls:

Apart from the public wing of the Residence of de General Governor, the buildings targeted by the project have load-bearing masonry walls, with a brick core and/or rubble stone with a facing of cut stone in Sillery sandstone for the redoubt and pump storage, limestone from the Pointe-aux-Trembles quarry for the private wing of the residence and the old latrines.

The thickness of these exterior walls varies from 760 to 900 mm. The interior walls of the private wing of the residence are finished with a plaster coating.

The exterior envelope of the public wing is made of an insulated cavity wall with 90mm thick cut limestone facing from the Saint-Marc-des-Carières quarry.

Despite the different types of construction of these buildings, the masonry of the residences, the redoubt, the depot and the old latrines presents several problems, including, but not limited to, the following:

- For both parts (private and public wings) of the Residence, many stones are displaced, cracked and even fractured, especially at the corners of the southeast and northwest walls, the joints are loosened, deeply disintegrated, hollowed out and/or filled with moss. This deterioration of the joints and the surface of the masonry promotes water infiltration inside the walls, creating disorder and deep deterioration of the masonry due to freeze-thaw cycles. There is no visible deformation (swelling or differential displacement), but it is noticeable that many of the facing stones are of poor quality, with significant surface defects and a degree of deterioration that is higher than the average for the stones on this façade. The deposit beds of these stones are hollowed out and have a very dark color due to moisture absorption.
- On the public wing side, a thermographic analysis carried out in 2020 revealed water infiltration in the masonry facing and several thermal anomalies at the junction of the building components.
- Significant cracks in the masonry walls of the redoubt and pump house threaten the integrity of the masonry;
- Corrosion of metal anchors embedded in the masonry at various locations on the east facade has caused some stones to shatter and fragments to break away from the wall. Numerous rapid holes for building services (ventilation, siamese sprinkler system, oil ingress, etc.) are undermining the integrity of the exterior wall;
- Inside the public wing, there are visible signs of water infiltration under certain windows.

Curtain walls

The Frontenac and Saint-Laurent lounges, which are appendices to the main frame of the public wing, are built with aluminum curtain walls made of all-glassed aluminum curtain walls of fixed sealed units integrating several double doors. The base of certain sections of the curtain walls are finished in limestone. The walls date from the construction of the public wing in 1984, and the main issues raised are :

- Thermal anomalies detected in the curtain walls, more specifically the aluminum mullions ;
- Discontinuous sealing ;
- Sealed units at the end of their useful life ;
- Certain facing stones at the base of the walls were displaced and the mortar joints were undone.

The doors and windows of the residences :

The exterior doors and windows of the private wing of the RGG and the commandant' residence were replaced in 1984. The 150 windows are made of painted wood, of traditional casement construction, and depending on the floor, have 16 or 24 single panes of glass. The storm windows are fixed with windows and, during the summer, are replaced with mosquito screens. The four (4) doors of the private wing (some with storm doors) are made of painted wood of traditional construction.

The exterior doors and windows of the public wing date back to the construction of the wing in 1984 and are of various sizes and construction. The 29 windows of the main body are fixed in painted wood and, depending on the floor, are either 6 or 8 pane or deadleaf type, with sealed glass units. The main door as well as the four (4) double glass doors leading to the terrace are also made of painted wood.

The latest building condition reports mention several problems with the wood windows, both for the public and private wings, including :

- Widespread peeling of the paint and splitting of the wood, some sections completely rotted ;
- Storm windows in poor condition, particularly on the east side of the building: poor ventilation between the windows and storm windows has resulted in deterioration of the lower parts of the windows and their sills ;
- the majority of window frames are damaged in the lower part and at the shelves;
- in the public wing, the reverse slope of the window sills traps water near the wooden frames and causes them to rot;
- window hardware is often defective (some hinges are broken and others very brittle, weatherstripping is deteriorated, putty is cracked and loose).
- de façon générale, tant du côté de l'aile résidentielle que de l'aile publique, faible résistance thermique du vitrage des portes et fenêtres et manque d'étanchéité autour des ouvertures, surtout du côté de l'aile résidentielle.

As for the wood doors, except for the four (4) double-glazed doors opening onto the terrace, their condition is considered to be transitory. They are deteriorated to various degrees (cracked and loose putty, peeling paint, wood splitting, notches, a few broken tiles, rusty hardware, rotten sills, etc.), which undermines their integrity.

The roofs of the pump depot and the old latrines :

The pump depot and old latrines have a green-painted galvanized steel hipped roof of the "chalkboard" type. These are the same features as the old roof of the former Officers' Quarters (Building #28 and #18) before it was replaced in 2016 with a copper roofing system. The flashings, soffits and fascias are also made of painted galvanized steel. The sheet metal on both buildings is rusty, damaged and unsightly.

Cap-aux-Diamants Redoubt building: it includes a special sloped roof with a modified bitumen elastomeric membrane of approximately 100 square meters and horizontal stone masonry.

4.1.2 Needs

In general, PWGSC wishes to carry out the necessary rehabilitation work to ensure the durability of the envelope of these buildings and the conservation of their heritage value. More specifically, the needs currently identified are as follows:

- Restoration of solid masonry walls: repointing of facing masonry to ensure watertightness, replacement and/or repair of fractured or damaged stones, rebuilding of certain sections of unstable or disordered wall cores. Treatment of metallic elements integrated to the works and presenting corrosion.
- Restoration of the stone facing of the exterior walls of the public wing: repointing of the facing masonry to ensure watertightness, replacement and/or repair of fractured or damaged stones.
- Repair of the exterior walls of the public wing (including curtain walls): correction of thermal anomalies and, if possible, improvement of the energy performance and management of thermal bridges in the exterior walls.
- The repair and/or replacement of doors and windows (scope of work to be evaluated) to ensure the durability of the structure and the improvement of the energy performance of the systems.
- The replacement of damaged roofs of the pumping station and old latrines to solve water infiltration problems and to fit the main roof of the residence. Addition of snow fencing and gutters.
- Note: In principle, and unless otherwise stated following surveys and inspections, no intervention is planned on the roof of the public and private wings of the residence.

4.2 DRAINAGE SYSTEM

4.2.1 Findings

The sewer system at the Citadel of Quebec City is mostly of the unitary type. The Citadel's wastewater is discharged to the City of Québec's combined sewer system via five (5) outfall pipes. Some sections of the sewer system cross directly under the Citadel's fortifications to join the City of Québec's combined sewer system. For example, a pipe near building QC-42 passes under the walls of the Citadel in a tunnel, while at building QC-28, the pipe passes under the building. In fact, the latter pipe drains a good portion of the Citadel's network.

Several televised surveys and inspections of the residence's storm and sanitary drainage systems have revealed that several components of the sewer system, some of which are very old, are in very poor condition and are in serious disrepair.

The main problems identified with the storm and sanitary sewer systems are summarized as follows:

- sections of pipes were cracked, joints of pipes were dislocated, many plugs were blocked by roots or other deposits that were difficult to clean, manholes or catch basins were damaged, and there were problems with the general capacity of the network that could cause backups inside the residence. These problems were noted for sections upstream, under and downstream of the Governor General's residence;
- certain sections of piping are made of ABS and do not respect the flame and smoke propagation indexes and must be replaced by compliant piping ;
- several components of the existing sewer system (pipes and manholes) are either broken, blocked or dislocated ;
- drainage gutters are altered, victims of the freeze/thaw cycle ;
- a significant accumulation of water is observed at the junction of the sidewalk at the entrance of the residential wing and the parking lot paving ;
- the redoubt, the pump depot and the old latrines are not equipped with drainage.

It should be noted that the Department of Defence Canada (MDC), which is the main manager of the Citadel, conducted a complete analysis of the site's utility networks in 2015.

Finally, in addition to the problems with the rain and sanitary infrastructures, it was also observed that a masonry wall buried and located directly above the entrance of the sewer main crossing the building, upstream of the residence, was in a precarious state.

4.2.2 Needs

PWGSC wishes to evaluate and carry out the work required to ensure the proper operation and compliance of the drainage system by correcting problems with pipes, manholes and other elements of storm and wastewater pipes. The work would be located in three distinct sectors, at the level of the parking lot and the English courtyard in front of the residence, inside the residence and thirdly in the back yard, between Cap Diamant and the Residence. This major work will have to be coordinated with MDC.

Since many interventions on the sewer main require the excavation of the land near the building, it becomes logical to seize this opportunity to rebuild this damaged masonry wall.

4.3 GENERATOR SET

4.3.1 Findings

The existing generator set is located in the main electrical room in the basement of the public wing of the building and was installed in September 1977. However, the fuel system of the generator set was rebuilt in 2010. The chimney of the generator set is covered with thermal insulation containing asbestos.

According to electricity bills, the highest consumption is during the summer months. The highest power demand in recent years was recorded in July 2013 and totalled 156 KVA.

The current capacity of the generator set is about 48 kW / 60 KVA and is already insufficient to supply the building's essential services (heating, emergency lighting, fire safety, kitchen equipment).

Petroleum Products: The current installation consists of a double-walled fiberglass above-ground main tank with a capacity of 909 liters, located inside a building. Using a pumping assembly, the main tank feeds the aboveground auxiliary tank, located inside a steel, double-walled vacuum tank, ULC-S602 certified, with a capacity of 91 liters. This storage system can power a 48 kW generator set and has single-wall black steel piping. The existing main tank and auxiliary tank were installed in 2010.

In a January 2016 fire safety inspection report, PWGSC identified non-conformances with the installation of the generator set. These included the following:

- the electrical room receiving the generator set is not dedicated to the generator set ;
- this same room is not sprinklered and has an insufficient degree of fire resistance (DRF < 3h) ;
- the fuel is supplied from an adjacent room which has an insufficient degree of fire resistance (DRF < 2h).

No space is available in the existing building to accommodate new installations.

