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LETTER OF INTEREST
LETTRE D'INTÉRÊT

Comments - Commentaires

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| Title - Sujet Cost & Time Consultant | |
| Solicitation No. - N° de l'invitation EP748-151888/A | Date 2016-07-26 |
| Client Reference No. - N° de référence du client 20151888 | GETS Ref. No. - N° de réf. de SEAG PW-\$\$\$FQ-002-71327 |
| File No. - N° de dossier fq002.EP748-151888 | CCC No./N° CCC - FMS No./N° VME |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-08-08 | |
| Time Zone Fuseau horaire Eastern Daylight Saving Time EDT | |
| F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/> | |
| Address Enquiries to: - Adresser toutes questions à: Yachuk, Dwight | Buyer Id - Id de l'acheteur fq002 |
| Telephone No. - N° de téléphone (613) 219-4553 () | FAX No. - N° de FAX (819) 775-7369 |
| Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF PUBLIC WORKS AND GOVERNMENT SERVICES CANADA CENTRE BLOCK 111 WELLINGTON ST OTTAWA Ontario K1A0A9 Canada | |

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

| | |
|---|--|
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| Signature | Date |

Issuing Office - Bureau de distribution

Centre Block Procurement Directorate/Direction des
achats pour l'édifice du Centre
185 Sparks Street, 3rd floor,
Ottawa
Ontario
K1A 0S5

Request for Information

for

Cost, Time, and Risk Management Services

on behalf of

Public Service and Procurement Canada (PSPC)

A.1. Consultation Process

In order to ensure a successful procurement for the provision of cost, time and risk management services, industry will be engaged in a consultative process as the first step in this procurement. The consultation process includes a Request for Information (RFI) stage that might be followed by one-on-one “Industry Meetings”, if necessary.

Industry is invited to provide comments and recommendations to the PWGSC Contracting Authority on Annex A and Annex B to the RFI document.

All Industry consultations will be documented and this information is subject to the Access to Information Act. Canada will not reveal any designated proprietary information to third parties.

A.2. Purpose of this Request for Information (RFI)

The information gathered from industry in response to this RFI will assist in the definition of the procurement strategy and the development of a bid solicitation.

Industry is invited to provide comments and recommendations to the PWGSC Contracting Authority on the Draft Statement of Work, in Annex A. Also, in order to facilitate the engagement process, Industry is encouraged to answer the list of Questions to Industry, in Annex B, and provide written comments and recommendations on any additional topics Industry may wish to discuss.

A.3. Nature of Request for Information

This is not a bid solicitation. This RFI will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list. Therefore, whether or not any potential supplier responds to this RFI will not preclude that supplier from participating in any future procurement.

Also, the procurement of any of services described in this RFI will not necessarily follow this RFI. This RFI is simply intended to solicit feedback from industry with respect to the matters described in this RFI.

A.4. Nature and Format of Responses Requested

Respondents are requested to provide their comments, concerns and, where applicable, alternative recommendations regarding how the requirements or objectives described in this RFI could be satisfied and/ or improved technically. Respondents should explain any assumptions they make in their responses and clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that

do not restrict the level of competition nor favour a particular bidder will be given consideration. However, Canada will have the right to accept or reject any or all suggestions.

A.5. Response Costs

Canada will not reimburse any respondent for expenses incurred in responding to this RFI.

A.6. Treatment of Responses

- (a) **Use of Responses:** Responses will not be formally evaluated. However, the responses received may be used by Canada to develop or modify procurement strategies or any draft documents contained in this RFI or under development in support of this procurement. Canada will review all responses received by the RFI closing date. Canada may, in its discretion, review responses received after the RFI closing date.
- (b) **Review Team:** A review team composed of Canada's representatives will review the responses. Canada reserves the right to hire any independent consultant, or use any Government resources that it considers necessary to review any response. Not all members of the review team will necessarily review all responses.
- (c) **Confidentiality:** Respondents should mark any portions of their response that they consider proprietary or confidential. Canada will handle the responses in accordance with the Access to Information Act.
- (d) **Follow-up Activity:** Canada may, in its discretion, set up subsequent consultation mechanisms, including one-on-one meetings with each Respondent, and/or contact any respondent to follow up with additional questions, or for clarification of any aspect of a response.

A.7. Contents of this RFI

The RFI includes the following annexes:

Annex A – Draft Statement of Work (SOW)

Annex B - A list of Questions to Industry

A.8. Questions to Industry

- (a) Respondents are requested to provide comments and recommendations for consideration in the definition of the requirement and the procurement strategy.
- (b) Respondents are requested to provide answers to the Questions in Annex B in the order that they appear and maintain the same lettering sequence
- (c) Respondents may also include any other additional information, documentation and brochures at their own discretion.

A.9. Format of Responses

- (a) **Submission of Response:** Canada requests that Responses be provided by email as an attachment in Microsoft Word.
- (b) **Language:** Responses may be in English or French, at the preference of the respondent.

A.10. Enquiries

Because this is not a bid solicitation, Canada will not necessarily respond to enquiries in writing or by circulating answers to all potential suppliers. However, respondents with questions regarding this RFI may direct their enquiries to:

Public Works and Government Services Canada
Acquisitions Branch
Center Block Directorate
185 Sparks Street
Ottawa, Ontario, K1A 0S5
Attention: Dwight Yachuk, Contracting Authority
Telephone: (613) 219-4553
E-mail address: dwight.yachuk@tpsgc-pwgsc.gc.ca

A.11. Submission of Responses

(a) **Time and Place for Submission of Responses:** Suppliers interested in providing a response should email it to the Contracting Authority listed below by August 8, 2016.

Public Works and Government Services Canada
Acquisitions Branch
Center Block Directorate
185 Sparks Street
Ottawa, Ontario, K1A 0S5
Attention: Dwight Yachuk, Contracting Authority
Telephone: (613) 219-4553
E-mail address: dwight.yachuk@tpsgc-pwgsc.gc.ca

(b) **Responsibility for Timely Delivery:** Each respondent is solely responsible for ensuring its response is delivered on time to the correct location.

(c) **Identification of Response:** Each respondent should ensure that its name and return address, the solicitation number and the closing date appear legibly on their response.

ANNEX A
STATEMENT OF WORK
Cost/Time/Risk Management Services

| Statement of Work Amendment Table | | | |
|--|--------------------|------------------------|---|
| Amendment Number | Issued Date | Page(s) Changed | Description of Change(s) |
| | | | Example "Deleted para xxxx" and replaced with "amended text". |
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TABLE OF CONTENTS

| | |
|---|----|
| 1. Scope | 4 |
| 1.1 Objective | 4 |
| 1.2 Background..... | 4 |
| 1.3 Terminology..... | 4 |
| 1.4 Reference Documents | 4 |
| 2. Contract Requirement..... | 5 |
| 2.1 Scope..... | 5 |
| 2.2 Response Time | 5 |
| 2.3 Media | 5 |
| 2.4 Security of Project Information | 5 |
| 2.5 Official Languages..... | 5 |
| 2.6 Work Location | 6 |
| 2.7 Required Services | 6 |
| 2.8 Optional Services..... | 20 |
| 2.9 Required Services Deliverables | 22 |
| 2.10 Optional Services Deliverables | 33 |
| 2.11 Format and Frequency..... | 33 |
| APPENDIX A – Project Background | 34 |
| APPENDIX B – Terms, Acronyms and Abbreviations..... | 42 |
| APPENDIX C – Reference Documents..... | 48 |

1. Scope

1.1 Objective

The objective of this statement of work (SOW) is to engage the services of a cost/time/risk management strategic advisory team (referred to herein as the Contractor) to develop, implement, and administer the master cost plan, master schedule and master risk management plan which will be used to inform decisions in support of the Centre Block (CB) Rehabilitation Project. The Contractor will be responsible to continuously Monitor, evaluate, and report on cost/time/risk management services and deliverables, with the objective of ensuring that the Project remains within its approved budgets and schedules.

1.2 Background

The CB is the core component within the Parliament Hill complex, occupying a central position between the East and West Block buildings, Library of Parliament (LoP) and the emerging Visitor Welcome Centre (VWC). It is at the very heart of Canada's political and cultural landscape and contains many overlapping identities including as a place of governance, a forum for public engagement, a place of pilgrimage, a setting for national rituals and celebrations, and as a monument to Canadian achievements and sacrifices.

Both the CB building and adjoining Peace Tower require significant rehabilitation in the very near-term as many of their major systems and components will be at risk of critical failure by 2019. The Project is complex and multi-faceted, with an aggressive schedule, defined budget and high quality standards. The Project will be implemented in a fast tracked construction management delivery model. Integrated and proactive delivery of services from Contract Award to Project completion is essential to the Project's ultimate success. Additional background information regarding the Project can be found in Appendix A to this Annex.

1.3 Terminology

Specifically defined terms, acronyms and abbreviations used in this SOW are capitalized and defined in Appendix B to this Annex. Words that are not uppercase or italicised have standard definitions as defined in the Oxford Concise English Dictionary.

1.4 Reference Documents

There are numerous reports and reference materials for the Project that will be made available to the Contractor when under Contract. The resources working under the Contractor need to review and understand them. The reports and reference materials for the Project are listed in Appendix C to this Annex.

2. Contract Requirement

2.1 Scope

The Contractor's role will be as strategic advisor on cost/time/risk management as it relates to the Project, providing continuous reviews/comments that will advise the Departmental Representative (DR) of all the cost/time/risk discrepancies, concerns, issues, omissions, potential risks and opportunities, and strategic recommendations for action. The Contractor must apply its expertise on cost/time/risk continuously and collaboratively to ensure at all times that the Project is kept within its approved cost/time/risk requirements, by operating on the Project as an independent evaluator of the Architectural and Engineering (A&E) Consultant's and Construction Manager's (CM) cost/time/risk management services/deliverables as well as cost/time/risk information provided by the Client/Users, Information Technology and Project Management Office (ITPMO) and the DR. The Contractor will be responsible for the Project's master cost plan, master schedule and master risk management plan, which will be used by the DR to inform Project related decisions as the Project evolves. The Contractor will report to the DR and other Project team members as directed by the DR.

2.2 Response Time

The Contractor must be available to attend meetings in Ottawa within one day of notice and respond to inquiries within a half day of notice.

