



THE CITY OF WINNIPEG

REQUEST FOR PROPOSAL

RFP NO. 565-2015

**COST CONSULTING SERVICES FOR NEWPCC POWER SUPPLY UPGRADE AND
WEWPCCEFFLUENT MONITORING STATION PROJECTS**

Proposals shall be submitted to:

**The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 COST CONSULTING SERVICES FOR NEWPCC POWER SUPPLY UPGRADE AND WEWPCC EFFLUENT MONITORING STATION PROJECTS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon, Winnipeg time, September 10, 2015.

B2.2 Proposals determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Project Manager or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. ENQUIRIES

B3.1 All enquiries shall be directed to the Project Manager identified in D2.

B3.2 If the Proponent finds errors, discrepancies or omissions in the Request for Proposal (RFP), or is unsure of the meaning or intent of any provision therein, the Proponent shall promptly notify the Project Manager of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B3.3 If the Proponent is unsure of the meaning or intent of any provision therein, the Proponent should request clarification as to the meaning or intent prior to the Submission Deadline.

B3.4 Responses to enquiries which, in the sole judgment of the Project Manager, require a correction to or a clarification of the RFP will be provided by the Project Manager to all Proponents by issuing an addendum.

B3.5 Responses to enquiries which, in the sole judgment of the Project Manager, do not require a correction to or a clarification of the RFP will be provided by the Project Manager only to the Proponent who made the enquiry.

B3.6 All correspondence or contact by Proponents with the City in respect of this RFP must be directly and only with the City's Project Manager. Failure to restrict correspondence and contact to the Project Manager may result in the rejection of the Proponents Proposal Submission.

B3.7 The Proponent shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Project Manager in writing.

B4. CONFIDENTIALITY

B4.1 Information provided to a Proponent by the City or acquired by a Proponent by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Project Manager. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Proponent before receipt hereof; or
- (b) becomes publicly known other than through the Proponent; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B4.2 The Proponent shall not make any statement of fact or opinion regarding any aspect of the Request for Proposals to the media or any member of the public without the prior written authorization of the Project Manager.

B5. ADDENDA

- B5.1 The Project Manager may, at any time prior to the Submission Deadline, issue Addenda correcting errors, discrepancies or omissions in the Request for Proposal, or clarifying the meaning or intent of any provision therein.
- B5.2 The Project Manager will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>.
- B5.2.2 The Bidder is responsible for ensuring that it has received all Addenda and is advised to check the Materials Management Division website for Addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

B6. PROPOSAL SUBMISSION

- B6.1 The Proposal shall consist of the following components:
- (a) Form A: Proposal (Section A) in accordance with B7; and
 - (b) Form B: Fees (Section B) in accordance with B8.
- B6.2 The Proposal should also consist of the following components:
- (a) Form C: Experience of Proponent and Subconsultants (Section C) in accordance with B9;
 - (b) Form D: Experience of Key Personnel Assigned to the Project (Section D), in accordance with B10;
 - (c) Form E: Project Understanding and Methodology (Section E) in accordance with B11; and
 - (d) Costing Samples (Section F) in accordance with B12.
- B6.3 Further to B6.1, all components of the Proposal shall be fully completed or provided in the order indicated, and submitted by the Proponent no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B6.4 Further to B6.2, all components of the Proposal should be fully completed or provided in the order indicated, and submitted by the Proponent no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B6.5 Proponents should submit one (1) unbound 8.5" x 11" original (marked "original") and four (4) hard copies for sections identified in B6.1 and B6.2.
- B6.6 Proposal format, including type of binding, number of pages, size of pages and, font, etc., will not be regulated, except that the Proposal should be presented in the Sections identified above. Proponents are encouraged to use their creativity to submit a Proposal which provides the requested information for evaluation and other information which illustrates the strength of their team.
- (a) Proposal submissions should generally employ a minimum printed text font size of 10 point.
- B6.7 Proponents are advised that inclusion of terms and conditions inconsistent with the Request for Proposal, will be evaluated in accordance with B21.1(a).
- B6.8 The Proposal shall be submitted enclosed and sealed in an envelope/package clearly marked with the RFP number and the Proponent's name and address.

- B6.9 Proposals submitted by facsimile transmission (fax) or internet electronic mail (email) will not be accepted.
- B6.10 Proposals shall be submitted to:
The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1
- B6.11 Any cost or expense incurred by the Proponent that is associated with the preparation of the Proposal shall be borne solely by the Proponent.