4.3.2 Requirements

Given its obsolescence and the non-conformity of its existing installations, PWSGC wants to replace the generator set

In addition, to meet operational and security needs, the Governor General's residence at the Citadel in Quebec City will have to be equipped with a generator with sufficient capacity to take all the electrical loads required to ensure the building's continuity of operations at all times. Only electrical loads related to the operation of computer equipment would be redirected to a backup generator.

This part of the project will therefore include:

- The construction of an extension or kiosk to accommodate the new facilities (it is evaluated to excavate the ground under the north deck and build a new space for the installation) ;
- The installation of a new generator of larger capacity, one (or more) inverter(s), and all related installations ;
- Upgrading of the emergency wiring, if required;
- The dismantling of the existing generator and all associated facilities (including the petroleum product tank) and the refurbishment of the spaces;
- Completion of all related work required.

PD 5 CANCELLED

PD 6 PROJECT OBJECTIVES

6.1 QUALITY MANAGEMENT

The Department expects the consultant to maintain a high standard of architectural design based on recognized modern design principles. All elements of design, planning, architecture, engineering and landscaping must be fully coordinated and consistently adhere to proven design principles.

The level of quality shall be compatible with that of other Government of Canada buildings. The character, overall configuration and scale of the project, as well as the materials used, must be compatible with the surrounding environment.

The project must be carried out in a manner that meets environmental standards and sustainable development commitments.

The quality of materials and construction methods must be appropriate for the type of building and budget. The choice of materials must also, to the extent possible, allow for an overall reduction in the intrinsic carbon of the building compared to a reference building and must be based on a life cycle analysis (LCA) approach that takes into consideration the useful life of the building. Thus, the choice of materials should take into account the results of the building's LCA. The use of experimental materials should be avoided.

Operating costs should be kept as low as possible. These costs should reflect the projected operating costs shown in the cost plan. This requirement can be met by adhering to the energy budget, selecting equipment that requires minimal staff to operate, selecting easy-to-maintain finishes, etc. The cost should reflect the projected operating costs shown in the cost plan.

6.2 SUSTAINABLE DEVELOPMENT

6.2.1 General

The project will have to be carried out in a way that respects environmental standards and the principles of sustainable development. The rehabilitation of the building will have to obtain sustainable development accreditations, see Appendix E - Sustainable Development. In addition, a life cycle analysis of the building envelope and structure will be carried out. The specific services required to complete the project are listed in the Required Services (RS) section.

Sustainability can be broadly defined as the ability to support and maintain elements now and for the future. It consists of the creation of sustainable social and cultural equity, economic prosperity, and the protection and restoration of ecological integrity.

Sustainable development is an integral part of the Government of Canada's objectives. Compared to other projects of similar scope, PWGSC aims to achieve more environmental services at the design stage. PWGSC wants the end result for this building to be a model of sustainable development. A number of policies and strategies have been put in place to guide the government's real property management practices. For example, the project will have to comply with the guidelines of :

- The Treasury Board Secretariat's Green Government Strategy;
- SPAC's Departmental Sustainable Development Strategy 2020-2023, 2020
- SPAC's Real Property Environmental and Sustainable Development Strategy, 2018

- PWGSC's Asset Sustainability Framework, 2015

In the context of this project, the following are the main lines of this strategic plan that will have to be taken into account at all stages of the project.

6.2.2 Major Building Rehabilitation and Site Development

Without limitation, the following elements will need to be considered throughout the design and renovation stages of the building and site development:

- Reduction of energy consumption and GHG emissions/carbon footprint
- Design renovations to achieve a zero carbon footprint;
- Use building materials that have a lower carbon footprint than traditional products and contain fewer hazardous substances (using a life cycle assessment (LCA) approach).
- Design building renovations based on LCA recommendations to reduce the environmental footprint of the new building compared to a similar reference building.
- Have an improved energy performance aimed at cost savings compared to the CNEB 2011. An energy study has been conducted to validate the feasibility and will be given to the successful proponent.
- The choice of energy efficiency measures will be made taking into account the 25-year life cycle cost analysis.
- Aim to design with a Thermal Energy Demand Intensity (TEDI) in line with CaGBC best practices if financially justified.

Adaptation to climate change

- Use best practices in water use to reduce water consumption.
- Reduce outdoor water consumption (irrigation), stormwater runoff and the use of toxic products through proper landscaping. Provide infrastructure that promotes the ecological management of runoff water in outdoor traffic areas and parking lots. Promote the use of low-water use landscaping and low-maintenance lawns composed of drought-resistant species.
- Design new infrastructure to effectively manage erosion, stormwater and sediment problems.

6.3 WASTE MANAGEMENT

Real Property Services (RPS) is related to the protocol for the management of non-hazardous solid waste resulting from construction, renovation and demolition work. This protocol covers the information required to manage this type of waste. The protocol meets federal and provincial policy requirements and is consistent with the commitments and immediate objectives of the RPS Sustainable Development Strategy for the management of non-hazardous solid waste generated by construction, renovation and demolition projects.

For all Real Property Services (RPS) projects exceeding 2,000 m² in area, a solid waste management program is required. This requirement is regulated in Ontario and exists as a policy across Canada. For any project less than 2,000 m², a preliminary assessment of the need for a waste management program must be completed.

Pilot waste management projects for construction, renovation and demolition of RPS have shown encouraging results. These results, along with those of similar projects conducted by other organizations, lead to the following findings:

- Between 50 and 95 p. 100 per cent of waste generated by construction, renovation and demolition projects can be diverted from landfill through reduction, reuse and recycling projects.

- Nearly 40,000 tonnes of waste is generated for every \$1 billion spent on construction projects.
- Contractors and project managers must build overtime into project schedules for the implementation of construction, renovation and demolition waste recovery measures. However, the additional labour costs can be recovered and up to 30 per cent of waste management costs (approximately 10 per cent of the total project budget) can be saved through reduced tipping fees, elimination of waste hauling costs and the sale of reusable and recyclable materials.

6.4 CODE COMPLIANCE

Codes, regulations, laws and decisions of "authorities having jurisdiction" must be complied with. Where there is an overlap of regulatory provisions, the most stringent will take precedence. The consultant should identify other regulations and agencies that have authority over the project.

6.5 RISK MANAGEMENT

A risk management strategy is essential to the management of PWGSC projects. Such a strategy brings together project planning and procurement planning. All of a project's stakeholders will be considered in the risk management strategy. These groups will form an integrated production team. The specific services required to deliver the project are identified in the Required Services (RS) section.

6.6 COST MANAGEMENT

Effective cost estimation and control are critical activities at all stages of the project. A key objective is to complete the project within the authorized funding, including justifying the viability and cost-effectiveness of design choices. The specific services required to deliver the project are outlined in the Required Services (RS) section.

6.7 SCHEDULE MANAGEMENT

Establishing a schedule that allows for full control of project time and effective schedule control are critical activities at all stages of the project.

The Consultant must establish a planning and control system to plan, schedule, monitor and report on the progress of project activities.

6.8 SCOPE MANAGEMENT

Project scope definition, development, verification and control are critical activities at all stages of the project. A key objective is to complete the project within the defined project scope.

The consultant must immediately inform the Departmental Representative, in writing, of any potential increase or decrease in the scope of work that could compromise the ability to achieve the project objectives, before it impacts on the cost, schedule or quality of the project.

6.9 HEALTH AND SAFETY

The Construction Health and Safety Directive (007-2) states that Public Works and Government Services Canada (PWGSC) recognizes that any person granted access to federal government worksites must be protected from hazards that could cause injury, illness or death. PWGSC also recognizes that provincial or territorial occupational health and safety laws and regulations apply to contractors under provincial or territorial jurisdiction who are engaged to perform work on Crown-owned or managed property and land.

To formalize PWGSC's commitment to the protection of all persons authorized to access construction sites managed or administered by the Department, the Consultant undertakes to :

- Ensure that Occupational Health and Safety (OHS) is an integral part of the execution of any construction project;
- Ensure that construction projects are structured and managed so that the role of PWGSC is not considered to be that of the builder, prime contractor or prime contractor and that PWGSC is not considered to have control over the work or activities;
- Reduce risk to the Crown and limit the legal liability of PWGSC employees;
- Provide clear direction with respect to roles and responsibilities.

PWGSC recognizes that it has an obligation to protect the health and safety of all persons working on Crown construction projects. PWGSC also recognizes that federal and private sector employees are entitled to the full protection of occupational health and safety regulations.

To meet this requirement and to enhance the protection of the health and safety of all persons on federal construction sites, PWGSC agrees to comply with provincial and territorial occupational health and safety acts and regulations, in addition to the Canada Occupational Safety and Health Regulations.

6.10 BUILDING DATA MODELING (BDM/BIM)

PWGSC intends to deploy the MDB/BIM process on major projects to take advantage of 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. The specific services required to complete the project are identified in the Additional Services (AS) section.

PD 7 ISSUES

While the cost, quality and timing of the project are important considerations that will need to be taken into account at all stages of the project, the following issues are considered to be of paramount importance in the completion of this project.

7.1 MAJOR SCOPE COMPONENTS - HERITAGE CONSERVATION

The heritage features of the site and buildings must be considered within the framework of the Federal Heritage Buildings Policy throughout the study. The document "Standards and Guidelines for the Conservation of Historic Places in Canada" produced by Parks Canada is an indispensable reference tool. The proponent's team must be able to provide the services requested with qualified staff or hire the services of a firm specializing in this field.