2.3 Media

The Contractor and any entity or person contracted or employed by the Contractor must not respond to any requests for information, interview, or questions directly or indirectly from the media pertaining to any aspect of the Project unless specifically requested to do so by the DR. All such inquiries must be directed to the DR without response to the inquiry.

2.4 Security of Project Information

The Contractor, and any entity or person contracted or employed by the Contractor, must not discuss issues pertaining to the Project and this Contract, specifically including the Project's scope, cost, schedule, building layout, design, content and security provisions, except as they relate to the direct provision of services under this Contract. The Contractor's resources must not publish pictures or videos of any portion of the work in progress without written permission from the DR.

2.5 Official Languages

The Contractor's resources must be able to communicate effectively, both orally and in writing, in English.

2.6 Work Location

It is expected that the Contractor will be required to conduct a portion of the work at the Project Office in Ottawa. Public Works and Government Services Canada (PWGSC) will advise the Contractor of the office location at Contract Award. PWGSC will provide and maintain the Project Office's basic office furniture, all computers, MS Office and corporate software, printers, and data lines for the Contractor for communication and interface with PWGSC's IT systems. PWGSC will not charge the Contractor rent for the workspace. The Consultant must provide and continually maintain dedicated computers, Primavera P6 licenses for all planning and scheduling personnel, and Palisades @Risk licences for risk personnel for the duration of the Contract as well as any other required specialized software necessary to fulfill the Contractor's mandate.

2.7 Required Services

The services the Contractor must provide include, but are not limited to:

2.7.1. Work plan

Propose, develop, and update a work plan in consultation with the DR. The Contractor's work plan must clearly define the roles and responsibilities of the Contractor's resources and include a schedule showing all of the Contractor's services and deliverables.

2.7.2. Master Cost Plan

Propose, develop and regularly update a master cost plan in consultation with the DR as a function of its responsibility to continuously measure and assess the extent of construction progress. This plan must include, but is not limited to:

- a) A cost planning section that contains a systematic methodology and definition of standardized master cost plan preparation and maintenance. The section will describe clear guidelines for using and inputting data into the master cost plan, and will be provided to the CM, A&E Consultant, ITPMO and DR to ensure a consistent methodology and easy integrated reporting. At minimum, the section will integrate the information contained in the cost plans developed by the CM, A&E Consultant and ITPMO. The cost planning section will describe how changes to the master cost plan will be administered;
- b) A cost estimating section that contains the Contractor's initial cost estimate for the Project, which will include a preliminary detailed construction cost estimate that adheres to the Project's cost estimate protocol. The section will describe the references that synthesize the master cost plan with the master schedule in order to provide a Baseline from which to measure Project progress. The cost estimating section will summarize and integrate all of the cost estimates internally developed by the Contractor and/or received from the CM, A&E Consultant, ITPMO and DR, including internal Government of Canada (GoC) expenditures budgeted for this Project, throughout Project delivery, such that they are comparable to previous cost estimates; and

- c) A cost controlling section that contains a cost control program to Monitor continuously (see section 2.7.7, Control Programs), including cost control procedures, cost tracking systems, budget control principals, budget and contingency transfer procedures, budget revision procedures, cost allocation plan, invoicing and accounting plan, performance measurement, and cost forecasting. The cost controls will cover all Project phases, with the purpose of ensuring proper tabulation and cash flow of design and construction contingencies, escalation and risk allowances throughout Project implementation.

The master cost plan will be updated on a monthly basis. The Contractor will conduct a Monte Carlo simulation analysis of consolidated Project costs, having distribution curves at 80% and 90% confidence levels, and includes a narrative discussing the impacts influencing future cost forecasts.

2.7.3. Master Schedule

Propose, develop and regularly update a master schedule in consultation with the DR as a function of its responsibility to continuously measure and assess the extent of construction progress. The Contractor's master schedule must include, but is not limited to:

- a) A schedule planning section that contains a systematic methodology and definition of standardized master schedule preparation and maintenance. The section must establish and describe clear guidelines for using Float, Critical Activity, Near-Critical Activity and Non-Critical Activity in the master schedule, which will be provided to the CM, A&E Consultant, ITPMO and DR to ensure a consistent methodology and easy integrated reporting. At minimum, the section will integrate the information contained in the time plans developed by the CM, A&E Consultant and ITPMO, as well as time requirements to achieve in the Project's approved Treasury Board parameters. The section must describe how changes to the master schedule will be administered;
- b) A preliminary schedule section that contains the Contractor's initial master schedule for the Project, which will include a preliminary detailed design and construction schedule. The section must establish and describe the references that synthesize the master schedule with the master cost plan in order to provide a Baseline from which to measure Project progress. All Project schedules developed after the initial schedule for the Project are to be Monitored and maintained current, and the timing of updates guided by what is outlined in this SOW. The section must summarize and integrate all of the schedules internally developed by the Contractor and/or received from the CM, A&E Consultant and/or ITPMO and DR, including the schedule approved in the Project's Treasury Board submissions, throughout Project delivery such that they are comparable to previous schedules; and
- c) A schedule controlling section that contains a schedule control program to Monitor continuously (see section 2.7.7, Control Programs), including schedule control procedures, schedule tracking systems, schedule control principals, schedule revision procedures, time allocation plan, schedule verification plan, performance measurement, and schedule forecasting. Task and activity controls

are to be schematically displayed using Critical Path Method Network Diagrams. Create a minimum five level Work Breakdown Structure (e.g. Project, stage, element/sub element, work packages and tender packages) to organise, define and graphically display pessimistic and optimistic task and activity durations.

The master schedule will be updated on a monthly basis. The Contractor will conduct a Monte Carlo simulation analysis of consolidated Project schedules, having distribution curves at 80% and 90% confidence levels, and includes a narrative discussing the impacts influencing future schedule forecasts.

2.7.4. Master Risk Management Plan

Propose, develop and maintain a master risk management plan in consultation with the DR as a function of its responsibility to continuously measure and assess the extent of Project risks. The Contractor's master risk management plan must include, but is not limited to:

- a) A risk management plan planning section that contains a systematic methodology and definition of standardized master risk management preparation and maintenance. The section must establish and describe clear guidelines for using and inputting data into the master risk management plan, which will be provided to the CM, A&E Consultant, ITPMO and DR to ensure a consistent methodology and easy integrated reporting. At minimum, the section will integrate the information contained in the risk plans and risk registries developed by the CM, A&E Consultant and ITPMO, as well as risk information contained in the Project's approved Treasury Board submissions, to identify, analyze, plan, track, evaluate and control Project risks and opportunities on a continuous basis. The section must describe how changes to the master risk management plan will be administered;
- b) A preliminary risk assessment section that contains the Contractor's initial master risk management plan for the Project. Monitor all Project risks identified after the initial risk management plan, maintain the plan current, and the timing of updates guided by what is outlined in this SOW. The section must summarize and integrate all of the risks internally identified by the Contractor and/or received from the CM, A&E Consultant and/or ITPMO and DR, including the risks identified in the Project's Treasury Board submissions, throughout Project delivery;
- c) A risk controlling section that contains a risk control program aligned to PWGSC's policies on performance and risk management to Monitor continuously (see section 2.7.7, Control Programs) overall Project risks and opportunities, including those internal and external to the Project Team, both economic and operational as well as the detailed risk registers and WBS dictionaries prepared by the A&E Consultant and the CM, including risk control procedures, risk tracking systems, risk control principals, risk revision procedures, risk tolerance limits, risk allocation plan, risk verification plan, performance measurement, and risk forecasting;
- d) A risk management training section that contains details on how training sessions will be arranged by the Contractor. Sessions will occur semi-annually,

-
- or more often if required. The sessions will be attended by key members of the Project Team. The sessions will facilitate:
- i. A heightened awareness of risk and value for money management;
 - ii. A review by all participants to identify existing and potential opportunities and areas of risk and losses;
 - iii. An assessment of ongoing risk registry documentation processes and their effectiveness;
 - iv. The update of risk and value management strategies; and
 - v. Other related Project implementation processes that enhance or impede performance;
- e) A risk communications plan section that includes:
- i. How risk information will be collected from stakeholders for continuous risk assessment;
 - ii. How the Contractor will work with and respond to auditors, through the DR, when they have questions or concerns regarding the risk and value for money management;
 - iii. How the Contractor will work in conjunction with the Project Team to ensure all risk advice being provided to PWGSC management from all sources is non-contradictory; and
 - iv. How the Contractor will prepare reports on current and emerging issues related to Project risk and value management for internal (i.e. Project) or external (e.g. PWGSC Corporate Services, Policy, Communications, etc.) publication including briefing materials, position papers, speaking points, policy research, corporate reporting, presentations, protocols and Treasury Board submissions.

2.7.5. CM's and A&E Consultant's Work Breakdown Structures

Upon receipt of the A&E Consultant's and CM's work breakdown structures (WBS), the Contractor must review and analyse the documents and validate the assumptions used. The Contractor must participate in establishing common WBS work elements and their definitions with the DR, A&E Consultant and CM.

2.7.6. Monitoring Protocol

The Contractor will develop a Monitoring protocol in consultation with the DR. The protocol must describe how to continuously Monitor the A&E, CM, ITPMO and GoC costs, schedules and risk management information-. The protocol is to be developed for easy use by all members of the Project Team.

2.7.7. Control Programs

Further to the information contained in sections 2.7.2, 2.7.3 and 2.7.4, cost/time/risk control programs will include the following for continuous Monitoring:

- a) Maintain, analyze, update, refine, Monitor, control, and report on the master cost plan, the master schedule and the master risk management plan in consultation with the DR;
- b) Assess the extent of construction progress and completion for each activity and overall Project progress, noting any logic changes (historical and planned);
- c) Monitor the A&E, CM, ITPMO and GoC costs and schedule items and provide strategic advisory services, risk analysis, and quality assurance for the integration of all cost estimates into the master cost plan and all activities into the master schedule, to inform the DR of any discrepancies, concerns, issues, omissions, potential risks, opportunities, updates, or delays and make recommendations for corrective actions on the Project's master schedule and master cost plan;
- d) Manage, notify and report to the DR on the impact of delays of tasks, activities and documentation that are incomplete related to fast tracking or delay of activities;
- e) Analyze A&E, CM and ITPMO actual services vs. those contracted and advise the DR of gaps or discrepancies in cost and duration, providing recommendations for resolution; and
- f) Recommend applicable updates to the Building Information Modeling (BIM) when appropriate.