B7. PROPOSAL (SECTION A)

- B7.1 The Proponent shall complete Form A: Proposal, making all required entries.
- B7.2 Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:
- (a) if the Proponent is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
 - (b) if the Proponent is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Proponent is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Proponent is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B7.2.1 If a Proposal is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.
- B7.3 In Paragraph 3 of Form A: Proposal, the Proponent shall identify a contact person who is authorized to represent the Proponent for purposes of the Proposal.
- B7.4 Paragraph 11 of Form A: Proposal shall be signed in accordance with the following requirements:
- (a) if the Proponent is a sole proprietor carrying on business in his/her own name, it shall be signed by the Proponent;
 - (b) if the Proponent is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Proponent is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
 - (d) if the Proponent is carrying on business under a name other than its own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B7.4.1 The name and official capacity of all individuals signing Form A: Proposal should be printed below such signatures.
- B7.5 If a Proposal is submitted jointly by two or more persons, the word "Proponent" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Proponents in the Proposal and the Contract, when awarded, shall be both joint and several.

B8. FEES (SECTION B)

- B8.1 The Proponent shall complete Form B: Fees, making all required entries to summarize their Fee proposal for the proposed Services. The Proponent shall be responsible to verify and ensure the correctness of the associated submittals.

- B8.2 The Proposal shall include a Fixed Fee for all work identified in D8 Scope of Services.
- B8.3 Adjustments to Fees will only be considered based on increases to the Scope of Services.
- B8.4 Fees shall include Allowable Disbursements as defined in C1.1(b).
- B8.5 Notwithstanding C1.1(b), overhead costs or disbursements typically referred to a Type 1 disbursements or general expenses shall be included in the Fees.
- B8.6 Notwithstanding C10.1, Fees submitted shall not include the Goods and Services Tax (GST) or Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B8.7 Payments to Non-Resident Consultants are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).
- B8.8 All fees shall be stated in Canadian Funds.

B9. EXPERIENCE OF PROPONENT AND SUBCONSULTANTS (SECTION C)

- B9.1 The Proponent should submit the experience of their firm and that of their Subconsultants as described in this Section and as listed in Form C: Experience of Proponent and Subconsultants.
- B9.2 The Proposal should include general firm profile information, including years in business, average volume of work, number of employees and other pertinent information for the Proponent and all Subconsultants showing their ability to undertake the current work.
 - (a) Information submitted shall be limited to a maximum of 10 pages total for Proponent and Subconsultant (not including Form C).
- B9.3 Proponent and Subconsultants should submit a total of two (2) projects performed in the last five (5) years, where the Proponent or Subconsultants had a similar Cost Consultant role as the one expected on the current Project, as per the following criteria:
 - B9.3.1 Project 1 should be comparable to the NEWPCC Power Supply Upgrade Project. Specific desirable characteristics (in order of preference) include, but are not limited to:
 - (a) High and medium voltage substation work with a capacity of 20 MVA or greater,
 - (b) Power substation and distribution for an industrial facility,
 - (c) Underground utility corridors, and
 - (d) Value of \$30M or greater.
 - B9.3.2 Project 2 should be comparable to the WEWPCC Effluent Flow Monitoring Station Project. Specific desirable characteristics (in order of preference) include, but are not limited to:
 - (a) Gravity or forcemain flowmeter installation with a 600 mm diameter or greater,
 - (b) New building construction,
 - (c) Water or wastewater facility, and
 - (d) Value of \$1M to \$5M.
 - B9.3.3 If more than two (2) projects are submitted for B9.3 and/or included in Form C: Experience of Proponent and Subconsultants, only the first two (2) referenced projects in Form C: Experience of Proponent and Subconsultants will be evaluated.
- B9.4 For each project listed in B9.3 the Proponent should submit:
 - (a) A clear and comprehensive description of the project – include project owner, project objectives, size of project, and other relevant information demonstrating similarity to project criteria in B9.3;
 - (b) A clear and comprehensive description of the costing services and details of the role of the Proponent / Subconsultants and other relevant information demonstrating similarity to the role expected on the current Project;

- (c) A cost estimate value and the associated costing accuracy. Indicate the level of design information available at the time the costing services were performed. Indicate the level of detail provided in the cost estimate including the number of costing lines and the sources of the costing lines;
- (d) Provide related information to help disclose the relevance of the costing performed;
- (e) Reference information (two current names with email and telephone numbers per project);
 - (i) References should have worked directly on the projects described (i.e. project owner).
 - (ii) References may be utilized to confirm the information provided in the Proposal.
 - (iii) Other sources not named in the references may be contacted to verify the work.
 - (iv) Incorrect or out of date contact information may negatively impact the evaluation.
- (f) Utilize Form C: Experience of Proponent and Subconsultants for each project experience submittal.

B9.4.1 Where applicable, information should be separated into Proponent and Subconsultant project listings.

B10. EXPERIENCE OF KEY PERSONNEL ASSIGNED TO THE PROJECT (SECTION D)

B10.1 The Proponent should submit the experience of the Key Personnel assigned to this Project as described in this Section and in Form D: Experience of Key Personnel.

- B10.1.1 Multiple Key Personnel positions may be filled by one individual.
- (a) Separate forms are required for each Key Personnel position.
 - (b) If a key person is assigned to two (2) positions, a separate Form D is still required for each Key Personnel position. The comparable projects may be different for each position.
 - (c) Proponents are required to identify the experience for each position assigned to each Key Personnel.