PD 8 CONSULTING SERVICES

8.1 DISCIPLINES AND SPECIALTIES

As an indication and in a non-limitative way, the team of the consultant must be able to provide the services in the following disciplines and specialties:

- | | |
|--------------------------|-------------------------------|
| – Architecture | – Electrical Engineering |
| – Structural Engineering | – Mechanical Engineering |
| | – Cost management and control |

-
- | | | | |
|---|---------------------------------|---|--|
| – | Commissioning of the facilities | – | Building Information Management and Modeling (BIM) |
| – | Risk Management | – | Translation of documents |

8.2 STEPS IN CARRYING OUT THE CONSULTANT'S MANDATE

The consultant's mandate will be developed in three distinct stages. The commencement of Phases 2 and 3 will be conditional on the approval of the previous phase by PWGSC and the provision of funding to continue the project. These phases are as follows and include the Required Services (RS) and Additional Services (AS) listed below:

- **Step 1: Analysis, Identification and Evaluation of Options**
 - RS1 Analysis of project requirements
 - RS2 Conceptual studies
 - AS4 Surveys, probing, inspections and exploratory breakthroughs
- **Step 2: Drawing up plans and specifications (optional upon approval of Step 2)**
 - RS3 Design development
 - RS4 Construction documents
 - AS1 Bilingual Construction Documents
- **Step 3: Project Implementation (optional upon approval of Step 2)**
 - RS5 Public tender
 - RS6 Construction Contract Administration
 - AS2 Enhanced Work Supervision Service

In addition, other services will also be provided by the consultant throughout the mandate. These are :

- RS7 Risk Management
- RS8 Commissioning of the facility
- RS9 Cost Estimation and Planning
- AS3 Building data modeling

Public Works and Government Services Canada reserves the right to optionally exercise the second and third stages of the mandate.

DP 9 AVAILABLE DOCUMENTATION

9.1 DOCUMENTATION - AVAILABLE TO ALL APPLICANTS

On the Web, including the following links:

- Lieux patrimoniaux du Canada, Fiche descriptive de la Citadelle de Québec, <https://www.historicplaces.ca/fr/rep-reg/place-lieu.aspx?id=3349&pid=0>
- Lieux patrimoniaux du Canada, Fiche descriptive de la Résidence du gouverneur général (Bâtiment 28) : <https://www.historicplaces.ca/fr/rep-reg/place-lieu.aspx?id=11429&pid=0>
- Lieux patrimoniaux du Canada, Fiche descriptive du Poste de pompes (Bâtiment 29), <https://www.historicplaces.ca/fr/rep-reg/place-lieu.aspx?id=10911&pid=0>

- Lieux patrimoniaux du Canada, Fiche descriptive des Anciennes latrines, (Bâtiment n° 30), <https://www.historicplaces.ca/fr/rep-reg/place-lieu.aspx?id=10895&pid=0>
- Lieux patrimoniaux du Canada, Fiche descriptive de la Redoute du Cap-aux-Diamants (Bâtiment 31), <https://www.historicplaces.ca/fr/rep-reg/place-lieu.aspx?id=3674&pid=0>

9.2 AVAILABLE DOCUMENTATION - DELIVERY TO THE SUCCESSFUL PROPONENT

- Plans – Résidence du gouverneur général – Agrandissement (1983) – Spécialités : architecture / électricité / mécanique / structure
 - Plans – Amélioration à la résidence du gouverneur général (1991) – Spécialités : architecture / électricité / mécanique / structure
 - Plans de l'existant en format .PDF et .dwg (ne sont pas à jour).
 - Projet 774265 (Amélioration de la résidence de 1977)
 - Projet 330495 (Reconstruction de 1983)
 - Projet 759147 (Drainage de 1987)
 - Projet 226943 (Remplacement du refroidisseur 2006)
 - Projet 029679-D9-006 (Restauration de la résidence 1978)
 - Fiche technique patrimoniale – Résidence du Gouverneur général à la Citadelle, SPAC (Janvier 2019)
 - Fiche technique patrimoniale – Redoute du Cap-aux-Diamant, SPAC, (août 2019)
 - Fiche technique patrimoniale – Anciennes latrine et entrepôt des pompes, SPAC, (août 2019)
 - Rapport d'état d'immeuble (REI) 2018, SPAC
 - Rapport d'état d'immeuble (REI) 2012, SPAC
 - Ancien logis des officiers et mess des officiers – Étude sur l'état de la maçonnerie des murs extérieurs, GENIVAR (2013)
 - Étude sur le remplacement du groupe électrogène, Résidence du gouverneur général du Canada, Citadelle de Québec, version 99% réalisée conjointement avec TETRA TECH, Architectura, Petrosur et TPSGC, 31 mars 2017.
 - Détail des panneaux électriques existants et modèle du groupe électrogène existant (SPAC)
 - Rapport sur les séparations coupe-feu et avis de l'ingénieur en sécurité incendie SPAC (janvier 2016)
 - Rapport de caractérisation des matériaux susceptibles de contenir de l'amiante à la Résidence du Gouverneur général du Canada à la Citadelle de Québec daté de mars 2014
 - Rapport d'analyse thermographique, Bouthillette Parizeau (2020)
 - Rapport d'Inspection par caméra d'une partie du réseau de drainage, SPAC (2008)
- Étude, options et recommandation, réseau des eaux pluviales et usées, Résidence du Gouverneur général, GENIVAR (2013)

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 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 required deliverables and submissions include summaries, reports, drawings, photos (with date and time of printing), plans or schedules, provide three (3) hard copies of each in their original format and one (1) electronic copy.

When deliverables and presentations include models or the results of a given modeling process, provide them in the original electronic format, in 2D (Autocad) and 3D (Revit) format, unless otherwise specified. Electronic format means the following:

Deliverable	Format accepted by PWGSC
Studies and written reports:	Microsoft Word and PDF
Spreadsheets and budgets:	Microsoft Excel and PDF
Presentations:	Microsoft PowerPoint
Timelines:	Microsoft Project
Drawings:	AutoCAD and PDF
MDB/BIM Models:	2D Electronic Format - Autocad Electronic 3D format - Revit
Quote:	National Master Quote (Microsoft Word format)

Details of draft deliverables, to be provided upon achievement of milestones and based on coordinated templates among project team members, including all information sharing requirements, will be identified in the implementation plan.

The creation of the electronic document sharing site will be the responsibility of the consultant. The consultant will be required to 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 design and construction teams must meet regularly throughout the project to ensure the progressive, diligent and efficient progress of the project. Meetings will be held by videoconference, at the PWGSC offices in Quebec City (1550 D'Estimauville Avenue), or at the project site.

The consultant shall schedule all the various meetings according to the terms and conditions of the Required Services (RS) and Additional Services (AS). In general, meetings will be held on a biweekly basis and key personnel of the project team will be required to attend.

At all stages of the project, the consultant is expected to prepare agendas, attend meetings, record items discussed and decisions made in minutes. Minutes shall be prepared and distributed within five (5) days of the meetings.

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 three (3) days.

1.7 SUBMISSIONS, REVIEWS AND APPROVALS

1.7.1 Writing style

The writing style should be logical, objective, clear and concise. Reports should be written in such a way that the reviewer can easily locate references and respond to related information in the report. Reports typically include, but are not limited to, the following sections:

- A cover page, indicating the project title, the nature of the report, the consultant's contract number, the author's name, the name and reference number of the PWGSC contract and the date, in a format that is unambiguous (e.g. January 1, 2018);
- A table of contents;
- An abstract;
- An introduction;
- A methodology section, which explains the methods and tools used (e.g., weightings, comparative analysis, etc.);
- A conclusion or summary;
- Appendices that include supporting documents referenced in the report, additional information and rationale.

1.7.2 Report Content

For the content of the reports, the consultant shall, among other things, :

- Ensuring that the executive summary provides an accurate and complete picture of the report, written in the same structure as the report, and that it focuses only on significant issues, findings and recommendations requiring review and approval;

- use a filing system such as Microsoft Word Plan mode for easy cross-referencing;
- Use correct grammar, including complete sentences, to avoid ambiguity and to facilitate translation when necessary; avoid using technical terms, jargon and sentences that are difficult to understand;
- Writes effectively by including only essential information in the body of the report and attaching additional information in the form of appendices as required;
- ensure that all correspondence is critically analyzed based on accepted goals and objectives, PWGSC standards and the requirements outlined in this project brief.

1.7.3 Revisions and Review of Work in Progress

The departmental representative, PWGSC Professional and Technical Services team (architecture, design, engineering, environment, etc.) and other quality assurance teams, users or authorities having jurisdiction will review the consultant's deliverables and provide comments at all stages of the project. The consultant shall formally respond in writing to all comments and adjust its documentation until all issues are resolved to the satisfaction of all authorities and approvals have been received. Should there be any conflicting comments, the consultant shall bring this to the attention of the departmental representative for resolution.

1.7.4 Submissions

- **PWGSC Internal Services**
 - Presentation format: report, plans and specifications, oral presentation
 - Submission schedule: at the time of submission of key milestones
 - Number of presentations: eight (8) in total
 - Expected processing time: 2 to 4 weeks for each document
- **Federal Heritage Buildings Review Office (FHBRO)**
 - Presentation format: report, plans and specifications, oral presentation
 - Presentation schedule: report, plans and specifications
 - Number of presentations: two (2) in total
 - Expected turnaround time: 2 months
- **Quebec City**
 - Presentation format: as per the terms and conditions
 - Schedule of presentations: as per terms and conditions
 - Number of presentations: as per terms and conditions
 - Expected turnaround time: as per the terms and conditions

Reviews and Approvals Chart	TPSGC		BEÉFP		Ville de Québec	
	R	A	R	A	R	A
RS1 Analysis of Project Brief						
Project Scope of Services Report	x	x				
Class 'D' Estimate	x	x				
RS2 Design Concept						
Design Options	x	x				

Recommended Design Option	x	x	X		X	
Class 'C' Estimate(s)	x	x				
RS3 Design Development						
Design Development Documents	x	x	X		X	
Class 'B' Estimate(s)	x	x				
RS4 Construction Documents / Tender Call						
33% Construction Drawings	x	x				
66 % Construction Drawings and Specs	x	x				
99 % Construction Drawings and Specs	x	x				
Class 'A' Estimate(s)	x	x				
Final Tender Documents	x	x			X	

Key

R = Review

A = Approval

1.7.5 Acceptance of Consultant Deliverables

The consultant must obtain written acceptance from the departmental representative for each stage of the project before proceeding to the next stage.