2.7.8. Monthly Reports

Propose, develop and update monthly reports in consultation with the DR. This requires that the Contractor acquire and maintain an in-depth understanding of the Project scope, budget, and schedule objectives. The Contractor's monthly reports must include, but are not limited to:

- a) A section that identifies and quantifies potential opportunities and risks, and that recommends how to ensure at all times that the design solution, Model, and construction is maintained within the approved schedule and cost objectives of the Project;
- b) A section that summarizes changes to the master cost plan from the past month as well as overall variances from Project inception to the current month;
- c) A section that summarizes changes to the master schedule from the past month as well as overall variances from Project inception to the current month;
- d) A section that summarizes changes in Project risks from the past month as well as overall variances from Project inception to the current month;
- e) A section that evaluates the CM's key performance indicators (KPIs) established for cost, time, and risk, and then recommends how to enhance or correct any observed performance issues. This requires Monitoring the KPIs established in the CM's cost, time, and risk management plans;
- f) A section that evaluates the A&E Consultant's KPIs established for cost, time, and risk and then recommends how to enhance or correct any observed performance issues. This requires Monitoring the KPIs established in the A&E's cost, time, and risk management plans;
- g) A section that evaluates ITPMO's KPIs established for cost, time, and risk and then recommends how to enhance or correct any observed performance issues.

This requires Monitoring the KPIs established in ITPMO's cost, time, and risk management plans;

- h) A section that summarises the Contractor's review and validation of the CM's and A&E's monthly report submissions; and
- i) A section that evaluates the CM's and A&E Consultant's claims, including those from any sub-discipline or sub-trade, as well as any other invoice for this Project, and provides recommendations to the DR with supporting analysis for resolution.

2.7.9. CM's draft construction cost plan

Upon receipt of the CM's draft construction cost plan submission, the Contractor must review the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and CM to evaluate the effectiveness of the construction cost plan.

2.7.10. A&E Consultant's draft BCC components design cost management plan

Upon receipt of the A&E Consultant's draft BCC components design cost management plan submission, the Contractor must review the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and A&E Consultant to evaluate the effectiveness of the design cost management plan.

2.7.11. ITPMO's draft BCC connectivity systems design cost management plan

Upon receipt of ITPMO's draft BCC connectivity systems design cost management plan submission, the Contractor must review the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and ITPMO to evaluate the effectiveness of the design cost management plan.

2.7.12. CM's draft time management plan

Upon receipt of the CM's draft time management plan submission (i.e. proposed construction schedule and stipulated milestones), the Contractor must review the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and CM to evaluate the effectiveness of the time management plan.

2.7.13. A&E Consultant's draft time management plan

Upon receipt of the A&E Consultant's draft time management plan submission (i.e. proposed BCC components procurement and installation design schedule, plus coordination/integration of ITPMO's BBC connectivity technical requirements design schedule), the Contractor must review the document, provide critical analysis as

compared to the CM's proposed construction schedule and the stipulated milestones in their contract, create a gap analysis of outstanding issues, and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information used in estimating timelines. The Contractor must participate in establishing the KPIs with the DR and A&E Consultant to evaluate the effectiveness of the time management plan.

2.7.14. ITPMO draft time management plan

Upon receipt of ITPMO's draft time management plan submission (i.e. draft BBC connectivity technical requirements design schedule), the Contractor must review the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and ITPMO to evaluate the effectiveness of the time management plan.

2.7.15. CM's draft risk management plan and risk registry

Upon receipt of the CM's draft risk management plan and risk registry submission, the Contractor must review and analyse the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and CM to evaluate the effectiveness of the risk management plan and risk registry in identifying and quantifying potential opportunities and risks, and to make recommendations for maximizing cost containment as well as minimizing activity durations and overall Project schedule.

2.7.16. A&E Consultant's draft risk management plan and risk registry

Upon receipt of the A&E Consultant's draft risk management plan and risk registry submission, the Contractor must review and analyse the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and A&E Consultant to evaluate the effectiveness of the risk management plan and risk registry in identifying and quantifying potential opportunities and risks, and to make recommendations for maximizing cost containment as well as minimizing activity durations and overall Project schedule.

2.7.17. ITPMO's draft risk management plan and risk registry

Upon receipt of ITPMO's draft risk management plan and risk registry submission, the Contractor must review and analyse the document. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of the information. The Contractor must participate in establishing the KPIs with the DR and ITPMO to evaluate the effectiveness of the risk management plan and risk registry in identifying and quantifying potential opportunities and risks, and to make recommendations for maximizing cost containment as well as minimizing activity durations and overall Project schedule.

2.7.18. Cost Estimate Protocol

Propose and develop the Project's cost estimate protocol in consultation with the DR. The cost estimate protocol will describe how all cost estimates for the Project will be prepared using a consistent and comprehensive methodology.

2.7.19. CM and A&E Consultant's fee estimates

Upon receipt of the CM's and A&E Consultant's preliminary fee estimates submissions, the Contractor must review, analyse and reconcile their estimate with the approved Project budget on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions and exclusions used in estimating fees. Fee estimates will undergo the same review process as outlined above at minimum at the 50% and 100% schematic design stages, 50% and 100% design development stages and semi-annually thereafter until Project close-out.

2.7.20. GoC's internal Project expenditures cost estimate

Upon receipt of GoC's internal Project expenditures cost estimate submission (i.e. PWGSC, Knowledgeable Client, ITPMO), the Contractor must review, analyse and reconcile their estimate with GoC's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.21. CM's preliminary construction cost estimate

Upon receipt of the CM's preliminary construction cost estimate submission, the Contractor must review and reconcile their estimate with the CM's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs, paying particular attention to the scope and business case analysis of all Division 1 general expenses. Note that Division 1 general expenses oversight will require the attention of a dedicated resource due to scope and size.

2.7.22. A&E Consultant's preliminary BCC components design cost estimate

Upon receipt of the A&E Consultant's preliminary BCC components design cost estimate submission, the Contractor must review, analyse and reconcile their estimate with the A&E Consultant's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions and exclusions used in estimating costs.

2.7.23. ITPMO's preliminary BCC connectivity systems cost estimate

Upon receipt of ITPMO's preliminary BCC connectivity systems cost estimate submission, the Contractor must review, analyse and reconcile their estimate with ITPMO's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions and exclusions used in estimating costs.

2.7.24. Other Expenditures

Other expenditures outside of those outlined in above sections (e.g. security, warehousing, utilities, etc.) require validation and incorporation into the master cost plan. The Consultant must review and analyse these estimates and expenditures and make recommendations to the DR on their validity. The Contractor must challenge the validity of the assumptions, inclusions and exclusions and accuracy of information used in estimating costs. Monthly, the Contractor will undergo a validation of Other Expenditures to ensure current information in the master cost plan.

2.7.25. A&E Consultant's 50%, 90%, and 100% schematic design reports

Upon receipt of the A&E Consultant's 50%, 90%, and 100% schematic design reports submissions, the Contractor must review the documents and create a gap analysis of outstanding issues and make recommendations to the DR. Formal estimates prepared by the Contractor at these stages will be used for reconciliation and to support Treasury Board submissions. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.26. A&E Consultant's indicative (Class 'D') BCC components design cost estimate at 50% schematic design

Upon receipt of the A&E Consultant's indicative (Class 'D') BCC components design cost estimate at the 50% schematic design stage, the Contractor must prepare an indicative (Class 'D') cost estimate. The Contractor must review and reconcile their estimate with the A&E Consultant's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.27. ITPMO's indicative (Class 'D') BCC connectivity systems design cost estimate at 50% schematic design

Upon receipt of ITPMO's indicative (Class 'D') BCC connectivity systems design cost estimate at the 50% schematic design stage, the Contractor must prepare an indicative (Class 'D') cost estimate. The Contractor must review and reconcile their estimate with ITPMO's estimates on a line-by-line basis, create a gap analysis of

outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.28. CM's indicative (Class 'D') construction cost estimate at 50% schematic design

Upon receipt of the CM's indicative (Class 'D') construction cost estimate submission at the 50% schematic design stage, the Contractor must review and reconcile their estimate with the CM's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions and exclusions used in estimating costs.

2.7.29. A&E Consultant's indicative (Class 'C') BCC components design cost estimate at 100% schematic design

Upon receipt of the A&E Consultant's indicative (Class 'C') BCC components design cost estimate submission at the 100% schematic design stage, the Contractor must prepare an indicative (Class 'C') building design and BCC components design cost estimate. The Contractor must review and reconcile their estimate with the A&E Consultant's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions and exclusions and accuracy of information used in estimating costs.

2.7.30. ITPMO's indicative (Class 'C') BCC connectivity systems design cost estimate at 100% schematic design

Upon receipt of ITPMO's indicative (Class 'C') BCC connectivity systems design cost estimate submission at the 100% schematic design stage, the Contractor must prepare an indicative (Class 'C') BCC connectivity design cost estimate. The Contractor must review and reconcile their estimate with the A&E Consultant's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions and exclusions and accuracy of information used in estimating costs.