B10.1.2 Key Personnel may be repeated between the NEWPCC Power Supply Upgrade and WEWPCC Effluent Monitoring Station Projects.

B10.2 The Proponent should identify the following Key Personnel for the Services detailed in D8 Scope of Services. The Proponent is responsible for ensuring they have adequate staff for the successful delivery of the Project, even if they are not listed below.

- (a) Team Leader / Project Manager,
- (b) Electrical Quantity Surveyor,
- (c) Electrical Professional Engineer, as per B15,
- (d) Structural Quantity Surveyor,
- (e) Instrumentation and Control Certified Engineering Technologist (CET) or Professional Engineer, as per B15.

B10.3 Using Form D: Experience of Key Personnel, the Proponent should indicate the experience of the Key Personnel as follows:

- (a) Proposed role and responsibilities,
- (b) Core capabilities and/or technical skills,
- (c) Educational background, degrees, professional recognitions, job title and years of experience (related to scope of services, in similar role as proposed and with existing employer), and
- (d) Two (2) comparable projects in which they have played a similar role as proposed for this Project. For each project provide the following:
 - (i) Role of the person on the project;

- (i) Emphasize roles which are similar to those proposed for this Project.
 - (ii) Project name and owner;
 - (iii) Description of project;
 - (iv) Responsibilities, achievements and methodologies employed;
 - (v) Cost estimate value, accuracy, and percentage of design available at the time the costing services were performed;
 - (vi) Related information to help disclose the relevance of the costing performed;
 - (vii) Reference information (two current names with email and telephone numbers per project);
 - (i) References should have worked directly on the projects described.
 - (ii) References may be utilized to confirm the information provided in the Proposal.
 - (iii) Other sources not named in the references may be contacted to verify the work.
 - (iv) Incorrect or out of date contact information may negatively impact the evaluation.
 - (viii) Other required information as indicated on Form D: Experience of Key Personnel.
- B10.3.1 If more than two (2) projects are submitted for B10.3(d) and/or included in Form D: Experience of Key Personnel, only the first two (2) referenced projects in Form D: Experience of Key Personnel will be evaluated.
- B10.4 For evaluation purposes, higher scores will be given to:
 - (a) Key Personnel with appropriate experience and qualifications to meet the requirements of the projects;
 - (b) Key Personnel with a similar role in projects similar to the current one as per the criteria defined in B9.3.1 to B9.3.2; and
 - (c) Projects substantially completed within the past five (5) years.
- B11. PROJECT UNDERSTANDING AND METHODOLOGY (SECTION E)**
- B11.1 The Proponent should submit the methodology assigned to this Project as described in this Section and in Form E: Proposed Methodology.
 - (a) Proponents are requested to complete Form E: Proposed Methodology and subsequently provide additional information to meet the requirements of this section, in written form.
- B11.2 Describe your firm's project management approach, quality management practices, and team organization during the performance of Services, so that the evaluation committee has a clear understanding of the methods the Proponent will use in the delivery of this Project.
- B11.3 The Proponent should describe their proposed approach/methodology to the Project in Form E: Proposed Methodology and as follows:
 - (a) Provide a complete definition of the process that will be employed to meet the objectives of this Project (i.e., approach to be taken, etc.);
 - (i) Indicate the methodology utilized to capture local material and construction labour costs.
 - (ii) Indicate the methodology utilized to capture the potential effect of construction labour availability / shortages and the other construction activity in and around Winnipeg.
 - (iii) Indicate the methodology utilized to capture winter construction premiums.
 - (iv) Indicate the columns and layout details to be provided in the Construction Cost Estimate Report.

- (b) A description of the Proponent's understanding of the Scope of Services, and how these will be achieved, including:
 - (i) Civil works,
 - (ii) Structural works,
 - (iii) Temporary construction works,
 - (iv) Building/architectural,
 - (v) Process mechanical,
 - (vi) Building mechanical,
 - (vii) Electrical, and
 - (viii) Automation works.
- (c) Identify all facts and assumptions made by the Proponent in developing the Submission and the relevance that these facts and assumptions have had on the proposed methodology and team composition (i.e. data availability, level of involvement of City staff, etc.);
- (d) Describe experience with the use of software and databases for the purpose of cost planning and cost management; and
- (e) Provide a detailed description of any information, resources, or services required to be provided by the City.

B12. COSTING SAMPLES (SECTION F)

B12.1 Provide costing samples showing material and installation costs that are consistent with the proposed level of detail to be provided for the following:

- (a) Civil
 - (i) Excavations.
- (b) Structural
 - (i) Concrete foundations including rebar.
 - (ii) Underground utility corridors.
- (c) Temporary Construction Works
 - (i) Temporary construction flow bypass scenario.
- (d) Building / Architectural
 - (i) Roofing.
 - (ii) Wall construction.
- (e) Process Mechanical
 - (i) Process pump including auxiliaries.
- (f) Building Mechanical
 - (i) Ventilation air handler including ductwork.
- (g) Electrical
 - (i) Medium voltage cable including terminations.
 - (ii) Medium voltage arc-rated switchgear with circuit breakers and associated protection systems.
 - (iii) High voltage (66 kV or greater) circuit switch including associated protection systems.
- (h) Automation
 - (i) Magnetic flowmeter.
 - (ii) PLC control panel including programming and commissioning.