PWGSC reserves the right to reject incomplete, unsatisfactory or undesirable work. Work so rejected must be reworked and resubmitted for approval entirely at the consultant's expense. PWGSC approvals do not preclude the rejection of unsatisfactory work at a later stage of the review. If a progressive technical or design investigation of the project reveals that a previously granted acceptance should be withdrawn, the consultant must redo the work and resubmit it for acceptance, entirely at the consultant's expense.

No acceptance or approval by PWGSC, whether express or implied, relieves the consultant of professional or technical responsibility. Furthermore, acceptance of an estimate by PWGSC does not in any way abrogate the Consultant's responsibility to remain within the approved construction budget throughout the life of the project, or the need to redesign if the lowest acceptable bid differs materially from the approved construction budget.

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".

1.9 OTHER COMPETENT AUTHORITIES

While Canada does not formally recognize the jurisdiction of other levels of government, voluntary compliance with the requirements of these other authorities is required unless otherwise indicated by the Departmental Representative. In the event of a conflict between provincial and federal requirements, the latter shall take precedence.

REQUIRED SERVICES (RS)

Unless otherwise specified, the term "consultant" includes the services of the principal consultant and any sub-consultants and specialists required to complete the mandate.

The list of Required Services (RS) tasks is non-exhaustive and does not in any way limit the consultant's professional obligations to perform the tasks required to complete the project mandate.

The Required Services SR1 to SR6 will be provided in phases (see DP8, section 8.2). Services SR7 to SR9 inclusive will be delivered concurrently with services SR1 to SR6.

Required Services (RS) include :

- SR 1 Analysis of project requirements
- SR 2 Schematic design
- SR 3 Design development
- SR 4 Construction documents
- SR 5 Tendering, Bid Evaluation, and Award of Construction Contract
- SR 6 Construction and Contract Administration
- SR 7 Risk management
- SR 8 Enhanced commissioning of the system
- SR 9 Estimating and planning costs

Some of the activities listed in this section may require the efforts of several or all professionals. The consultant must coordinate the various members of his or her team (this includes sub-consultants and specialists) and is responsible for the execution of all elements of the mandate and for ensuring that all documents produced and information provided are coordinated among all disciplines.

RS 1 PROJECT REQUIREMENTS ANALYSIS

1.1 OBJECTIVE

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 have been approved. These approved documents will constitute the scope of services that will be used throughout the project as a reference document.

1.2 GENERAL

Scope of Services :

- 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.
- Establish the nature of the analyses of the surveys, drillings, complementary exploratory breakthroughs that will be required to complete the understanding of the state of the components and facilities.

1.3 DELIVERABLES

Comprehensive summary of the program and project statement demonstrating an understanding of the scope of the work, including the following :

- Report on existing base building systems components, including their condition, anomalies and expected life expectancy;
- Confirmed or adjusted project schedule and cost plan;
- Written identification of problems, conflicts or other perceived information/assumptions for clarification for consideration by the Project Manager.

RS 2 CONCEPTUAL STUDY

2.1 OBJECTIVES

The purpose of this step is to translate project requirements into spatial parameters, explore design options, and analyze them against previously identified program priorities and objectives. For each of the project components, four (4) options, including the status quo, will need to be established and analyzed in light of the surveys, surveys, inspections and exploratory breakthroughs completed (see Additional Services AS4). Following this process, one option will be recommended for design development.

2.2 GENERAL

Scope of services:

- Provide the Departmental Representative with written responses to the review comments made in the previous step (SR1) by the Departmental Representative.
- Obtain written approval from the Departmental Representative for the development of conceptual design options based on the analysis of the Project Brief.
- Analyze the information gathered from surveys, polls, and exploratory breakthroughs.
- Present design options that are viable and feasible to implement.
- Analyze each solution against project objectives, including project cost and schedule.
- Recommend an option for further development with all supporting documentation and technical justifications.
- Perform a life cycle analysis for each scenario, with the status quo representing the reference scenario for the life cycle analysis.

2.3 SPECIAL FEATURES

The following is a non-exhaustive list of services in each discipline. Some of the activities listed below may require the efforts of several or all professionals. The Consultant must coordinate the various members of his team (this includes sub-consultants and specialized consultants) and is responsible for the execution of all elements of the mandate.

The Consultant is responsible for ensuring that all documents produced and information provided are coordinated across all disciplines. This includes, but is not limited to

- Identification and Analysis of Options: The purpose of this section is to list and analyze all options available to meet the project requirements and to record the results of the feasibility assessment of each option. The documentation will include the rationale supporting the viable options. This section should include the proposed content :
 - In close collaboration with PWGSC, identify the mandatory screening criteria for the options.
 - List and describe all reasonable options that would satisfy the project requirements. Repairs, refurbishment, renovation, conservation or reconstruction in whole or in part. The baseline scenario should be included in the in-depth analysis as it usually re-presents the alternative option if the recommended project is not approved.
 - Distinguish between options that will require further analysis and those that are clearly impractical and will be eliminated. Briefly state the reasons why the latter are not selected.
 - The feasible options to be analyzed must be detailed and their estimated time frame must be determined. Feasible options should also be accompanied by indicative (Category C) estimates.

- Analysis of Non-Financial Factors: Aims to ensure that all qualitative factors that represent value to the federal government are considered in the analysis of investments. Examples of factors that may be considered include: client-defined needs, use of certain options, timeliness, regulatory requirements, health and safety, sustainability, accessibility, social contribution, environmental factor, sustainable development strategy, etc. The use of a weighted table with criteria and a factor coding scale from 0 to 5 is required.
- Option Risk Analysis: The purpose of this section is to identify the main risk factors associated with each option that is considered in the feasibility report. For example: regarding project scope, user requirements, implementation schedule, cost over-runs, future performance and environmental degradation. Once the risk factors have been identified, the relative level of risk associated with each option must be assessed. While various assessment methods can be used in this regard, one method is proposed below. The use of a weighted table with criteria and a factor coding scale from 0 to 10 is required. (0) representing very low risk and (10) very high risk.
- Summary graphical illustration to give an overall idea of the different options proposed;
- Estimated cost of work for the viable options;
- Development of the implementation scenario for the selected option;
- Reflections on heritage and archaeological considerations for the implementation of the project;
- Completion of preliminary engineering plans for the proposed options, based on the topographic surveys conducted (field and LiDAR), and a phasing plan to illustrate the proposed implementation scenario.

2.4 PRODUCTS TO BE DELIVERED

Report that presents, for each of the project components:

- Update of results and findings following surveys, polls, complementary exploratory breakthroughs;
- Description and comparative analysis of the four (4) viable options based on mandatory pre-selection criteria with a recommendation of the preferred solution;
- Summary graphic illustration to give an overall idea of the different options proposed for each of the disciplines of each of the project components;
- Plan drawings and elevation of the existing conditions of the work zones;
- Analysis of the performance and risks associated with the viable options;
- Reflections on heritage and archaeological considerations for the implementation of the options;
- Class C cost estimates, including the method used to carry out the work, assumptions made, costing alternatives and life cycle costs, potential risks, procurement strategies ;
- Report on variances from the work schedule and recommended corrective actions or updated time line ;
- Presentation of options in the form of a report detailing all systems interventions with a Class C estimate and timeline/sequence of work. Including :
 - o Energy calculation
 - o Simple profitability calculation
 - o Calculation of life cycle costs over 25 years
 - o Recommended installation sketch.
- MDB/BIM model and elements related to building data modeling (PCI and MDB) that meet the MDB objectives of the BMP. (refer to SA3) ;
- Development of the implementation scenario for the recommended option.

SR 3 DESIGN DEVELOPMENT

3.1 OBJECTIVE

The purpose of this phase is to further develop one of the options presented in the concept study phase. Design development documents consist of drawings and other documents to describe the scope and nature of the overall project in terms of the architectural, structural, mechanical and electrical elements, materials and other elements required as appropriate.

3.2 GENERAL

Scope of Work :

- Provide the Departmental Representative with written responses to the review comments issued by SPAC in the previous stage (RS2).
- Obtain written acceptance from the Departmental Representative for the development of one of the proposed design study options.
- If modifications are required, provide documentation to support all required changes, analyze the impact of the modifications on all project components and resubmit the documents for approval if necessary.
- Develops and clarifies the purpose of conceptual studies for each design discipline.
- Presents design material to the client, design review committee or other committees as directed by the Project Manager.
- Submits the study to government or local authorities as appropriate.
- Analyzes the project's capacity to deliver the project and advises on the work process and duration.
- Based on all material available at this stage, develop a schedule of milestone events for consideration, with particular attention to the impact on tenants.
- Continue to review all applicable laws, regulations, codes and by-laws related to the design of the project.
- Provide a list and summary specification sections of all NMS sections to be used. Submit summary specifications for all systems, major components and equipment. Attach to the summary specifications the manufacturers' documentation of the major components and equipment of the systems proposed for this project.
- Integrate the principles of sustainable development certifications into the design and construction of the project, with particular emphasis on materials and energy efficiency within the available budget.
- Procurement contracts for materials and equipment will be green and will include specific criteria to meet the elements of sustainable development. To this end, the experts of the Ministry's representative in procurement and environment will work with the Consultant to define the criteria to be included in the plans and specifications.
- Update the project's progress via the progress report.

3.3 PARTICULARITIES

Scope of Services :

3.3.1 Architectural Drawings :

- Site plan showing existing or proposed building(s) and environmental features.
- 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.
- Cross-sections :
 - Prepare cross sections that will show the relationship between existing buildings and the proposed elevations and plantings to provide a three-dimensional view of the site. Include freehand perspective sketches.
- Floor plans for each floor showing all required spaces, including all circulation areas, stairs, elevators, etc., required and ancillary spaces provided for crawl space. Define the areas that can be used as safety shelters. Indicate the building grid, modules, etc., and the dimensions of the main elements.
- Furniture and equipment layout plan.
- Elevation views of all the exterior facades of the building showing all the doors and windows with the exact dimensions and realizations. Clearly indicate the levels of floors and ceilings and any added roof.
- Cross sections through the building(s) showing floor levels, room height, interior corridor or yard elevation, etc.
- Details of cross-sectional views of walls or any special design features that, at this stage, require illustration or explanation, including fire protection methods.