2.7.31. CM's indicative (Class 'C') construction cost estimate at 100% schematic design

Upon receipt of the CM's indicative (Class 'C') construction cost estimate submission at the 100% schematic design stage, the Contractor must review and reconcile their estimate with the CM's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.32. A&E Consultant's 50%, 90%, and 100% design development report

Upon receipt of the A&E Consultant's 50%, 90%, and 100% design development report submissions, the Contractor must review the documents and create a gap analysis of outstanding issues. Formal estimates prepared by the Contractor at these stages will be used for reconciliation and to support Treasury Board submissions. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.33. A&E Consultant's substantive (Class 'B') BCC components design cost estimate at 50% design development

Upon receipt of the A&E Consultant's substantive (Class 'B') BCC components design cost estimate submission at the 50% design development stage, the Contractor must prepare a substantive (Class 'B') cost estimate. The Contractor must review and reconcile their estimate with the A&E Consultant's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.34. ITPMO's substantive (Class 'B') BCC connectivity systems design cost estimate at 50% design development

Upon receipt of ITPMO's substantive (Class 'B') BCC connectivity systems design cost estimate submission, the Contractor must prepare a substantive (Class 'B') cost estimate. The timing of the submission is likely to be off-set from the A&E Consultant's 50% design development stage submission. The Contractor must review and reconcile their estimate with ITPMO's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.35. CM's substantive (Class 'B') construction cost estimate at 50% design development

Upon receipt of the CM's substantive (Class 'B') construction cost estimate submission at the 50% design development stage, the Contractor must review and reconcile their estimate with the CM's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.36. A&E Consultant's substantive (Class 'B') BCC components design cost estimate at 100% design development

Upon receipt of the A&E Consultant's substantive (Class 'B') BCC components design cost estimate submission at the 100% design development stage, the Contractor must prepare a substantive (Class 'B') cost estimate. The Contractor must review and reconcile their estimate with the A&E Consultant's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.37. ITPMO's substantive (Class 'B') BCC connectivity systems design cost estimate at 100% design development

Upon receipt of ITPMO's substantive (Class 'B') BCC connectivity systems design cost estimate submission, the Contractor must prepare a substantive (Class 'B') cost estimate. The timing of the submission is likely to be off-set from the A&E Consultant's 100% design development stage submission. The Contractor must review and reconcile their estimate with ITPMO's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.38. CM's substantive (Class 'B') construction cost estimate at 100% design development

Upon receipt of the CM's substantive (Class 'B') construction cost estimate submission at the 100% design development stage, the Contractor must review and reconcile their estimate with the CM's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. The Contractor must challenge the validity of the assumptions, inclusions, exclusions and accuracy of information used in estimating costs.

2.7.39. A&E Consultant's building design and BCC components Design Packages

Upon receipt of each of the A&E Consultant's Design Packages, the Contractor must prepare and update a construction cost estimate for the Design Packages. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.40. ITPMO's BCC connectivity systems Design Packages

Upon receipt of each of ITPMO's Design Packages, the Contractor must prepare and update a construction cost estimate for the Design Packages. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.41. CM's Design Packages construction cost estimate

Upon receipt of the CM's Design Packages construction cost estimate, the Contractor must review, analyse and reconcile their estimate with the CM's estimate on a line-by-line basis, create a gap analysis of outstanding issues and make recommendations to the DR to close estimate and timeline gaps. Each 95% Design Package submission estimate will be in trade format only, requiring the Consultant to cross-reference the estimate data to the CIQS elemental estimate format of the Consultant. The Contractor must challenge the validity of assumptions, inclusions, exclusions and accuracy of information. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.42. CM's construction tender package bid

Upon receipt of the CM's construction tender package bid submissions, the Contractor must review the documents and create a gap analysis of outstanding issues, including the potential impacts and risks stemming from issuing addenda, qualified bids, omissions, other tendering issues, and make recommendations to the DR.

2.7.43. A&E Consultant's BCC components design schedule updates

Upon receipt of the A&E Consultant's BCC components design schedule update submissions (i.e., includes BCC components design and coordination/integration of BCC connectivity design), the Contractor must review the documents, create a gap analysis of outstanding issues and make recommendations to the DR. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.44. ITPMO's BCC connectivity systems design schedule updates

Upon receipt of ITPMO's BCC connectivity systems design schedule update submissions, the Contractor must review the documents, create a gap analysis of outstanding issues and make recommendations to the DR. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.45. CM's construction schedule updates

Upon receipt of the CM's construction schedule update submissions, the Contractor must review the documents, create a gap analysis of outstanding issues and make recommendations to the DR. The Contractor will conduct its own Monte Carlo simulation analysis, using distribution curves at 80% and 90% confidence levels, and include a quantitative and qualitative analysis narrative.

2.7.46. CM's Expenditure Authorizations or change orders

Upon receipt of the CM's Expenditure Authorizations or change order submissions, the Contractor must review the documents, create a gap analysis of outstanding issues and make recommendations to the DR.

2.7.47. A&E Consultant's notices of change

Upon receipt of the A&E Consultant's notices of change, the Contractor must review the documents, create a gap analysis of outstanding issues and make recommendations to the DR.

2.7.48. CM's and A&E Consultant's monthly reports

Upon receipt of each of the following items, the Contractor must review, validate and inform the DR on the content of:

- a) The CM's monthly report submissions; and
- b) The A&E Consultant's monthly report submissions.

2.7.49. CM's and A&E Consultant's progress invoices

Upon receipt of the CM's and A&E Consultant's monthly progress invoices, including those from any sub-discipline or sub-trade, the Contractor must validate that each invoice represents the Work that has progressed to the date of the invoice and submit comments to the DR.

2.7.50. Other invoices

Upon receipt of the following invoices, the Contractor must review, challenge, validate and make recommendations to the DR on:

- a) ITPMO's and Knowledgeable Client fees;

- b) BCC contracts lead by PWGSC;
- c) Project related internal government expenditures; and
- d) Other Project related expenditures.

2.7.51. DR's integrated project management plan submission

Provide information to the DR's integrated project management plan, developed and maintained by the DR. The information will be organised in a report and will include:

- a) Reviewing reports, documents and reference material related to the planning and implementation of other Long Term Vision and Plan (LTVP) projects and determine the impacts they may have on the Project;
- b) Analysing national and international trends in the construction industry and determine the impacts they may have on the Project;
- c) Identifying, forecasting and analysing market conditions for the design, construction and manufacturing industries (shortages or oversupply of labour and materials) and potential price fluctuations and the impacts they may have on the Project;
- d) Assessing the impacts of all of the above on the planning and implementation of the CB Project, including:
 - i. A description of the impacts;
 - ii. Identifying options that will eliminate/minimize the impacts; and
 - iii. Providing an option recommendation with supporting justification.

2.7.52. Attendance and participation at meetings, workshops, sessions

Attend and participate in:

- a) Project construction meetings, held every two weeks, as a strategic advisor on time and cost;
- b) Weekly Project design meetings as a strategic advisor on time and cost;
- c) Weekly BIM meetings as a strategic advisor on time and cost;
- d) Monthly constructability workshops as a strategic advisor on time and cost;
- e) Attend and participate at the monthly cost and time workshop as a strategic advisor on time and cost;
- f) Risk workshops, held twice per year, as a strategic advisor on time and cost;
- g) Lessons learned workshops, held twice per year, as a strategic advisor on time and cost; and
- h) Value engineering sessions as a strategic advisor on time and cost.

2.8 Optional Services

2.8.1. BIM Compliance Reports

Enter the Model and complete analysis, testing, and evaluations and prepare a BIM compliance report to ensure at all times its content:

- a) Complies with the approved BIM Project execution plan, which will be provided to the Contractor by the DR;

- b) Contains 4D scheduling and construction sequencing information that complies with the approved Project schedule;
- c) Contains 4D scheduling and construction sequencing that is feasible and constructible; and
- d) Contains 5D cost information that complies with the approved Project cost.

2.9 Required Services Deliverables

2.9.1. Work Plan

- a) Within 15 Working Days of Contract Award, schedule a meeting with the DR to discuss the development of the work plan;
- b) Within 30 Working Days of Contract Award, submit the draft work plan to the DR for review and approval and, if required, within 5 Working Days revise and resubmit the deliverable to meet the requirements of the DR; and
- c) Starting the 2nd month after Contract Award, submit monthly work plan updates to the DR showing the upcoming 6 months of services and deliverables. Schedule monthly meetings with the DR thereafter to discuss the work plan and if required, within 5 Working Days of the meeting, revise and resubmit the work plan to meet the requirements of the DR.

2.9.2. Master Cost Plan

- a) Within 15 Working Days of Contract Award, schedule a meeting with the DR to discuss the development of the master cost plan;
- b) Within 60 Working Days of Contract Award, submit the draft master cost plan to the DR for review and approval and if required, within 10 Working Days revise and resubmit the deliverable to meet the requirements of the DR; and
- c) Starting the 4th month after Contract Award, submit monthly master cost plan updates to the DR. Schedule monthly meetings with the DR thereafter to discuss the master cost plan and if required, within 5 Working Days of the meeting, revise and resubmit the master cost plan to meet the requirements of the DR.

2.9.3. Master Schedule

- a) Within 15 Working Days of Contract Award, schedule a meeting with the DR to discuss the development of the master schedule;
- b) Within 30 Working Days of Contract Award, submit the draft master schedule to the DR for review and approval and if required, within 10 Working Days revise and resubmit the deliverable to meet the requirements of the DR; and
- c) Starting the 3rd month after Contract Award, submit monthly master schedule updates to the DR. Schedule monthly meetings with the DR thereafter to discuss the master schedule and if required, within 5 Working Days of the meeting, revise and resubmit the master schedule to meet the requirements of the DR.

2.9.4. Master Risk Management Plan

- a) Within 15 Working Days of Contract Award, schedule a meeting with the DR to discuss the development of the master risk management plan;
- b) Within 30 Working Days of Contract Award, submit the draft master risk management plan to the DR for review and approval and if required, within 10

Working Days revise and resubmit the deliverable to meet the requirements of the DR; and

- c) Starting the 3rd month after Contract Award, submit monthly master risk management plan updates to the DR. Schedule monthly meetings with the DR thereafter to discuss the master risk management plan and if required, within 5 Working Days of the meeting, revise and resubmit the master risk management plan to meet the requirements of the DR.

2.9.5. CM's and A&E Consultant's Work Breakdown Structures

- a) Within 5 Working Days of receiving the A&E Consultant's and CM's WBSs, schedule a meeting with the DR to discuss the Consultant's recommendations to close gaps; and
- b) Within 5 Working Days of the meeting, revise and resubmit a final WBS dictionary to the DR for use by the A&E Consultant and CM, meeting the requirements of the DR.

2.9.6. Monitoring Protocol

- a) Within 15 Working Days of Contract Award, schedule a meeting with the DR to discuss the development of the Monitoring protocol; and
- b) Within 30 Working Days of Contract Award, submit the draft Monitoring protocol to the DR for review and approval and if required, within 10 Working Days revise and resubmit the deliverable to meet the requirements of the DR.