B12.2 The cost samples may be from another project, or may be generated specifically for the purpose of this Project proposal.

B13. ELIGIBILITY

- B13.1 As a result of their involvement in the NEWPCC Power Supply Upgrade, KGS Group Ltd. or their affiliates or Subconsultants (LG Cost Consulting Services Inc. and Sea Jay Engineering Services Ltd.) are not eligible to participate as a Consultant, Subconsultant, member of consortium etc. for the Consulting Services for the Cost Consulting Services for the NEWPCC Power Supply Upgrade and WEWPC Effluent Monitoring Station Projects (RFP No. 565-2015).
- B13.2 Although not yet awarded at the time, the successful proponent of the City of Winnipeg's Request for Proposal for Professional Consulting Services for WEWPC Effluent Monitoring Station (RFP No. 676-2015), will not be eligible to participate as a Consultant, Subconsultant, member of consortium etc. for the Consulting Services for the Cost Consulting Services for the NEWPCC Power Supply Upgrade and WEWPC Effluent Monitoring Station Projects.
- B13.3 As a result of their involvement in the NEWPCC Power Supply Upgrade and WEWPC Effluent Monitoring Station, Veolia Water North America (Winnipeg) Inc. (Veolia) or their affiliates are not eligible to participate as a Consultant, Subconsultant, member of consortium etc. for the Consulting Services for the Cost Consulting Services for the NEWPCC Power Supply Upgrade and WEWPC Effluent Monitoring Station Projects.

B14. DISCLOSURE

- B14.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.
- B14.2 The Persons are:
- (a) N/A

B15. QUALIFICATION

- B15.1 The Proponent shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Proponent does not carry on business in Manitoba, in the jurisdiction where the Proponent does carry on business; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Services in strict accordance with the terms and provisions of the Contract.
- B15.2 The Proponent and any proposed Subconsultant (for the portion of the Services proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>
- B15.3 The Proponent and/or any proposed Subconsultant (for the portion of the Services proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope, and value to the Services;
 - (b) be fully capable of performing the Services required to be in strict accordance with the terms and provisions of the Contract;

- (c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);
- (d) utilize the services of a Professional Electrical Engineer, registered in the province of Manitoba and experienced in medium and high voltage design to supervise and review the development of the electrical cost estimates; and
- (e) utilize the services of a CET or Professional Engineer experienced in industrial automation systems to supervise and review the development of the automation cost estimates.

- B15.4 All Quantity Surveyors must hold the designation of a Professional Quantity Surveyor and be a member in good standing with the Canadian Institute of Quantity Surveyors.
- B15.5 All Professional Engineers must be a member in good standing with the Association of Professional Engineers and Geoscientists of Manitoba (APEGM).
- B15.6 All CETs must be a member in good standing with the Certified Technologist and Technicians Association of Manitoba (CTTAM).
- B15.7 The Proponent shall submit, within three (3) Business Days of a request by the Project Manager, further proof satisfactory to the Project Manager of the qualifications of the Proponent and of any proposed Subconsultant.

B16. OPENING OF PROPOSALS AND RELEASE OF INFORMATION

- B16.1 Proposals will not be opened publicly.
- B16.2 After award of Contract, the names of the Bidders and the Contract amount of the successful Bidder will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>.
- B16.3 To the extent permitted, the City shall treat all Proposal Submissions as confidential. However, the Proponent is advised that any information contained in any Proposal may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.
- B16.4 Following the award of Contract, a Proponent will be provided with information related to the evaluation of its submission upon written request to the Project Manager.

B17. IRREVOCABLE OFFER

- B17.1 The Proposal(s) submitted by the Proponent shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.
- B17.2 The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Proponents and these Proponents shall be bound by their offers on such Services until a Contract for the Services has been duly executed as herein provided, but any offer shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 10 of Form A: Proposal.

B18. WITHDRAWAL OF OFFERS

- B18.1 A Proponent may withdraw its Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B18.1.1 The time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.
- B18.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Proponent's authorized representatives named in Paragraph 11 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.

- B18.1.3** If a Proponent gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Proposal until after the Submission Deadline has elapsed;
 - (b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Proponent's authorized representatives named in Paragraph 11 of Form A: Proposal; and
 - (c) if the notice has been given by any one of the persons specified in B18.1.3(b), declare the Proposal withdrawn.

B18.2 A Proponent who withdraws its Proposal after the Submission Deadline but before its offer has been released or has lapsed as provided for in B17.2 shall be liable for such damages as are imposed upon the Proponent by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

B19. INTERVIEWS

B19.1 The Project Manager may, in his/her sole discretion, interview Proponents during the evaluation process.