3.3.2 Structural drawings :

- Drawings showing the proposed structural elements, foundation type, construction materials, wall and exterior cladding restraint details, and any other important or unusual details proposed. Drawings may be separate from or incorporated into architectural drawings. Include a copy of the investigation report of the site on which the design is based.

3.3.3 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 installation lo-rooms.
- Pipe and valve drawings showing the routing and dimensions of main piping and the location of valves and other required plumbing fixtures.
- Drawings of fire protection systems showing the main components.
- Prepare drafts based on the approved design. Update the energy analysis and budget established during the conceptual design stage.
- Update the list of requirements.
- Provide information on all internal and external energy loads in sufficient detail to determine if the proposal is compatible with existing services, the approved design and the energy budget.
- Conduct an analysis of the equipment and facilities selected and attach the necessary schematics and calculations to demonstrate the economic benefits of the selected systems.
- Describe the mechanical installations to be provided as well as the components of each installation. Describe the proposed operation of the mechanical systems.
- Explain the skills and functions required of operating personnel to operate building systems.
- Describe the architecture of building system controls. Provides a preliminary EMCS network architecture, schematic diagrams of mechanical controls and sequence of operations.

- Explain the acoustical control measures that will be incorporated into the design.

3.3.4 Electrical Drawings :

Submit drawings containing preliminary information on :

- Single line diagram of power supply circuits and their measurement and protection systems, including :
 - o The power rating of the connected equipment;
 - o CT and PT ratios and connections;
 - o Description of relays, if applicable;
 - o Maximum short circuit levels used for design purposes;
 - o Identification and capacity of services;
 - o the connected load and the maximum expected demand of each dispatch center.
- Electrical plans including the following :
 - o Floor elevations and room identification;
 - o Legend for all symbols used;
 - o Identification of outlet and control switch circuit numbers;
 - o the diameter of all conduits and wires, except for maximum diameters which should be specified in the specifications;
 - o a sign nomenclature indicating the loads for each sign,
 - o the layout of telephone conduits installed in floors/ceilings.
- Distribution diagrams for the wiring of lighting, power supply, telephones, telecommunications, fire alarm and other networks.
- Elementary diagrams of control systems.
- Nomenclature of motors and control devices.
- Lighting layout plan and lighting fixture nomenclature showing circuits and containing information on switching and fixture assembly.
- Electrical heating equipment location plan and related nomenclature.

Provide the following data :

- Total connected load.
- Maximum demand and diversity factors.
- Reserve load capacity.
- Short circuit requirements and calculations showing the power rating of the equipment used.

3.4 DELIVERABLES

- Floor plans that encompass all disciplines, showing in detail all services and floor elements necessary to make all design decisions and to substantially evaluate the cost of the project.
- Two (2) or three (3) sections of the building.
- Elevation views of the buildings and location of major interventions.
- Demolition plans.
- Architectural, structural, civil engineering, carpentry and finishing details to determine the choice of materials and finishes.
- Plans of reflected ceilings.

- Elevation views of all building façades
- Interior and/or exterior perspectives.
- Preliminary estimate for all systems and major components or equipment.
- Class B construction cost estimate.
- Preliminary work schedule including long term deliverables.
- Analysis report of applicable codes, standards, laws and regulations in force.
- Project file describing in detail the project's basic assumptions and justifications for all major decisions.
- Commissioning plan.
- Updated sustainable development strategy report.
- MDB/BIM model and building data modeling elements (PCI and MDB) that meet the MDB objectives of the BMP. (refer to SA3).

SR 4 CONSTRUCTION DOCUMENTS

4.1 OBJECTIVE

The purpose of this step is to prepare the drawings and specifications which must detail the requirements for the execution of the work and the final cost estimates for the project.

- 33% indicates that the technical development of all working documents is one-third (33%) complete.
- 66% indicates that the technical development of the project is fairly advanced - i.e., specifications, specifications, details, and more elaborate architectural and engineering plans.
- 99% indicates the submission of complete construction documents for tendering and submission to local authorities for review prior to application for required permits.
- The final submission incorporates any revisions required as a result of the 99% version and is intended to provide PWGSC with a complete version of the working documents for the purpose of the tender.

4.2 GENERALITIES

Activities are similar at all three stages; completeness of the project development should reflect the stage of a submission.

Scope of Services:

- Obtain Project Manager approval for documents submitted at all stages of design development (33%, 66%, 99% and final).
- Confirm the format for submission of drawings and specifications.
- Specify specific methods (i.e. staggered delivery of work).
- Submit drawings and specifications at required stages (33%, 66% and 99%).
- Provides a written response to all review comments and incorporates them into the construction documents as appropriate.
- Provides information on the status of cost estimates and presents updated cost estimates as the project progresses.
- Update the project schedule.
- Prepare a final Category A estimate.
- Review construction material and process specifications and confirm that they meet sustainable development objectives.
- Update project progress via the progress report.

4.3 PARTICULARITIES

Scope of Services:

4.3.1 Technical information and production meetings

- 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.

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.

4.4 DELIVERABLES

The deliverables are similar at all three stages; the status of project development should correspond to the stage of the submission being addressed.

4.4.1 99% Presentation :

- Complete specifications and working drawings.
- Commissioning plan 99% complete and facility operations manual.
- A copy of the complete color bills of materials, including textures, glosses, super graphics, color samples and material samples.
- A copy of the site data, soil survey report, geological sections of the drilling report, etc.
- 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.
- MDB/BIM mock-up and building data modeling elements (ICP and MDB) that meet the MDB objectives of the BMP. (refer to SA3).

4.4.2 Final presentation :

This submission incorporates all revisions required as a result of the 99% revision of the submission. Provide the following

- Complete set of working drawings.
- Complete set of the estimate.
- Category A construction cost estimate.
- Complete commissioning plan.
- Complete facility operations manual.
- Complete set of original color bill of materials.
- One set of the Soil Survey Report with modifications if necessary.
- One set of the Hazardous Substances Survey Report.
- As a safeguard against loss or damage to the original documents, keep a complete set of the drawings in reproducible form and a copy of the specifications.
- Submit the required drawings and specifications to the appropriate inspection services for approval prior to tendering.

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:
 - o the completeness of the submission documents in all respects;
 - o the technical aspects of the bids;
 - o the impact of alternative options and expertise that may have been included in the bid;
 - o the ability of bidders to carry out the full scope of work;
 - o 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 risk management plan.
- Progress reports and final variances on estimates and timelines.

N° de l'invitation – Sollicitation No.
EE520-211284/A

N° de la modif – Amd. No.

Id de l'acheteur – Buyer ID
QCM034

N° de réf. du client – Client Ref. No.
R.102959

N° du dossier – File No.
QCM-0-43126

N° CCC / CCC No./ N° VME – FMS

– BIM presentations according to the BIM objectives listed in the BMP.

RS 6 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 GENERAL

Scope of Services:

- 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.

6.3 PARTICULARITIES

Scope of Services:

6.3.1 Site meetings

- Immediately following contract award, convene a briefing meeting with the contractor, the departmental representative and key members of the consulting team.
- For the duration of the work and on a bi-monthly basis, convene and conduct site meetings beginning with the pre-construction briefing. Meetings should be attended by: site superintendent, site supervisors, sub-consultants. The Project Manager may invite client departments to attend any of these meetings. Prepare minutes of meetings and distribute copies to all participants and others as identified by the Project Manager.

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.

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 shall comply with the National Fire Code of Canada (NFC), as amended from time to time.
- 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.
- Verify that the contractor meets the requirements of the National Fire Code of Canada (NFC), the federal version.

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.

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. Ensures 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.
- Ensures 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.

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- 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 Materials on site

- The contractor may make a claim for payment for materials that are on site but have not been incorporated into the work.
- Materials must be stored in a secure location designated by the Department.

- A detailed list of materials with the supplier's invoice showing the price of each item must accompany the claim; the consultant is required to verify this list.
- Items must be listed separately on the detail sheet after the itemized list and the total.
- As materials are incorporated into the work, the cost of the materials should be added to the appropriate detail item and removed from the list of materials.

6.3.20 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.

6.3.21 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.

6.3.22 Certificates of Substantial Performance

- In order for this payment to be made, the parties concerned must complete and sign the following documents:
 - Certificate of Substantial Performance
 - Cost Breakdown for Fixed Price Contract
 - Cost breakdown for unit price or combined price contracts
 - Inspection and acceptance
 - Statutory Declaration - Certificate of Substantial Performance of Work
 - Certificate from the Commission de la santé et de la sécurité du travail (CSST).
- 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.

6.3.23 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).

6.3.24 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.

6.3.25 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.
- The consultant shall provide training sessions, as required, on the design intent and operation of the facilities. Use the facility operations manual for training sessions.

6.3.26 Keys

- Ensure that all keys and lock combinations are provided to the Departmental Representative and/or client department, as applicable.

6.3.27 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.

6.3.28 Certificate of Completion

- For the final payment to be made, the parties concerned must complete and sign the following documents:
 - Certificate of Completion
 - Cost breakdown for lump sum contract
 - Inspection and acceptance
 - Statutory Declaration - Certificate of Completion
 - Cost breakdown for unit price or combined price contracts
 - Clearance certificate from the Commission de la santé et de la sécurité du travail (CSST)
 - 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.

6.3.29 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.

6.3.30 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.

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

N° de l'invitation – Sollicitation No.
EE520-211284/A

N° de la modif – Amd. No.