2.9.7. Control Programs

Within 20 Working Days of approval of the Monitoring protocol, set up all cost/time/risk control program systems and processes required for continuous Monitoring of cost, schedule, and risk activities. Make adjustments to these systems throughout Contract duration as requested by the DR.

2.9.8. Monthly Reports

- a) Within 15 Working Days of Contract Award, schedule a meeting with the DR to discuss the development of the monthly reports;
- b) Review the Project reference documentation that will be provided by the DR in order to know the current approved Project scope, cost, and schedule and within 20 Working Days of Contract Award, submit the draft monthly report to the DR for review and approval. If required, within 10 Working Days thereafter revise and resubmit the deliverable to meet the requirements of the DR; and
- c) Starting the 2nd month after Contract Award, submit the monthly report updates, on a monthly basis, to the DR. Schedule monthly meetings with the DR thereafter to discuss the monthly report and if required, within 5 Working Days of the meeting, revise and resubmit the monthly report to meet the requirements of the DR.

2.9.9. CM's draft construction cost plan

Within 5 Working Days of receiving the CM's submission, submit comments to the DR.

2.9.10. A&E Consultant's draft BCC components design cost management plan

Within 5 Working Days of receiving the A&E Consultant's submission, submit comments to the DR.

2.9.11. ITPMO's draft BCC connectivity systems design cost management plan

Within 5 Working Days of receiving ITPMO's submission, submit comments to the DR.

2.9.12. CM's draft time management plan

Within 5 Working Days of receiving the CM's submission, submit comments to the DR.

2.9.13. A&E Consultant's draft time management plan

Within 5 Working Days of receiving the A&E Consultant's submission, submit comments to the DR.

2.9.14. ITPMO draft time management plan

Within 5 Working Days of receiving the ITPMO's submission, submit comments to the DR.

2.9.15. CM's draft risk management plan and risk registry

Within 5 Working Days of receiving the CM's submission, submit comments to the DR.

2.9.16. A&E Consultant's draft risk management plan and risk registry

Within 5 Working Days of receiving the A&E Consultant's submission, submit comments to the DR.

2.9.17. ITPMO's draft risk management plan and risk registry

Within 5 Working Days of receiving the ITPMO's submission, submit comments to the DR.

2.9.18. Cost Estimate Protocol

a) Within 15 Working Days of Contract Award, schedule a meeting with the DR to discuss the development of the cost estimate protocol; and

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- b) Within 30 Working Days of Contract Award, submit the draft cost estimate protocol to the DR for review and approval and if required, within 10 Working Days revise and resubmit the deliverable to meet the requirements of the DR.

2.9.19. CM's and A&E Consultant's fee estimates

- a) Within 5 Working Days of receiving the submissions, submit comments to the DR;
- b) Within 10 Working Days of receiving the submissions, organize, administer, and participate in separate meetings with the CM and A&E Consultant to reconcile their estimates with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

The CM's and A&E's fee estimates will undergo the same review process as above for recommendation to the DR at minimum at the 50% and 100% schematic design stages, 50% and 100% design development stages, and semi-annually thereafter until Project close-out.

2.9.20. GoC's internal Project expenditures cost estimates

- a) Within 5 Working Days of receiving the submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the submission, organize, administer, and participate in a meeting with the DR to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

The GoC internal Project expenditures cost estimates will undergo the same review process as above at minimum at the 50% and 100% schematic design stages, 50% and 100% design development stages, and semi-annually thereafter until Project close-out.

2.9.21. CM's preliminary construction cost estimate

- a) Within 5 Working Days of receiving the CM's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the CM's submission, organize, administer, and participate in a meeting with the CM to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and

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- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.22. A&E Consultant's preliminary BCC components design cost estimate

- a) Within 5 Working Days of receiving the A&E Consultant's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the A&E Consultant's submission, organize, administer, and participate in separate meetings with the A&E Consultant to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.23. ITPMO's preliminary BCC connectivity systems cost estimate

- a) Within 5 Working Days of receiving the ITPMO's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the ITPMO's submission, organize, administer, and participate in separate meetings with ITPMO to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.24. Other Expenditures

Within 20 Working Days of receiving the submissions, submit recommendations to the DR.

2.9.25. A&E Consultant's 50%, 90%, and 100% schematic design report

Within 10 Working Days of receiving each of the 3 submissions, submit comments to the DR and prepare formal cost estimates for each submission.

2.9.26. A&E Consultant's indicative (Class 'D') BCC components design cost estimate at 50% schematic design

- a) Within 5 Working Days of receiving the A&E Consultant's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the A&E Consultant's submission, organize, administer, and participate in a meeting with the A&E Consultant to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and

distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and

- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.27. ITPMO's indicative (Class 'D') BCC connectivity systems design cost estimates at 50% schematic design

- a) Within 5 Working Days of receiving the ITPMO's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the ITPMO's submission, organize, administer, and participate in a meeting with the ITPMO to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.28. CM's indicative (Class 'D') construction cost estimate at 50% schematic design

- a) Within 5 Working Days of receiving the CM's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the CM's submission, organize, administer, and participate in a meeting with the CM to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.29. A&E Consultant's indicative (Class 'C') BCC components design cost estimate at 100% schematic design

- a) Within 5 Working Days of receiving the A&E Consultant's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the A&E Consultant's submission, organize, administer, and participate in a meeting with the A&E Consultant to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.30. ITPMO's indicative (Class 'C') BCC connectivity systems design cost estimate at 100% schematic design

- a) Within 5 Working Days of receiving the ITPMO's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the ITPMO's submission, organize, administer, and participate in a meeting with the ITPMO to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.31. CM's indicative (Class 'C') construction cost estimate at 100% schematic design

- a) Within 5 Working Days of receiving the submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the submission, organize, administer, and participate in a meeting with the CM to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.32. A&E Consultant's 50%, 90%, and 100% design development report

Within 10 Working Days of receiving each of the 3 reports, submit comments to the DR and prepare formal cost estimates for each submission.

2.9.33. A&E Consultant's substantive (Class 'B') BCC components design cost estimate at 50% design development

- a) Within 5 Working Days of receiving the A&E Consultant's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the A&E Consultant's submission, organize, administer, and participate in a meeting with the A&E Consultant to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.34. ITPMO's substantive (Class 'B') BCC connectivity systems design cost estimate at 50% design development

- a) Within 5 Working Days of receiving the ITPMO's submission, submit comments to the DR;
- b) Within 10 Working Days of receiving the ITPMO's submission, organize, administer, and participate in a meeting with the ITPMO to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.35. CM's substantive (Class 'B') construction cost estimate at 50% design development

- a) Within 5 Working Days of receiving the submissions, submit comments to the DR;
- b) Within 10 Working Days of receiving the submission, organize, administer, and participate in a meeting with the CM to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.36. A&E Consultant's substantive (Class 'B') BCC components design cost estimate at 100% design development

- a) Within 5 Working Days of receiving the submissions, submit comments to the DR;
- b) Within 30 Working Days of receiving the submissions, organize, administer, and participate in separate meetings with the A&E Consultant to reconcile their estimates with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.37. ITPMO's substantive (Class 'B') BCC connectivity systems design cost estimate at 100% design development

- a) Within 5 Working Days of receiving the submissions, submit comments to the DR;
- b) Within 30 Working Days of receiving the submissions, organize, administer, and participate in separate meetings with ITPMO to reconcile their estimates with the

Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and

- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.38. CM's substantive (Class 'B') construction cost estimate at 100% design development

- a) Within 5 Working Days of receiving the submission, submit comments to the DR;
- b) Within 30 Working Days of receiving the submission, organize, administer, and participate in a meeting with the CM to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- c) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.39. A&E Consultant's building design and BCC components Design Packages

- a) At minimum, the A&E Consultant will prepare and submit approximately 84 Design Packages, each of which would be submitted at their 50%, 90%, 95%, and 100% development stages, for a minimum of 336 submissions. The number of concurrent submissions at any one time is unknown; and
- b) Within 10 Working Days of receiving each submission, the Contractor must prepare and submit a construction cost estimate to the DR as outlined in the table provided below.

2.9.40. ITPMO's BCC connectivity systems Design Packages

- a) At minimum, ITPMO will prepare and submit detailed cost estimates for each BCC connectivity Design Package. There should be a minimum of 100 BCC connectivity Design Packages; and
- b) Within 10 Working Days of receiving each submission, the Contractor must prepare and submit a construction cost estimate to the DR as outlined in the table provided in section 2.9.37 above.

2.9.41. CM's Design Packages construction cost estimate

- a) At minimum, the CM will prepare and submit construction cost estimates for approximately 84 Design Packages, each of which would be submitted at their 50%, 90%, 95%, and 100% Design Package development stages, for a minimum of 336 submissions. The number of concurrent submissions at any one time is unknown;
- b) Within 5 Working Days of receiving all estimates, the Contractor must prepare and submit comments to the DR;
- c) Within 30 Working Days of receiving all estimates, organize, administer, and participate in a meeting with the CM to reconcile their estimate with the Contractor's estimate on a line-by-line basis. Record and distribute meeting minutes of the reconciliation process to the DR within 2 Working Days of the meeting; and
- d) Within 5 Working Days of the meeting, prepare and submit a report that includes the line-by-line variance between the estimates and recommendations on how to correct the variance between the estimates.

2.9.42. CM's construction tender package bid

Within 5 Working Days of receiving each of the tender package bid submissions or as directed by the DR, submit comments regarding the actual bid trade pricing received.

2.9.43. A&E Consultant's BCC components design schedule updates

- a) At minimum, the A&E Consultant will prepare and submit BCC components design schedule updates for approximately 84 Design Packages, each of which would be submitted at the 50%, 90%, 95%, and 100% Design Package development stages, for a minimum of 336 submissions. The number of concurrent submissions at any one time is unknown;
- b) In addition, the A&E Consultant will integrate and submit design schedule updates for a minimum of 100 BCC connectivity Design Packages; and
- c) Within 5 Working Days of receiving the each of the submissions, submit comments to the DR.

2.9.44. ITPMO's BCC connectivity systems design schedule updates

- a) At minimum, ITPMO will prepare and submit BCC connectivity systems design schedule updates for approximately 100 Design Packages; and
- b) Within 5 Working Days of receiving the each of the submissions, submit comments to the DR.