B20. NEGOTIATIONS

B20.1 The City reserves the right to negotiate details of the Contract with any Proponent. Proponents are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.

B20.2 The City may negotiate with the Proponents submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Proponents without being obligated to offer the same opportunity to any other Proponents. Negotiations may be concurrent and will involve each Proponent individually. The City shall incur no liability to any Proponent as a result of such negotiations.

B20.3 If, in the course of negotiations pursuant to B20.2 or otherwise, the Proponent amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Proponent from the Proposal as originally submitted.

B21. EVALUATION OF PROPOSALS

B21.1 Award of the Contract shall be based on the following evaluation criteria:

- (a) compliance by the Proponent with the requirements of the Request for Proposal or acceptable deviation therefrom: (pass/fail)
- (b) qualifications of the Proponent and the Subconsultants, if any, pursuant to B15: (pass/fail)
- (c) Fees (Section B); 40%
- (d) Experience of Proponent and Subconsultants (Section C); 5%
- (e) Experience of Key Personnel Assigned to the Project; (Section D); 20%
- (f) Project Understanding and Methodology (Section E); and 20%
- (g) Costing Samples (Section F). 15%

B21.2 Further to B21.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

- B21.3 Further to B21.1(b), the Award Authority shall reject any Proposal submitted by a Proponent who does not demonstrate, in its Proposal or in other information required to be submitted, that it is responsible and qualified.
- B21.4 Further to B21.1(c), Fees will be evaluated based on Fees submitted in accordance with B8.
- B21.5 Further to B21.1(d), Experience of Proponent and Subconsultants will be evaluated considering the experience of the organization on projects of similar size, scope, and complexity as well as other information requested in Form C: Experience of Proponent and Subconsultants and in B9.
- B21.6 Further to B21.1(e), Experience of Key Personnel Assigned to the Project will be evaluated considering the experience and qualifications of the Key Personnel and Subconsultant personnel on projects of comparable size, scope and complexity as well as other information requested in Form D: Experience of Key Personnel and in B10.
- B21.7 Further to B21.1(f), Project Understanding and Methodology will be evaluated considering the methodology, comprehensiveness and level of detail to be used to carry out the scope of services as requested in Form E: Proposed Methodology and in B11.
- B21.8 Further to B21.1(g), Costing Samples will be evaluated considering the applicability, level of detail, and comprehensiveness of the proposed samples. The evaluation of the costing samples will be weighted in accordance with the applicable disciplines required for the Work and in B12.
- B21.9 Notwithstanding B21.1(d) to B21.1(g), where Proponents fail to provide a response to B6.2(a) to B6.2(d), the score of zero may be assigned to the incomplete part of the response.
- B21.10 The City has full power to conduct an independent verification of information in any Proposal received and generally pertaining to the qualifications and experience of the Proponent and any proposed members of its team.

B22. AWARD OF CONTRACT

- B22.1 The City will give notice of the award of the Contract, or will give notice that no award will be made.
- B22.2 The City will have no obligation to award a Contract to a Proponent, even though one or all of the Proponents are determined to be responsible and qualified, and the Proposals are determined to be responsive.
- B22.2.1 Without limiting the generality of B22.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Services;
 - (b) the prices are materially in excess of the prices received for similar services in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Services, or a significant portion thereof, with its own forces;
 - (d) only one Proposal is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B22.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Proponent submitting the most advantageous offer.
- B22.4 The City may, at its discretion, award the Contract in phases.
- B22.5 Notwithstanding Paragraph 6 of Form A: Proposal and C4, the City will issue a Letter of Intent to the successful Bidder in lieu of execution of a Contract.

- B22.5.1 The Contract documents as defined in C1.1(n)(ii) in their entirety shall be deemed to be incorporated in and to form a part of the Letter of Intent notwithstanding that they are not necessarily attached to or accompany said Letter of Intent.
- B22.6 The form of Contract with the City of Winnipeg will be based on the Contract as defined in C1.1(n).
- B22.7 Further to Paragraph 6 of Form A: Proposal and C4, the successful Bidder will be provided with Contract documents for execution following issuance of a Letter of Intent.
- B22.8 The form of Contract with the City of Winnipeg will be based on the Contract as defined in C1.1(n).
- B22.9 Following the award of Contract, a Proponent will be provided with information related to the evaluation of its Proposal upon written request to the Project Manager.
- B22.10 If, after the award of Contract, the Project is cancelled, the City reserves the right to terminate the Contract. The Consultant will be paid for all Services rendered up to time of termination.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Consultant Services* (Revision 2010-10-01) are applicable to the Services of the Contract.
- C0.1.1 The *General Conditions for Consultant Services* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm.
- C0.2 A reference in the Request for Proposal to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Consultant Services*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for Consultant Services*, these Supplemental Conditions are applicable to the Services of the Contract.