Id de l'acheteur – Buyer ID
QCM034

N° de réf. du client – Client Ref. No.
R.102959

N° du dossier – File No.
QCM-0-43126

N° CCC / CCC No./ N° VME – FMS

- 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

SR 7 RISK MANAGEMENT

(Service to be provided throughout the term from RS1 to RS6)

7.1 PURPOSE

A risk management strategy is essential to the management of PWGSC projects. Such a strategy brings together project planning and procurement planning. All of a project's stakeholders will be considered in the risk management strategy.

The consultant must provide support to the departmental representative to identify risks throughout the life of the project. See "Doing Business with PWGSC" for "Definitions" and the "Risk Management Checklist".

7.2 GENERAL

Risk Management Process:

- Identify risk events based on your previous experience and using the proposed control list or other available lists;
- Qualify/quantify the likelihood of risk events (low, medium, high) and their impact (low, medium, high);
- Prioritize risk events (i.e., focus efforts on risk events with a high probability of occurrence and a medium expected impact);
- Develop a response to the risk (i.e., evaluate alternatives for risk mitigation). This is the true value-added of risk management);
- Implement risk mitigation measures.
- Work in concert with the departmental representative. At each stage of the work (from the start of SR1 of the mandate to the end of construction) :
 - o Provide a comprehensive list of risks and update it as the work progresses;
 - o Coordinate monthly risk management meetings with the Departmental Representative at each stage of the mandate;
 - o Provide a risk management plan at each cost estimate that updates the project risks, their associated costs and possible mitigation measures.

RS 8 COMMISSIONING THE SYSTEM

(Service to be provided throughout the term from RS1 to RS6)

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

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- 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.

8.1 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.

8.2 REQUIRED SERVICES DURING RS1 – RS2

8.2.1 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.

8.3 REQUIRED SERVICES DURING RS3 AND RS4

8.3.1 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.

8.3.2 Commissioning team

- Identify on the 66% 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.

8.4 REQUIRED SERVICES DURING RS5, RS6

8.4.1 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-startup 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.

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- 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.

8.4.2 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

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- 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).

8.5 REQUIRED SERVICES DURING THE OPERATION OR OCCUPANCY OF THE BUILDING

8.5.1 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.

8.5.2 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.

8.6 DELIVERABLES

See the deliverables list below:

- Design review report and design basis

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- 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

8.7 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 66%, 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.
- 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.

SR 9 COST ESTIMATION AND PLANNING

(Service to be provided throughout the term from RS1 to RS6)

9.1 COST SPECIALIST

The timely and on-budget completion of the project is a top priority. Therefore, an experienced team that is comfortable with estimating, planning and cost control techniques and has a proven track record of successfully managing large construction projects will be required. This team, referred to as the cost specialist, must master all aspects of construction cost estimation at the various stages of the studies and use the techniques of component cost analysis, risk analysis, life cycle costing, value analysis and value management.

Cost planning and control helps to achieve the financial objectives of the project and is part of a continuous and interactive process involving planning, intervention, measurement, evaluation and review.

9.2 SCOPE OF SERVICES

The Cost Specialist must provide ongoing interactive cost consulting services from the beginning of the project study phase to the end of construction. In addition, the Cost Specialist must prepare comprehensive cost estimates for all disciplines, cost escalation, inflation and potential costs.

The Cost Specialist shall provide PWGSC and the Consultant with consulting, cost monitoring and information services.

The Cost Specialist shall attend all project meetings held during the study phases. In addition, the Cost Specialist must be prepared to provide estimates to the Departmental Representative and to justify them, if required. The fee proposal should be based on a lump sum construction contract. If the Departmental Representative decides to deliver the project through project management, construction management, construction in lots or other methods, the Cost Specialist will negotiate any fee adjustments with the consultant that are acceptable to PWGSC, prior to proceeding with adjustments to the estimates and reporting systems.

Other services may be provided at additional cost, as required.

9.3 SERVICES - CORE BUSINESS

The Cost Specialist shall work with and advise the consultant team and PWGSC on the cost of building components and various facilities. Estimates should be detailed and cost summaries presented in the form of a cost per item analysis. Acceptable presentation formats are outlined in the following section on Presentation Requirements.

9.3.1 Reporting

Progress Reports: At each step 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 contained therein to review the estimates. Cost comparisons and cost reports should also be included, identifying variances between successive estimates, the reasons for these variances and their impact on the cost of the project.

In addition, the Cost Specialist should coordinate all estimates with schedules.

A typical progress report will contain the following elements:

- Summary of project cost estimates

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- Summary of Cost Estimates by Item
 - Details Supporting the Estimates :
 - o Baseline data used to calculate cost escalation, inflation, and potential costs;
 - o Detailed statements and prices.
 - Descriptive section :
 - o Summary description of the basic elements of the estimates.
 - o Description of the information used for the estimates, including the date of receipt.
 - o List of items included.
 - o List of items excluded.
 - o List of high-risk items/aspects.
 - o Notes on the cost specialist's past and planned activities.
 - Reconciliation of estimates :
 - o Reconciliation with last submission.
 - o Reconciliation with construction cost plan.
 - Any other relevant information.

Variance Reporting: The Cost Specialist must maintain ongoing cost control to be able to identify and promptly report any changes that have or may have an impact on the estimated cost of the work.

If, as a result of these changes, the estimates are lower or higher than the construction cost plan, the Cost Specialist and the consultant's team must provide full details to the Departmental Representative, submit alternative design solutions to PWGSC and revise the most recent monthly estimates.

The variance reports will contain sufficient descriptions and cost details to determine the following:

- Change in Project Scope: identification of the nature, reasons and cost effects of all actual and potential changes in project scope affecting construction cost estimates.
- Cost Increases and Cost Decreases: Determination of the nature, reasons, and overall cost effects of all actual and potential cost changes.
- Solutions for keeping the project within the cost estimates of
- construction: determination of the nature and potential cost effects of all alternatives that would keep the project within construction cost estimates.

9.3.2 Summary Requirements and Presentation Format

- Analysis of costs per item : Summaries of estimates should be presented in an agreed and consistent format for analysis. Several variations of the format may be accepted by PWGSC (after discussion), but it is preferable to use those following the ASTM (USA), CIQS (CDN), CSI Unifomat II (USA) or BCIS (UK) formats.
- Discipline Abstracts: Preferably use discipline abstracts that follow the model of the Standards Repository unless the methods in use in the region offer more appropriate solutions.
- Project Cost Breakdown: Costs for each phase of construction should be presented separately in the estimates. The projected costs for each phase should be broken down by building in the complex and by the following items:
 - o New construction

- o Renovation
- o Site development

Deadline

Since 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 released 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 at the conceptual and design development stages and early in the preparation of working drawings is incomplete. In such cases, assumptions must 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.

9.3.3 Technical

The cost specialist will need to be familiar with a wide range of techniques, especially the following:

- **Risk Analysis** All cost estimates for the work (except final pre-bid estimates) should anticipate and indicate study reserves, estimates, inflation and exchange rates deemed necessary based on available information. The Cost Specialist should provide appropriate justification for the level and/or amount of such reserves set for each estimate.
- **Scheduling** The Cost Specialist shall provide the Scheduling Specialist with the quantitative information, building systems information and other quantifiable parameters deemed appropriate for the development of a justified project schedule. The Scheduling Specialist shall assist the Cost Specialist by maintaining an up-to-date schedule of all design activities as well as tender and construction schedules that will be incorporated by the Cost Specialist into the timely estimates.
- **Life Cycle Costing** In advising the consultant on the costing of alternative materials, methods and systems, the Cost Specialist shall use all available information to ensure that the Cost Specialist has a complete cost profile for use in making design and construction decisions.
- **Continuous estimating process** The cost specialist may apply a process of continuous adjustment to previous estimates, rather than redoing all the work each time a new step is taken. However, if this approach is chosen, a complete and up-to-date itemized cost summary must be submitted at each stage, including a complete and detailed supporting file submitted separately, as described above.
- **Project Research** The Cost Specialist must become familiar with the condition, access, etc., of the proposed and alternate construction sites by conducting site visits. In order to determine price levels, the Cost Specialist must also analyze the local labour and supply environment, tendering methods and competition. A detailed report on the visit is required.
- **Value Analysis/Value-Based Management** PWGSC may request that a value analysis and value analysis-based management study be undertaken. The consultant's team participation in the study will be limited, 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.

No allowance should be made for this activity in the fee proposal as payment for this activity should be negotiated and paid separately by PWGSC.

9.4 SERVICES - SPECIFIC ACTIVITIES

9.4.1 Project Analysis Phase

Review and report on the Category D estimate and propose revisions. Do not begin the analysis until the cost specialist, consultant and PWGSC have accepted the revised Category D estimate.

The revised Class D estimate will become the construction cost plan.

9.4.2 Concept Study

A Category C estimate must be prepared using detailed costs and elementary costs that are proportionate to the accuracy of the available information.

9.4.3 Design Development

At the end of design development, a Category B estimate should be prepared representing the increased level of accuracy of the available design details. The report will be based on more accurate (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.

9.4.4 Contract Documents

During the production of contract documents, a continuous cost control process takes place. With each review of the contract documents, updated estimates must match the construction cost plan. In the event of a variance, the contract documents must be reviewed.

9.4.5 Pre-tender Construction Cost Estimates

Upon completion of the contract documents, prepare a Category A (pre-tender) cost estimate using measured quantities.

Break down the estimated costs by trade. This breakdown will be used to review the bids and cost breakdown of the successful contractor.

9.4.6 Bidding Stage

- **Request for Proposal** During the RFP period, the Cost Specialist must identify and sign any addenda to the RFP or contract that impact 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.
- **Bid Review and Analysis** The Cost Specialist shall assist the Departmental Representative, as required, by analyzing and agreeing on variances between the pre-bid estimate and the bids submitted.
- **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.
- **Reconciliation** Once the contract has been awarded to the successful 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 reconciled estimates will be used by the construction project team during the execution phase of the project.

9.4.7 Cost Specialist Services During Construction

During construction, the Cost Specialist shall assist the construction project team by providing cost guidance as required.