2.9.45. CM construction schedule updates

- a) At minimum, the CM will prepare and submit design schedule updates for approximately 84 Design Packages, each of which would be submitted at the 50%, 90%, 95%, and 100% Design Package development stages, for a

minimum of 336 submissions. The number of concurrent submissions at any one time is unknown; and

- b) Within 5 Working Days of receiving the each of the submissions, submit comments to the DR.

2.9.46. CM's Expenditure Authorizations or change orders

- a) At minimum, the CM will prepare and submit approximately 16,000 Expenditure Authorizations or change orders. The number of concurrent submissions at any one time is unknown; and
- b) Within 5 Working Days of receiving the each of the submissions or as directed by the DR, submit comments and advice on negotiating the cost, to the DR.

2.9.47. A&E Consultant's notices of change

- a) At minimum, the A&E Consultant will prepare and submit approximately 1,000 notices of change. The number of concurrent submissions at any one time is unknown; and
- b) Within 5 Working Days of receiving the each of the submissions, or as directed by the DR, submit comments to the DR.

2.9.48. CM's and A&E Consultant's monthly reports

On a monthly basis, within 5 Working Days of receiving each of the submissions, submit comments to the DR.

2.9.49. CM's and A&E Consultant's progress invoices

On a monthly basis, within 10 Working Days of receiving a progress invoice, or of receiving a request from the DR, submit comments to the DR on the validity of each invoice.

2.9.50. Other Invoices

On a monthly basis, within 10 Working Days of receiving an invoice for other expenditures not included in section 2.8.43, or of receiving a request from the DR, submit comments to the DR on the validity of each invoice

2.9.51. DR's integrated project management plan

On a quarterly basis, within 10 Working Days, or as directed by the DR, of receiving a request from the DR, submit information contributing to the development of the Project's integrated project management plan.

2.9.52. Attendance and participation at meetings, workshops, sessions

Prior to attending and participating at meetings/workshops/sessions, the Contractor must:

- a) Review the agenda;

- b) Prepare any material required to support topic(s) for which strategic advice will likely be required;
- c) Ensure any Contractor action item(s), as directed by the DR, from previous meetings/workshops/sessions have been addressed; and
- d) Be prepared to provide status updates on any requirement under this SOW.

2.10 Optional Services Deliverables

2.10.1. BIM Compliance Reports

At minimum on a weekly basis, or as directed by the DR, prepare and submit a one page BIM compliance report to the DR.

2.11 Format and Frequency

Unless otherwise specified by the DR, deliverables must be in native and portable document format (PDF) format. Summaries, schedules and reports will vary in size from letter to e-size format to suit the type and content of the information presented. All deliverables must be prepared in English.

Formatting by type of deliverable is specified as follows:

| Deliverable | Required Format |
|-----------------------------|--|
| Written reports and studies | MS Word and Adobe PDF |
| Spreadsheets and budgets | MS Excel and Adobe PDF |
| Presentations | MS PowerPoint and Visio and Adobe PDF |
| Schedules | Primavera P6 and Adobe PDF |
| Risk Analysis | Primavera P6, Palisades @Risk, and Adobe PDF |
| Diagrams | Adobe Illustrator or MS Visio and Adobe PDF |

All presentation material must be provided to the DR at least 72 hours in advance of the session and follow up material must be submitted no later than 2 days following the delivery of the presentation, unless otherwise directed by the DR.

Monthly updates must be submitted within 48 hours of the end of each monthly period, unless otherwise directed by the DR.

All formal communications must carry the Contract name and number, PWGSC Project title, PWGSC Project number and a date in a non-ambiguous format (e.g. 01/09/02 is ambiguous and is not acceptable).

APPENDIX A – Project Background

1.0 Project Objectives

The objectives of the Project are to:

- a) Respect and enhance the building's exterior and interior, maintaining its heritage defining character and symbolic values, utilizing best practice conservation standards balanced with opportunities for the respectful expression of contemporary architecture;
- b) Provide an appropriate facility with flexible, adaptable and effective systems, components and technologies that support the occupants in the conduct of their business, meeting the operational and functional requirements of a modern Parliament;
- c) Ensure the rehabilitation is consistent with the long-term development plans for Parliament Hill;
- d) Ensure rehabilitation is completed in a timely, cost-effective manner, meeting the requirements of the occupants and visitors by respecting approved scope and quality objectives;
- e) Rehabilitate Centre Block so that it respects and reflects the dignity and integrity of the Parliament of Canada;
- f) Ensure rehabilitation reflects, responds and enhances historic and contemporary Canadian identities and values; and
- g) Ensure that the appropriate level of security is incorporated into the design, rehabilitation and construction in a balanced, layered approach, alleviating a risk to accessibility or visual distraction from the heritage characteristics of the building and its surroundings.

2.0 Project Culture

PWGSC will manage this Project within a heightened culture of open, collaborative dialogue that fosters innovative ideas and continual information sharing in order to achieve the Project's goals and objectives. The daily activities and actions of all Project Team members must be performed in accordance with this culture.

Active participation of all Project Team members within a forum that promotes creativity, resourcefulness, collaboration, integration is essential to create a 'can do' approach of doing things.

This Project culture:

- a) Promotes team integration and the elimination of silos;
- b) Promotes healthy constructive dialogue of engagement;
- c) Streamlines and simplifies approval processes in all organizations;
- d) Delegates authority to team members where possible;
- e) Leverages technology for enhanced communications;
- f) Accepts the ongoing development and refinement of requirements;
- g) Respects the inevitable reality of change;
- h) Encourages innovation within the design;
- i) Encourages ownership and responsibility of tasks; and

j) Ensures reactive problem solving and risk based decision making.

3.0 Location

The Centre Block Rehabilitation Project is located on a National Historic Site of Canada located in downtown Ottawa, Ontario. It is adjacent to The Rideau Canal, a registered UNESCO World Heritage Site.

As shown in Figure 1, the proposed location of the primary work extends from the main lawn of Parliament Hill, south of the Vaux Wall, to the north edge of the escarpment overlooking the Ottawa River, and from the west edge of the escarpment to the east edge of the escarpment. Other work will be carried out at remote locations yet to be determined.

Significant construction is anticipated to start in 2019, after obtaining numerous design approvals. During the construction period the House of Commons of Canada (House of Commons) will conduct their parliamentary operations from the West Block, with a public entrance from the Visitor Welcome Centre, Phase 1 (VWC1). The Senate of Canada (Senate) will conduct their parliamentary operations from the Government Conference Centre, adjacent to the Rideau Canal. The Senate will also retain and constantly use offices and parliamentary committee rooms in the East Block. The Library of Parliament and Centre Block Underground Services (CBUS) buildings will also be operational during the construction period. Library of Parliament staff will operate from other locations.

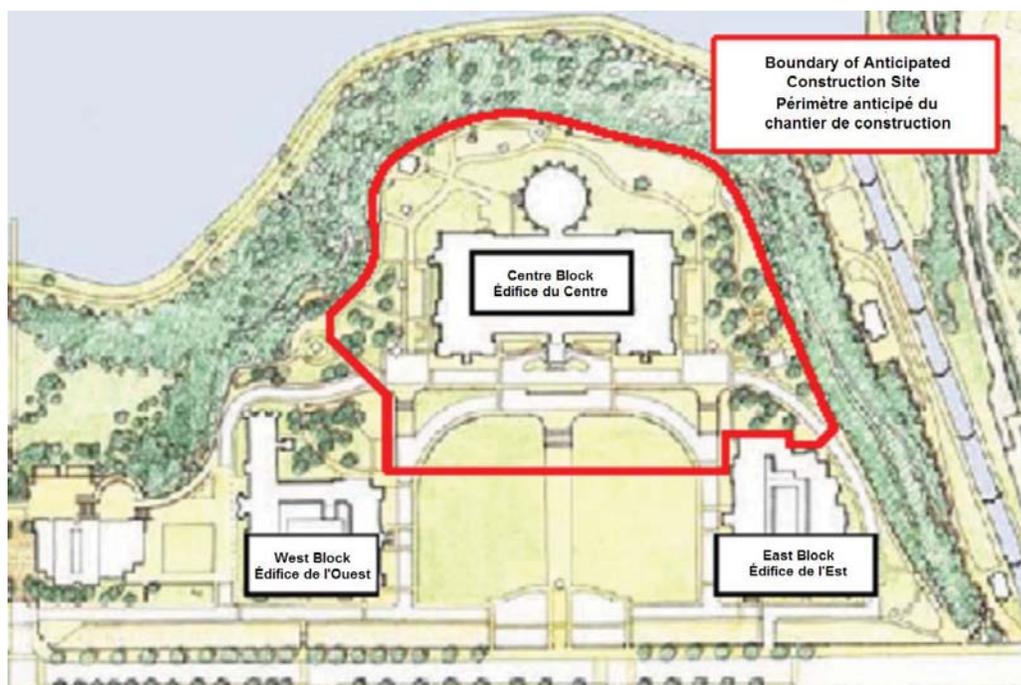


Figure 1 - Anticipated Construction Site

4.0 Parliamentary Precinct and its Long Term Vision and Plan

The Parliamentary Precinct is the home of Canada's parliamentary system and the physical expression of our commitment to democracy and the principle of freedom. The picturesque landscape and architectural style of the Precinct are enduring visual symbols of our country, while the openness, accessibility and security of the public spaces are representative of the values treasured and celebrated by all Canadians.

The Precinct provides the setting for the work of Parliamentarians and staff in a secure and efficient manner, but it is also the preeminent gathering place for public expression and celebration, as well as a place of quiet reflection.

Change within the Parliamentary Precinct needs to occur in a way that balances the evolving functional needs of parliamentarians and other users with the overriding commitment to preserve the historic, environmental and symbolic primacy of the site. The combination of careful conservation and appropriate contemporary interventions will create a more ecological and sustainable building and a stronger connection to its remarkable setting.