D2. PROJECT MANAGER

D2.1 The Project Manager is:

Lana Obach, P.Eng., M.A.Sc.

Email: lobach@winnipeg.ca

Telephone No. 204-986-8335

D2.2 At the pre-commencement meeting, the Project Manager will identify additional personnel representing the Project Manager and their respective roles and responsibilities for the Services.

D2.3 Proposal Submissions must be submitted to the address in B6.10.

D3. DEFINITIONS

D3.1 When used in this Request for Proposal:

- (a) "CPI" means Canadian Consumer Price Index;
- (b) "Consultant" means the Person undertaking the performance of Services under the terms of the Contract;
- (c) "DBB" means design-bid-build;
- (d) "DCS" means Distributed Control System;
- (e) "HVAC" means Heating, Ventilation and Air Conditioning;
- (f) "MRST" means Manitoba Retain Sales Tax;
- (g) "NEWPCC" means North End Sewage Treatment Plant;
- (h) "P&ID" means Process and Instrumentation Diagram;
- (i) "PCB" means polychlorinated biphenyl;
- (j) "PLC" means Programmable Logic Controller;
- (k) "Program Team" means the Program Team consisting of both City of Winnipeg and Veolia personnel;
- (l) "R&O" means Risk and Opportunity;
- (m) "Subconsultant" means a person contracting with the Consultant to perform a part or parts of the Services to be provided by the Consultant pursuant to the Contract;
- (n) "Veolia" means Veolia Water North America (Winnipeg) Inc.;
- (o) "WEWPCC" means West End Sewage Treatment Plant;
- (p) "WSTP" means Winnipeg Sewage Treatment Program; and
- (q) "WWD" means City of Winnipeg Water and Waste Department.

D4. BACKGROUND

- D4.1 The City of Winnipeg is expanding and upgrading its North End Sewage Treatment Plant (NEWPCC) power supply capacity and infrastructure, and installing an Effluent Monitoring Station at the West End Sewage Treatment Plant (WEWPCC). Both of these Projects will help enable the respective facilities to meet their Manitoba Regulatory License requirements.
- D4.2 The NEWPCC Power Supply Upgrade, described more fully in D5, will include, but is not limited to:
- (a) The removal of two 7.5 MVA transformers and one 5 MVA transformer;
 - (b) The construction and commissioning of two new 66 kV Points of Delivery, step-down transformers and Medium Voltage distribution system. The total installed capacity of the substation will be approximately 30 MVA;
 - (c) The construction of a new electrical building with access tie-ins to the existing buildings; and
 - (d) The replacement of existing switchgear within the secondary process area.
- D4.3 The WEWPCC Effluent Monitoring Station, described more fully in D6, will include, but is not limited to:
- (a) The construction of a chamber around the existing outfall pipeline;
 - (b) The installation of a flow measurement system;
 - (c) The installation of flow-proportional sampling equipment; and
 - (d) The construction of a building to house the monitoring equipment.
- D4.4 The purpose of this Project is to engage an independent third-party Cost Consultant to determine, for internal purposes, the cost of construction for the planned NEWPCC Power Supply Upgrade and WEWPCC Effluent Monitoring Station Projects.
- D4.5 The City has engaged Veolia to provide advice to the City during the delivery of this Project. Veolia will be in attendance at meetings and workshops and assist with reviews throughout the Project. This does not relieve the Consultant of their obligation.

D5. PROJECT DESCRIPTION – NEWPCC POWER SUPPLY UPGRADE

- D5.1 The major components of the Work is anticipated to be as follows:
- (a) Connection of two new 30 MVA, redundant 66 kV services;
 - (b) Supply and installation of new 66 kV rated, outdoor circuit switches;
 - (c) Supply and installation of replacement main transformers;
 - (d) Construction of a new electrical building to house the new medium voltage switchgear lineups, including all required auxiliary mechanical and electrical systems;
 - (e) Supply and installation of new arc-resistant, medium voltage switchgear lineups for the main power distribution. It is anticipated that there will be four switchgear lineups with up to 12 medium voltage breakers in each. Two switchgear lineups are expected to be 4.16 kV, 3000 A and two lineups are expected to be 12.47 kV, 2000 A;
 - (f) Construction of a new man-access tunnel connecting the new electrical building to existing buildings on site;
 - (i) This tunnel will be a surface excavation and full foundation.
 - (ii) The tunnel will interconnect to an existing plenum and require segregation of the plenum from the adjacent space to allow the feeders to continue into the space.
 - (g) Construction of a new utility corridor (also known as a utilidor) connecting the new electrical building to the existing grit building;