If the services of the Cost Specialist are required, the fees of the Cost Specialist shall be negotiated. This work may include the following activities:

- Evaluation of change orders;
- evaluation of claims;
- evaluation of completed work;
- cash flow evaluation.

9.4.8 Post Contract Award Period

The Cost Specialist may be required to assist the team by providing the details necessary to complete a project assessment of cost trends.

If so, his or her fees should be negotiated.

9.5 RESPONSIBILITIES OF TPSGC

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.

Non-Revocation of Consultant Responsibilities

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 cost estimates and 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 duration 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.

DESCRIPTION OF SERVICES - ADDITIONAL SERVICES (AS)

The list of tasks of the Additional Services is not exhaustive and does not in any way limit the professional obligations of the Consultant, its sub-consultants and its Specialized Consultants to carry out the tasks required to complete the mandate within the framework of the project.

Additional services include:

- AS 1 Bilingual Construction Documents
- AS 2 Enhanced site monitoring services
- AS 3 Building Data Modeling (MDB/BIM)
- AS 4 Surveys, probing, inspections and exploratory breakthroughs

AS 1 BILINGUAL CONSTRUCTION DOCUMENTS

Requirements for both official languages:

- The consultant shall prepare all tender and construction documents in both official languages of Canada.
- The two official languages are considered to be equal; neither is considered to be a translation of the other.
- The Consultant is responsible for the accuracy and completeness of the texts and for ensuring consistency of the documents.
- The plan books will have to be bilingual. Two versions of specifications shall be produced, one for each of the two official languages.
- Tendering documents, archival drawings and operations and maintenance documents shall 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 SERVICES OF INCREASED SURVEILLANCE ON THE CONSTRUCTION SITE

2.1 DESCRIPTION OF SERVICES

The purpose of enhanced monitoring services is to:

- To ensure the full-time presence of the Consultant's representative at the site to coordinate inspections and testing with other consultants and to inspect and monitor all work during construction. This supervision complements and complements the site visits scheduled for the required services (SR6).
- Liaise with the contractor, departmental representative and other agencies. More than one person may be required to be on call during construction hours.
- The consultant's on-site representative is responsible to :
 - Provide full time on-site inspection services (including overtime) for all aspects of the project and maintain daily records of all construction work in progress.
- The Site Representative reports directly to the Consultant. The Site Representative is required to be familiar with and master :
 - All contract documents;
 - The National Building Code of Canada, current edition;
 - All provincial and municipal health and safety standards for construction trades.
 - The requirements contained in the consultant's project statement and the responsibilities of other stakeholders related to the services provided by the consultant.

NOTE: The consultant must plan for the optimal use of these hours based on the needs of the site. The Ministry Representative may terminate these ongoing site inspection services at any time.

The consultant shall submit the name and summary of qualifications of the person who will be performing the enhanced site supervision for approval by the Ministry Representative.

2.2 SPECIFIC DUTIES AND RESPONSIBILITIES

The Site Representative will provide full-time on-site inspection, coordination and monitoring services during construction and will report to the Consultant. In addition, the Ministry Representative may delegate additional responsibilities to the Site Representative, subject to the approval of the former consultant.

The Site Representative is required to maintain daily records of all assigned construction work and will ensure ongoing communication among the Departmental Representative, the Consultant's Project Authority, Sub-Consultants, Sub-Consultant Site Supervisor, PWGSC Building Management, the Contractor and Sub-Contractors.

The Site Representative will coordinate the activities of an assistant (if required) and approved by PWGSC and provide the necessary instructions.

In the event of an emergency, the Senior Site Representative has the authority to stop work or issue orders to ensure the safety of workers or to protect Crown property. He or she must then immediately notify the Ministry representative.

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 Ministry 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 Ministry 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:

- Communicate instructions to contractors regarding the labour standards to be respected.
- Identifies poor workmanship or work that does not conform to drawings and specifications, discusses findings with the consultant and obtains instructions from the consultant. Findings should be reported to the contractor's construction manager. While informal discussions with secondary trade supervisors are generally permitted (but only with the agreement of the contractor), the site representative should not deal directly with foremen or tradespeople or otherwise influence the progress of the work.
- Communicate formally with the contractor, using site instructions only. When issuing such documents, the Site Representative must immediately forward copies to PWGSC and the consultant.
- Contacts the consultant immediately when it is apparent that information or action is required from the consultant, such as general instructions, clarifications, approval of a sample shop drawing, requests, planned change orders, site instructions, details, drawings, etc., are required.
- Accompanies PWGSC representatives during inspections and advises the consultant of requirements, observations and instructions made by PWGSC staff. It should be noted that the site representative should encourage these individuals to submit their requirements, comments or instructions in writing to the consultant.
- Review and evaluate any suggestions made by the contractor or changes to the documents and report them immediately to the consultant with comments.

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- Ensures that PWGSC and the consultant are promptly notified when key items and/or material and equipment components are delivered so that both parties can arrange for inspection by appropriate personnel prior to installation.

The Site Representative shall review any temporary or permanent connections to any of the building systems prior to installation, schedule the related work and provide written proof of such connections. The Site Representative shall provide a forecast and inform the Departmental Representative of any disruption of normal building services at least 24 hours prior to the commencement of the work, when the work cannot be performed outside of working hours.

2.7 DAILY LOG

The Resident Site representative shall keep a daily log recording:

- Weather conditions, particularly unusual weather relative to construction activities in progress;
- Work crews and equipment present on the site;
- Main delivery of materials and equipment;
- Daily activities and major work done;
- Start, stop or completion of activities;
- Presence of inspection and testing firms, tests taken, results, etc.;
- Unusual site conditions experienced;
- Significant incidents, remarks, etc.;
- Visitors on site;
- Authorities given contractor to undertake certain or hazardous works;
- Environmental incidents ;
- Reports, instructions from appropriate authorities response actions ;
- Any other information relevant to the proper management of construction work.

The log is the personal property of the Resident Site representative. Copies of the log book 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:

- Progress relative to schedule;
- Major activities commencing or completed during the week; main activities now in progress;
- Percentage progress of work according to each type of work and each specific sector;
- Major deliveries of materials and/or equipment;
- Difficulties which may cause delays in completion;
- Materials and labour needed immediately;
- Cost estimates of work completed and materials delivered (cost plus contracts);
- Outstanding information or action required by Consultant or PWGSC;
- Workforce;
- Weather;

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- Remarks;
 - Accidents on site;
 - 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:

- Contract and Tender Documents ;
- Approved Shop Drawings ;
- Approved Samples.
- Samples ;
- Site Instructions ;
- Contemplated Change Notices ;
- Change Orders ;
- Contractor's contract with the tendered costs;
- Previous and current claims for payment;
- Memoranda ;
- Test and Deficiency Reports ;
- Correspondence and Minutes of Meeting;
- 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 the Ministry 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 representative shall attend all job-site meetings

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 and the Ministry Representative 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 or 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 Ministry Representative.

2.14 LIMITATIONS

The Resident Site representative shall not:

- Authorize deviations from the contract documents.
- Conduct tests.
- Approve shop drawings or samples.
- Advise the user client in any matter without obtaining guidance from the consultant.
- Accept any work or portions of the building.
- Enter into the area of responsibility of the Contractor's Field Superintendent.
- 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. (Refer to 2.13)

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.

N° de l'invitation – Sollicitation No.
EE520-211284/A

N° de la modif – Amd. No.

Id de l'acheteur – Buyer ID
QCM034

N° de réf. du client – Client Ref. No.
R.102959

N° du dossier – File No.
QCM-0-43126

N° CCC / CCC No./ N° VME – FMS

The Resident Site representative will liaise closely with the Consultant and Ministry Representative on all security and/or safety problems that may arise due to the contractor's operations.

AS 3 BUILDING DATA MODELING (MDB/BIM)

(Service to be provided throughout the term from RS1 to RS6)

3.1 GENERAL

PWGSC's objective is to apply an innovative strategy to increase performance in reducing change during the project and to integrate the MDB/BIM process to take advantage of the different mock-ups and information that will be developed during the design and tender document development process.

The following paragraphs describe the process and the roles and responsibilities of the various stakeholders involved in the MDB/BIM process. For clarity, the full description of services is included in this section (RS3). It is important to note that the services to be provided are to be broken down as follows:

- The services to be provided by the Lead Consultant and the MDB/BIM managers for each discipline are included in the Required Services (RS).
- The services to be rendered by the MDB/BIM Specialist, the Senior Manager, Building Data Modeling (MDB/BIM) and the staff required to carry out the mandate are included in this section (AS3).

The main Consultant shall support the Senior BIM/BIM Design Manager and actively participate in close collaboration with all involved stakeholders and the Ministry Representative in the meetings described in this document to address the design needs arising from the established objectives.

He/she shall also:

- Designate an MDB/BIM Manager for each discipline who will be the primary contact with the Senior Design BIM Manager for the planning and deployment of the MDB/BIM approach;
- Deploy and ensure adherence to the MDB approach within his team in accordance with the BMP presented in Appendix F;
- Provide the construction contractor and its subcontractors with design mock-ups to optimize the constructability analysis, including but not limited to, systems coordination and work planning and monitoring;
- Provide 2D (Autocad) and 3D (Revit) emissions to SR2, SR3 and SR4 (66%, 99% and 100% and for tender). Between each program, the Ministry representative will provide comments that must be incorporated into the models produced;
- All plans and specifications must be submitted in 2D format (Autocad).
- The professionals will have to produce signed and sealed plans for submission and construction (2D). The 2D documents must be extracted directly from the MDB/BIM models and transmitted in paper and PDF format. These documents will be the contractual documents. The 3D models will be used for design purposes only. Specialized contractors will be able to refer to them for a better understanding when submitting their bid. If elements are contradictory, 2D documents will take precedence over the mock-ups.

3.2 DESCRIPTION OF SERVICES

Within the framework of the present project, the MDB must support the work of all stakeholders around the production and analysis of a model of all project data. The data thus centralized within the digital mock-ups is used to document and support the design, as well as to simulate the construction of the project, among other things, through the regular sharing of digital mock-ups. The MDB brings together all the project's stakeholders throughout the design process (RS1 to RS4).