- a) The Internet contains information about the Parliamentary Precinct at:
<http://www.tpsgc-pwgsc.gc.ca/collineduparlement-parliamenthill/index-eng.html>;
- b) Information about Centre Block as well as informative videos at:
<http://www.parl.gc.ca/Visitors/index-e.html>;
- c) The Long Term Vision and Plan (LTVP) publication Building on a Solid Foundation at:
http://publications.gc.ca/collections/collection_2013/tpsgc-pwgsc/P4-51-2007-eng.pdf;
- d) The National Project Management System (NPMS) model which PWGSC follows:
<http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/bi-rp/mdl-description-eng.html>
- e) Information for the Federal Heritage Buildings Review Office (FHBRO) can be found at the following websites:
 - i. Parliament Hill, Centre Block:
http://www.pc.gc.ca/apps/dfhd/page_fhbro_eng.aspx?id=2833
 - ii. Parliament Buildings National Historic Site of Canada:
http://www.pc.gc.ca/apps/dfhd/page_nhs_eng.aspx?id=471
 - iii. Public Grounds of the Parliament Buildings National Historic Site of Canada:
http://www.pc.gc.ca/apps/dfhd/page_nhs_eng.aspx?id=470
 - iv. Parliament Hill, Complex:
http://www.pc.gc.ca/apps/dfhd/page_fhbro_eng.aspx?id=2834
 - v. Parliament Hill, Grounds:
http://www.pc.gc.ca/apps/dfhd/page_fhbro_eng.aspx?id=2835

5.0 Project Description

The Centre Block is at the very heart of Canada's political and cultural landscape. It represents the rich history of this country, as well as its contemporary hopes and dreams. As the institutional home of Canada's system of parliamentary democracy, it embodies the achievements and challenges of a bilingual, pluralistic society. Its setting, within the extraordinary landscape of Parliament Hill, reminds us of the powerful intersection of history and geography that define Canada's identity, and that compel us to consider an ecological and sustainable future for this place and for the world.

The Centre Block contains many overlapping identities - as a place of governance, as a forum for public engagement, as a place of pilgrimage, as a setting for national rituals and celebrations, as an example of beautifully integrated design and craftsmanship, as a monument to Canadian achievements and sacrifices, as the focus of a capital city and of a country.

The Centre Block is the core component within the Parliament Hill complex, occupying a central position between the East Block, the West Block, the Library of Parliament and the emerging Visitor Welcome Centre. The Gothic Revival style of the original mid-19th Century building was specifically chosen to allow a rich and complex relationship between the wilderness escarpment to the north and the great lawn to the south. In its rebuilding after the disastrous 1916 fire, the exterior style was maintained and a new Beaux-Arts interior created to update the building and allow an increased public presence. It displays a multitude of stone carvings, including gargoyles, grotesques and friezes in keeping with the Victorian High Gothic style. The building is connected with the Peace Tower, built between 1919 and 1927, and the Library of Parliament. It houses the Senate and House of Commons Chambers and offices of numerous Senators, Members of Parliament and senior administration or both legislative houses, as well as many ceremonial spaces such as the Hall of Honour, the Memorial Chamber and Confederation Hall.

Major renovations were first proposed in the 1960's. At that time the original mechanical and electrical systems were already more than 40 years old. Nothing was done for another nine years when a basement fire prompted improvements to the life safety systems. In the mid-1970s, a complete rehabilitation was proposed but was postponed; however emergency exiting from the Peace Tower was improved. By 1998, the CBUS had been constructed. This facility included underground electrical switchgear, transformers, emergency power generation and centralized IT facilities as well as storage and support space for the House of Commons. It also provided limited improvements to House of Commons material handling capability.

Since 1999, only emergency repairs and regular maintenance have been undertaken to allow continued occupancy of the building. The last significant rehabilitation was the repair to the Peace Tower and south façade, completed in the late 1990s. Repairs to the building such as the courtyard parapets and some of the penthouses have been completed and other similar interventions are ongoing.

The Centre Block, including the Peace Tower, requires significant rehabilitation in the very near-term as many of its major systems and components will be at risk of

critical failure by 2019, with total failure predicted by 2025. Due to the interdependencies of the Centre Block building systems, it must be decommissioned at one time and emptied before any invasive work can begin. A challenging aspect of this Project's scope will be to integrate the VWC Complex, aligning the LTVP's direction for a connecting concourse spine for pedestrian movement and independent but connected material handling facilities.

6.0 Project Elements

6.1 Centre Block

The following outlines the scope of work for the complete rehabilitation of Centre Block and the Peace Tower. The outline is only to provide the reader with guidance as to the degree of undertaking and complexity and should not be considered an exhaustive list:

- a) Security/Asset Condition
 - i. Restoration of the building envelope, including selective security mitigation measures to the extent possible given the building's heritage designation; and
 - ii. Seismic upgrade in accordance with the 2015 National Building Code of Canada, to the extent possible given the building's heritage designation. The structural systems for Centre Block are situated for the most part on bedrock and consist of:
 - i) Reinforced concrete beams and slab supported on reinforced columns and unreinforced concrete walls and piers;
 - ii) Steel beams and girders bearing on interior unreinforced brick masonry walls and exterior unreinforced brick masonry walls with an integral outer width of stone; and
 - iii) Skeleton frames of steel girders framed into steel columns on steel or cast-iron bases embedded in concrete and masonry with unreinforced masonry infill walls;
- b) Building Operations
 - i. Excavation of the basement subject to viability and cost benefit to add space for building support functions; and
 - ii. New mechanical, electrical, and vertical transportation systems.
- c) Functional Requirements
 - i. New information technology (IT), multimedia and security systems;
 - ii. Additional parliamentary office suites and additional broadcast capable committee rooms;
 - iii. Adjustment to the Senate Chamber and the House of Commons Chamber to allow for additional seating;
 - iv. Complete fit-up of the building, including special purpose space (e.g. Chambers, Committee Rooms, and support space, cafeteria, etc.); and
 - v. Furniture, fixtures and equipment;
- d) Heritage Requirements
 - i. Restoration of more than 50 designated heritage spaces such as Salle de la Francophonie, Hall of Honour, Reading Room, etc.;

- ii. Specialized art handling for the removal, storage and return of over 20,000 Heritage Assets and the main collection of the Library of Parliament;
- iii. Conservation of fixed and moveable Heritage Assets; and
- iv. Significant conservation of exterior and interior masonry, wood, plaster, paint, art glass, fabric and metals.

6.2 Visitor Welcome Centre Complex

The first phase of the VWC Complex is currently under construction and is situated west of the Vaux Wall, between the Centre Block and the West Block. Building on the approved three level design of VWC1, the remainder of the VWC Complex is proposed within the scope of the Centre Block Rehabilitation Project, built underground in front of and connected to the Centre Block, VWC1, and to East Block. The upper level will include a secure public concourse and Visitor Experience Centre. The middle level would carry some or most of the infrastructure needed to service Centre Block and the surrounding site, and the lowest level would function as a material handling and building support corridor providing a secure and efficient pathway serving the Centre, East and West Blocks. This will connect to a future entry portal, yet to be determined.

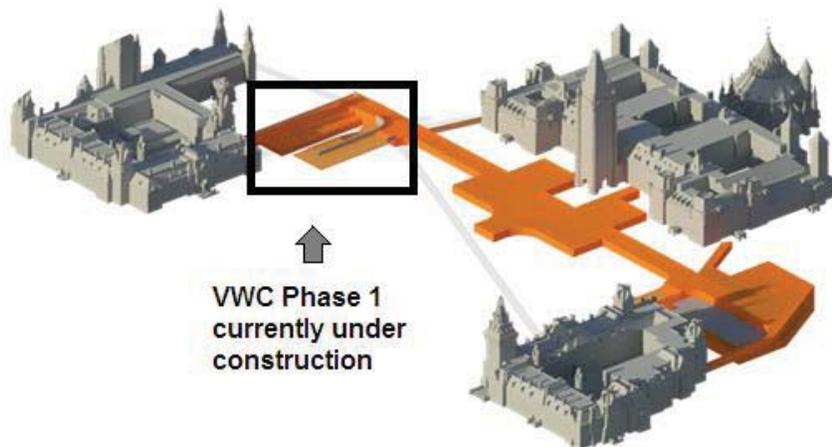


Figure 2 - Visitor Welcome Centre Complex

- a) Functional Requirements
 - i. Visitor services (information and orientation, security screening and marshalling, education and public programs and other services;
 - ii. Material handling connecting the buildings of the Parliamentary triad; and
 - iii. Building support services;
- b) Building Operations
 - i. Utility corridor; and
 - ii. Building systems for the VWC Complex, Centre Block, Peace Tower, East Block and the broader Parliamentary Precinct.

6.3 Site Requirements

The Project site is to be carefully transitioned to construction operations as the building is decanted. The final site development must be reflective of its national historic nature. This effort includes:

- a) Decommissioning of site systems and the completion of numerous interconnected enabling Projects, including signage and wayfinding in downtown Ottawa;
- b) Extensive architectural landscaping and architectural lighting for Parliament Hill; and
- c) Security requirements.

6.4 Construction Management Project Delivery

PWGSC has opted for a fast-tracked Construction Management delivery method, with the Construction Manager at risk and responsible for tendering the work and for the construction cost and schedule.

Project implementation must enhance critical decision making in order to prioritize the design and interim approvals, allowing construction to start early and in an optimized sequence. The cost benefit of this approach has a significant impact to the cash flow and overall Project cost. This implementation approach is routinely adopted in industry through public-private-partnerships (P3) and design-build (D-B) projects, which are variants of construction management, and is central to the success of the Centre Block Rehabilitation Project.

The overall Project is a series of sub-projects, interconnected and dependent upon each other. Enabling projects must be designed and completed in order to decant and decommission the building. Targeted and specialized investigations and materials testing are essential to inform the structural and seismic design, conservation strategy and other design disciplines. Formal approvals are required to start building decommissioning and construction. The massing, orientation and interconnection of the VWC Complex to adjacent buildings is an integral aspect of achieving functionality and security requirements, while balancing time and cost objectives.

6.5 Investigations

Significant investigation work will be performed concurrently with the progression of the Schematic Design. Investigations will be carefully planned and implemented in a prescribed manner that maintains the operations of Parliament and provides the necessary information to develop design solutions. Investigations will primarily be limited to occur when Parliament is not sitting.