- (h) Supply and installation of several replacement medium voltage feeder cables that supply power to several buildings throughout the NEWPCC site;
- (i) Supply and installation of new medium voltage switchgear equipment for the partial replacement of the existing 4.16 kV switchgear line-ups and distribution equipment at two locations on the NEWPCC site;
- (j) Supply and installation of all surface / subsurface civil modifications including:
 - (i) Temporary works and site access construction, including excavation, shoring, compaction, granulars, concrete, land drainage sewers and catch basins;
- (k) Supply backup power to power any existing plant loads affected by outages occurring as part of construction;
- (l) Demolition and removal of several existing switchgear line-ups, transformers, and related electrical distribution equipment. Hazards may include the following substances:
 - (i) asbestos,
 - (ii) lead, and
 - (iii) substances containing polychlorinated biphenyl (PCB);
- (m) Automation
 - (i) Provision of PLC based-control system for monitoring and control of the facility. A local touchscreen will be included for local indication and control.
 - (ii) Networking to connect the PLC with the existing distributed control system (DCS) in the NEWPCC facility.
 - (iii) The programming and commissioning of the PLC and local HMI is within the scope of work; however, the programming of the DCS is not within the scope of work.

D6. PROJECT DESCRIPTION – WEWPCC EFFLUENT MONITORING STATION

D6.1 The major components of the Work is anticipated to be as follows:

D6.2 Civil

D6.2.1 Fill and land grading to provide drainage around the new station.

D6.2.2 Construction of a short road to access the new site.

D6.2.3 Construction of a small parking lot adjacent to the new building to allow parking for two to three vehicles.

D6.2.4 Modifications to the pre-existing fencing at the site.

D6.2.5 Construction of new effluent pipeline manholes and bypass, as required, to implement the new effluent monitoring station.

D6.3 Architectural / Structural

D6.3.1 Construction of a building for the effluent monitoring station. The building is estimated to be approximately 8.5 m by 5 m in size (plan). The building will likely have a lower level to contain effluent pipework. The building is expected to be divided into two areas, a clean area and a dirty area.

D6.3.2 One or more additional chambers / manholes may be required to implement the required bypass for the effluent outfall and flow measurement.

D6.4 Building Mechanical

D6.4.1 The building will have a heating and ventilation system for each of the clean and dirty areas.

D6.5 Process

- D6.5.1 Piping, and valves (or gates) will be required to direct flow through or around the effluent flowmeter.
- D6.5.2 A new flowmeter will be installed on the effluent pipeline. At this time a magnetic flowmeter is anticipated, however an open channel flowmeter may be utilized. This may be located in the lower level of the building or in a second chamber to be constructed.
- D6.5.3 A new sampler system including a sample pump will be required.

D6.6 Electrical

- D6.6.1 Modifications and upgrades to the 12.47 kV / 7.2 kV pole line supplying the adjacent existing building will be required. A new or upgraded pole mounted 7.2 kV to low voltage transformer will be required to service the new building. The power supply is owned by the City. The construction, and cost of construction, required to upgrade this system will be included as part of this project. Do not assume that the utility (Manitoba Hydro) will provide the upgrades.
- D6.6.2 Installation of electrical service distribution, motor control, lighting, receptacles, etc. inside the building.

D6.7 Automation

- D6.7.1 Provision of a PLC based-control system for monitoring and control of the facility. A Magellis touchscreen will be included for local indication and control. The PLC will monitor (and control as applicable) the flowmeter, sampler, heating and ventilation, door security contacts, and other miscellaneous devices.
- D6.7.2 Installation of either a radio or fibre optic network installation to connect the new building with the existing WEWPCC facility.
- D6.7.3 Networking to connect the PLC with the existing DCS in the WEWPCC facility.
- D6.7.4 The programming and commissioning of the PLC and local HMI is within the scope of work; however, the programming of the DCS is not within the scope of work.

D7. GENERAL REQUIREMENTS

- D7.1 The following shall apply to the Consultant throughout the entire Scope of Services.
 - D7.1.1 Deliverables
 - (a) The deliverables shall be submitted in draft for review prior to submittal as a final document.
 - (b) All deliverables shall be delivered in a text searchable format. Scanned or image type deliverables are not acceptable.
 - (c) Revise and finalize documents based on comments provided by the Program Team.
 - (d) Unless otherwise specified, allow three (3) weeks for the Program Team to review deliverables.
 - D7.1.2 The Consultant shall not substitute or replace Key Personnel throughout the duration of the Project without written approval of the Project Manager.
 - D7.1.3 The Consultant shall ensure that all communications with any organization involved with the Project are directed through the Project Manager.
 - D7.1.4 Basis of Costing
 - (a) All costing shall assume a design-bid-build (DBB) procurement approach.
 - D7.1.5 Any site investigations require that attendees provide their own Personal Protective Equipment including: hard hat, safety boots, and safety glasses.