The application of the MDB on the project must meet, but not be limited to, the following aspects :

- Serve as a design support and proof-of-concept tool for monitoring customers' functional needs, by synchronizing data between the modeling and the deliverable that includes the functional and technical requirements (FTP);
- Serve as a communication and visualization tool during integrated design workshops and design review workshops to stimulate exchanges and optimize decision-making;
- Serve as a tool for interdisciplinary coordination throughout the design process up to the call for tenders for construction projects;
- Serve as a tool for interdisciplinary coordination throughout the construction of the project in collaboration with the Contractor in order to eliminate any interference/conflict between disciplines in the contract documents before the start of the call for tenders (SR5);
- Enable visual reviews of the mock-ups and interference detection analyses to be performed and monitored (3D coordination);
- Produce the plan books required at the various stages of the Project;
- To meet the other objectives described in the MDB/BIM Management Plan (BMP).

3.2.1 The Senior Consultant (Required Services (RS))

The working methods of the various stakeholders, which include the Senior Consultant and its sub-consultants, are documented in the MDB/BIM Management Plan (BMP). The Senior Manager, Building Data Modeling (MDB/BIM)) must submit it to the Senior Consultant, who must then read, understand and improve it during the project's MDB/BIM management meetings.

These methods must be adjusted to the needs of the Project so that the MDB/BIM adds real value to the work of the consultant and the construction manager. The MDB/BIM management plan will establish the methods of collaboration, the level of modeling detail (LOD 300 minimum) and the objectives to be achieved for the success of the project;

The Senior Consultant shall support the Senior Manager, Building Data Modeling (MDB/BIM) and participate actively and in close collaboration with all involved stakeholders and the Construction Manager, in the meetings described in this document, in order to meet the design needs arising from the established objectives.

He shall also:

- Designate an MDB/BIM Manager for each discipline who will be the primary contact with the Senior Manager, Building Data Modeling (MDB/BIM) mandated by PWGSC for the planning and deployment of the MDB/BIM approach;
- Deploy and ensure adherence to the MDB/BIM approach within their team in accordance with the BMP; Refer to the preliminary MDB/BIM management plan presented in Appendix F.
- Provide the Construction Manager and his subcontractors with design mock-ups to optimize the constructability analysis, including but not limited to, systems coordination and work planning and monitoring;
- Produce a work plan (an MDB/BIM Implementation Plan (BIP)) that determines how the objectives of the BMP are met.
- Submit weekly, the most recent version of the virtual mock-up to the hosting site provided by the construction manager.

- Provide 2D (Autocad) and 3D (Revit) to SR2, SR3 and SR4 (50% and 99%) and plans and specifications for submission. Between each broadcast, the Senior Manager of Building Data Modeling (MDB/BIM) mandated by PWGSC will issue comments that must be incorporated into the models produced;
- All plans and specifications issued must be submitted in 2D format (Autocad). These plans and specifications must comply with the PWGSC technical drawing standards.
- Professionals will be required to produce signed and sealed plans for bidding and construction (2D). The 2D documents will have to be extracted directly from the MDB/BIM mock-ups and will have to be transmitted in paper format and in PDF format. These documents will be the contract documents. The 3D models will be used for design purposes only. Specialized contractors will be able to refer to them for a better understanding when submitting their bid. If elements are contradictory, 2D documents will take precedence over the models.

Fees

The effort and work required to prepare the consultant for MDB/BIM coordination meetings is included in the basic services on a percentage basis.

The attendance of the consultant's key personnel at MDB/BIM coordination meetings with the Senior Manager, Building Data Modeling (MDB/BIM) is excluded from the percentage fee arrangement and therefore the fee is included in the pre-determined overall package.

3.2.2 Senior Manager, Building Data Modeling (MDB/BIM) (Additional Service AS3)

The lead consultant may use an external firm or an internal resource for the lead building data modeler. This resource must, however, be a different person from the consultant's MDB/BIM manager or the MDB/BIM managers of its sub-experts. The Senior Building Information Modeling Manager is responsible for the project to establish a framework for the project based on the BIM objectives defined in the BMP, ensure its application, and provide quality control throughout the project development process in collaboration with the Departmental representative.

The Senior MDB/BIM Manager is responsible for developing the MDB/BIM Management Plan (BMP) for the Project, coordinating the deployment of the MDB/BIM approach and supporting the Project teams in its implementation.

Objective

- Ensure optimal deployment of the MDB approach;
- Ensure that the MDB approach brings added value to the various implementation activities, that it supports the ICP and that its implementation allows the Project's objectives to be achieved;
- Ensure quality control so that the work and deliverables of the Project teams comply with the BMP.

Roles and Responsibilities

- Produce an MDB/BIM Implementation Plan (BIP) that determines how the objectives of the BMP are to be achieved.
- Review the MDB/BIM implementation plan of the various stakeholders;
- Develop and define the different modeling strategies with the MDB/BIM Managers of each discipline:
 - Ensure during these workshops that the information integrated into the building data modeling (MDB/BIM) model is consistent and coordinated.
 - Write workshop proceedings and distribute copies to all participants within 48 hours.
- Coordinate the MDB/BIM component of the coordination meetings;
- Coordinate MDB/BIM coordination and management meetings. The Manager shall :

- Invite the Senior Consultant and 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 Building Data Modeling (BDM/BIM) model is consistent and coordinated.
 - Prepare workshop proceedings and distribute copies to all participants within 48 hours.
- Coordinate the work of all MDB/BIM discipline managers;
- Supervise and validate the compliance of the mock-ups with the BMP;
- Oversee the selection of MDB/BIM tools and ensure the interoperability of all data created and software used by Design Professionals;
- Monitor the availability and capacity of the MDB/BIM resources required to achieve the Project's objectives;
- Submit weekly, the most recent version of the virtual mock-up to the hosting site provided by the consultant;
- Coordinate and monitor the achievement of objectives;
- Act as the primary contact for MDB/BIM related issues.

3.3 MDB/BIM PGB MANAGEMENT PLAN

The purpose of these provisions is to allow the establishment of rules and modalities for the development, use, transmission and exchange of digital data for the project, in particular with regard to the creation and management of digital data, the realization of digital mock-ups, and coordination throughout the MDB process.

The parties agree to incorporate these rules and terms and conditions into their relationships with other stakeholders involved in the MDB approach to the Project who may make use of the digital data. Before transmitting or allowing access to digital data, a party signatory to the MDB Agreement may require another stakeholder involved in the MDB Approach to provide reasonable and tangible evidence that it has incorporated these rules and terms 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 to be defined in the information exchange matrix and an appropriate level of information with the objective of reducing change requests during the implementation phase. The working methods of the various stakeholders are set out in the MDB/BIM Management Plan (BMP) (see Appendix F). The consultant must then read, understand and improve it during the project's MDB/BIM management meetings. These methods must be adjusted to the needs of the project so that the MDB brings real added value to the work of the consultants and to the project deliverables (including those of this contract).

During the pre-MDB/BIM Agreement period: If a party to the MDB/BIM Agreement receives a digital model or mock-up prior to the signing of the MDB/BIM Agreement, that party must use, transmit or rely on the digital data with caution. In this context, any use or transmission of any model or mock-up is made without liability to the communicating party (or its consultants, subcontractors, agents and employees). Upon signature of the MDB/BIM Agreement, each of the signatories shall take the appropriate means to adjust the digital data created and pre-processed in accordance with the rules and procedures set out in the MDB/BIM Agreement.

Post-MDB/BIM Agreement: After the signing of the MDB/BIM Agreement, if a party to the MDB/BIM Agreement uses or relies on a digital model or mock-up for any purpose other than the Authorized Uses identified in the MDB/BIM Agreement, such use is at the risk of the receiving party. A party to the MDB/BIM Agreement may only rely on a model or mock-up in accordance with the level of development and progress (LOD) of the project

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Id de l'acheteur – Buyer ID
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R.102959

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N° CCC / CCC No./ N° VME – FMS

identified in the MDB/BIM Agreement according to the progress of the project, even if the content of a model element or mock-up includes data that exceeds this level of development.

AS 4 SURVEYS, PROBING, INSPECTIONS AND EXPLORATORY BREAKTHROUGHS

4.1 GENERAL

PWGSC has plans for the building. The consultant will have to validate them as already included in the required services. No additional payment will be made for this validation.

4.2 DESCRIPTION OF SERVICES

- In connection with the generator and the drainage system, carry out surveys of the existing installations and conditions:
 - In the event that certain information on the building is not available, incomplete or outdated following the validation of the building plans.
 - During the development of the feasibility study and the conceptual study, in order to validate on-site data to confirm or eliminate certain scenarios.
 - During the elaboration of the design and execution plans and specifications, the professionals, to complete missing information and to increase the level of precision of the plans and specifications and to limit unknowns.
- In relation to the building envelope, to perform a complete and meticulous inspection in order to assess in detail the condition of the masonry, doors and windows, roofs and other associated components. The list of activities listed is not exhaustive and it is the responsibility of the consultant to ensure that all necessary exterior and interior components are inspected.
- Specify the location of any test pits (curettage, stripping, dismantling / reassembly of stones or other) required to verify the composition of the exterior walls and/or to further assess the condition of the envelope in areas where elements are displaced or particularly deteriorated. Submit this document for approval to the Ministry representative. 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 site.
- Coordinate all building inspection activities with PWGSC in order to provide advance notice to users and to be accompanied by a security officer.
- Systematically records (text, table, sketches, annotated plans and photos) the findings made, and prepares a table listing all stones (to be numbered on the plans and/or images produced following the laser scan survey), the deterioration to which they are subject, and the intervention(s) required (see deliverables below).
- Plan, manage and supervise the specialized inspections and exploratory breakthroughs required to fully understand the nature and/or condition of existing components.