6.6 Enabling Projects

The Project Team must complete approximately 15-20 enabling projects by early 2019, in advance of performing any substantive construction. These projects range from approximately \$1 million to \$20 million each and have various degrees of

complexity and involve a multidisciplinary and multi-trade effort. Many of these projects have a direct relationship with and will occur concurrently with investigation work necessary to inform the main design and obtain design approval. They will include civil and building infrastructure and fit-up within or around Centre Block, as well as other locations in the Parliamentary Precinct and National Capital Region.

6.7 Building Information Modeling

PWGSC is currently creating a 3D BIM Model of Centre Block. The BIM is intended to be updated and enhanced by the entire Design Team over the duration of the Project.

6.8 Building Components and Connectivity Program

The BCC program delivers precinct-wide projects that provide the infrastructure and services to implement the connectivity requirements for the Precinct. BCC components include building fixtures, furnishings and equipment. BCC connectivity includes interconnected systems for networking, security, multimedia and other electronic communications. BCC is to be installed as part of the Centre Block Rehabilitation Project.

6.9 Project Duration

This significant Project will take between 8 - 12 years to complete depending on the options approved for implementation. Regardless of the options approved, the first two years of the Project are critical when the schematic design must be completed and approved in about 36 months from the award of the A&E Consultant and CM contracts. Formative seismic/structural design options, inclusive of architectural and security impacts, must be completed within 24 months for presentation to approval bodies.

6.10 Project Size

This Project of national significance will be of a size greater than all work progressed to date on the LTVP, and will be similar in complexity, scope and scale with projects such as the Capitol Visitors Centre (Washington, DC), the renovations of the United Nations Headquarters (New York City), and the planned rehabilitation of Westminster Palace (London, UK).

APPENDIX B – Terms, Acronyms and Abbreviations

The following terms are used in this document:

| | |
|--|---|
| Architectural and Engineering Consultant | The entity engaged by PWGSC to provide and manage architectural and engineering services for the Project. |
| Baseline | The original approved plan and/or schedule by the Departmental Representative (for the Project, Design Package, or activity), plus or minus the approved scope changes. |
| Building Information Modeling | The process and technology used to create Models. |
| Class 'A' | A substantive cost estimate to be in both elemental cost analysis format as well as trade divisional format latest edition issued by the Canadian Institute of Quantity Surveyors and based on completed construction Drawings and specifications prepared prior to calling competitive tenders. The Class 'A' estimate is generally expected to be within 5% to 10% of the actual Contract Award price for new construction. |
| Class 'B' | A substantive cost estimate to be in elemental cost analysis format latest edition issued by the Canadian Institute of Quantity Surveyors and based on design development Drawings and outline specifications, which include the design of all major systems and subsystems, as well as the results of all site/installation investigations. |
| Class 'C' | An indicative cost estimate to be in elemental cost analysis format latest edition issued by the Canadian Institute of Quantity Surveyors and based on a comprehensive list of requirements and assumptions, including a full description of the preferred schematic design option, construction/design experience, and market conditions. |

| | |
|----------------------|---|
| Class 'D' | An indicative cost estimate to be in unit cost analysis format (such as cost per m ² or other measurement unit) based upon a comprehensive list of Project requirements (i.e. scope) and assumptions. |
| Construction Manager | The construction management firm engaged by PWGSC to provide construction related advice during the planning, design and Design Package documentation phases and to provide construction management services during the tendering, award and execution of multiple sub-contracts for construction and conservation. |
| Contract | The Articles of Agreement, general conditions, any supplemental general conditions, annexes and any other document specified or referred to as forming part of the Contract, all as amended by agreement of the Parties from time to time. |
| Contract Award | Refers to that date on page 1 of the Contract, and means as of which date, all the rights, duties and obligations of the Parties set forth in the Contract commence and are in full force and effect. |
| Contractor | The person(s) or entity(ies) contracting with Canada to provide or furnish all labour, Material and Plant for the execution of the work under the Contract. |
| Critical Activity | Any task/activity on a Critical Path. |
| Critical Path | A series of tasks/activities that determines the duration of the Project. The Critical Path is defined as those tasks/activities with Float less than or equal to a specified value, often zero. It is longest path through the Project. |
| Critical Path Method | A network analysis technique used to predict the Project duration by analyzing which sequence of activities (i.e. which path) has the least amount of scheduling flexibility (i.e. least amount of Float). |

| | |
|-----------------------------|--|
| Departmental Representative | The person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor. |
| Design Package | The part of the overall work for the Project that is specific to a limited number of trades or even one trade and is prepared by the A&E Consultant to acquire or construct one or more building element and/or to acquire, construct and install one or more BCC element. |
| Design Team | The combined forces of the Architectural and Engineering Consultant, the Information Technology and Project Management Office and security. |
| Drawings | The 2D Drawings generated from the Model and traditional 2D Drawings not generated from the Model. |
| Expenditure Authorizations | The approval given by an individual holding the delegated authority, typically the Departmental Representative, in order to exercise Section 32 of the <i>Financial Administration Act</i> and commit funds to a project. |
| Float | The amount of time that an activity may be delayed from its early start without delaying the Project finish date. Float is a mathematical calculation and can change as the Project progresses. |

| | |
|---|---|
| <p>Heritage Assets</p> | <p>The broad encompassing term used to describe tangible character defining elements and the integrated arts in the Centre Block. They include a range of cultural property managed and cared for by various custodians. They are divided into the following three categories:</p> <ul style="list-style-type: none"> • Movable Heritage Assets: furnishings and other portable assets, e.g. movable furniture, wall-hung fine art, historical material culture and portable sculpture; • Fixed-removable Heritage Assets: heritage elements that are fastened to the base building fabric using screws or other fastening devices which can be easily unfastened, e.g. light fixtures, grilles, radiators, doors, demountable wood panels and wall mounted handrails; and • Fixed Heritage Assets: heritage elements which are fixed or embedded into the building fabric which, if possible to remove, would require extensive effort and careful disassembly, e.g. architectural carving and fine art relief sculpture, woodwork and paneling, decorative painted finishes such as stencil work, mural paintings including frescos, wrought iron metalwork and marble and stone finishes. |
| <p>Information Technology and Project Management Office</p> | <p>Forms part of the House of Commons and provides services to the Senate, the House of Commons and the Library of Parliament.</p> |
| <p>Knowledgeable Client</p> | <p>Includes the Senate, the House of Commons, the Library of Parliament and the Privy Council Office.</p> |
| <p>Model</p> | <p>A digital representation of the physical and functional configuration, characteristics or attributes of the Project or a portion of the Project.</p> |

| | |
|---|--|
| Monitoring or Monitor | The capture, analysis, and reporting of Project performance, usually as compared to a plan. |
| Near-Critical Activity | A task/activity that has low total Float. |
| Network (Logic) Diagram | A schematic display of logical relationships of Project activities and is always drawn from left to right to reflect Project chronology. |
| Non-Critical Activities | Tasks/activities which when delayed do not affect the specified Contract duration. |
| Project | All services and work required to fulfill the work described in the Contract. |
| Public Works and Government Services Canada | The Department of Public Works and Government Services of Canada as established by the Department of Public Works and Government Services of Canada Act, S.C. 1996, c. C.16. |
| Working Day | A day other than a Saturday, Sunday, or a statutory holiday that is observed by the construction industry in the area of the place of the work. |

The following acronyms are used in this document:

| | |
|-------|--|
| A&E | Architectural and Engineering Consultant |
| BCC | Building Components and Connectivity |
| BIM | Building Information Model or Modeling |
| CB | Centre Block |
| CBUS | Centre Block Underground Services |
| CM | Construction Manager |
| D-B | Design Build |
| DR | Departmental Representative |
| GoC | Government of Canada |
| IT | Information Technology |
| ITPMO | Information Technology and Project Management Office |
| KPI | Key Performance Indicators |
| LoP | Library of Parliament |
| LTVP | Long Term Vision and Plan |
| PDF | Portable Document Format |
| PWGSC | Public Works and Government Services Canada |
| P3 | Public-Private Partnerships |
| SOW | Statement of Work |
| VWC | Visitor Welcome Centre |
| WBS | Work Breakdown Structure |

APPENDIX C – Reference Documents

The DR will provide the Contractor the following documents after Contract Award:

- a) A&E Project Brief;
- b) Construction Manager Terms of Reference;
- c) Project Management Support Services Statement of Work;
- d) Information Technology Consultant Statement of Work;
- e) Feasibility Report – Centre Block Rehabilitation Project;
- f) Baseline Investment Analysis Report;
- g) Parliamentary Building – Building Information Report;
- h) Master Schedule, Master Cost Plan and current Risk Plans;
- i) Implementation scenarios;
- j) Structural, geotechnical and other feasibility studies; and
- k) Supporting CB and LTVP information.

The following websites are also available for online research:

- a) General information about the Parliamentary Precinct: www.parliamenthill.gc.ca
- b) General information about the National Project Management System: <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>
- c) Information Management Planning Template: <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/ti-it/mpgi-impt-eng.html>.

Cost, Time and Risk

Request for Information

Canada will shortly undertake the rehabilitation project of the Centre Block (CB) on Parliament Hill. Requirements for major rehabilitation projects such as this generally require the Canada to retain 3rd party consultants for planning and scheduling (time management), budgeting and estimating (cost management) and risk.

For the Center Block rehabilitation project, Canada is combining these three requirements into one mandate.

In order to make an informed decision on the extent of services required, Canada wishes to consult with industry on this approach. To this end, Canada has the following questions for industry:

1. Does the work requested in the attached Statement of Work align with industry standards and practices?
2. Are there any benefits to industry by having cost, time and risk requirements with the same Contractor?
3. Are there any risks to industry by having cost, time and risk requirements with the same Contractor?
4. Could your company provide all the resources requested or would you have to team up with another company to provide all the resources requested?
5. Would it be preferable to request a fixed monthly fee basis of payment or should an hourly rate be used?
6. Do you have any recommendations that would result in increased competition?
7. Do you have any recommendations that would reduce the risk to Canada?
8. Do you have any recommendations that would reduce cost to Canada?
9. What is a reasonable approach to economic price adjustment of the duration of this subsequent contract.
10. Is there Aboriginal capacity to perform the work requested?