D8. SCOPE OF SERVICES

- D8.1 Shortly after award the Consultant shall attend a Project Kickoff meeting with the City.
- (a) The Kickoff meeting will discuss both Projects.
 - (b) The fees for this Kickoff meeting shall be split evenly between both Projects.
- D8.2 NEWPCC Power Supply Upgrade Project
- D8.2.1 The Consultant shall attend a half (0.5) day workshop with members of the Program Team and the City's design consultant in charge of the preparation of the Preliminary Design Cost Development Documents. At this workshop the City's design consultant will review the Preliminary Design Cost Development Documents and provide clarification to the Cost Consultant, if required.
- (a) The Consultant should prepare and submit their clarification questions to the Project Manager at least three (3) Business Days prior to the workshop.
- D8.2.2 Perform a site investigation to better understand the existing conditions, scope of work and site specific constraints. Allow a minimum of a half-day for each of the proposed attendees.
- D8.2.3 The Consultant shall provide a detailed Construction Cost Estimate Report for the NEWPCC Power Supply Upgrade Project based on the Preliminary Design Cost Development Documents provided by the City, as outlined in D9.
- (a) The City's expectation is to obtain an estimate with an accuracy of +/-20%.
 - (b) Ensure that sufficient detail is provided in the cost estimate to achieve the desired level of accuracy. Minimum detail requirements are identified in D10.
- D8.2.4 Program Team Review
- (a) The Consultant should allow for the Program Team to review a draft of the report and make review comments. The Consultant shall update the report to a final version incorporating any changes necessitated by the review comments.
- D8.2.5 Final Deliverables
- (a) Submit seven (7) bound hard copies and electronic copies of all deliverables on CD.
- D8.3 WEWPCC Effluent Monitoring Station Project
- D8.3.1 A workshop is not expected to be required to review the associated Cost Development Documents. Questions and clarifications regarding the Cost Development Documents should be forwarded to the Project Manager.
- D8.3.2 Perform a site investigation to better understand the existing conditions, scope of work and site specific constraints. Allow a minimum of a half-day for all the proposed attendees.
- D8.3.3 The Consultant shall provide a detailed Construction Cost Estimate Report for the WEWPCC Effluent Monitoring Station Project based on the Cost Development Documents provided by the City, as outlined in D9.
- (a) The City's expectation is to obtain an estimate with an accuracy of +/-20%.
 - (b) Ensure that sufficient detail is provided in the cost estimate to achieve the desired level of accuracy. Minimum detail requirements are identified in D10.
- D8.3.4 Program Team Review
- (a) The Consultant should allow for the Program Team to review a draft of the report and make review comments. The Consultant shall update the report to final version incorporating any changes necessitated by the review comments.
- D8.3.5 Final Deliverables
- (a) Submit seven (7) bound hard copies and electronic copies of all deliverables on CD.

D9. COST DEVELOPMENT DOCUMENTS

D9.1 The Cost Development Documents will be provided by the City, on a per Project basis, to form the basis for the two (2) Construction Cost Estimate Reports.

D9.2 General Documents

D9.2.1 The following general documents will be provided to the Consultant with information regarding design requirements:

- (a) Civil Design Guideline,
- (b) Structural Design Guideline,
- (c) Architectural Design Guideline,
- (d) Process Design Guideline,
- (e) Building Mechanical Design Guideline,
- (f) Electrical Design Guide, and
- (g) Automation Design Guide.

D9.3 NEWPCC Power Supply Upgrade Project

D9.3.1 The City will provide the following NEWPCC Power Supply Upgrade Project Preliminary Design Cost Development Documents to the Consultant:

- (a) Overall scope of work statement;
- (b) Specifications on products to be used, identifying features which are required and specifying specific products where required;
- (c) Specifications for building features and requirements;
- (d) Room Data Sheets outlining electrical building and room requirements;
- (e) Overall proposed site plan for the Work;
- (f) Proposed mechanical system arrangements;
- (g) Proposed building details;
- (h) Proposed building plans;
- (i) Proposed cable routing for site feeders;
- (j) Proposed modifications to existing distributions;
- (k) Proposed IO list and IO module lists for control elements;
- (l) Proposed single line diagram;
- (m) Proposed control scheme and power transfer scheme;
- (n) Proposed three-line diagram and protections configuration;
- (o) Proposed tunnel excavation details;
- (p) Proposed piling requirements;
- (q) Geotechnical study;
- (r) Proposed building Heating, Ventilation, and Air Conditioning (HVAC) schematic;
- (s) Proposed building piping schematics;
- (t) Proposed building lighting plans;
- (u) Proposed building power plans;
- (v) Proposed building system plans;
- (w) Proposed site grounding plans and details;
- (x) Sequencing drawings indicating the proposed sequence of construction;
- (y) Proposed Drainage Plans;

- (z) Proposed Road Plans; and
 - (aa) A Project schedule that provides a detailed critical path for the Project from detailed design to turnover. The level of detail will be such that it clearly conveys the significant activities related to the various Project components with their inter-dependencies.
- D9.3.2 Project specific construction risks identified by the Program Team will be provided for costing.
- D9.3.3 Refer to Appendix A for a preliminary list of technical deliverables expected to be provided to the Consultant as the basis for the cost estimate.
- D9.4 WEWPCC Effluent Monitoring Station
- D9.4.1 The City will provide the WSTP Level 2 Design Report for the WEWPCC Effluent Monitoring Station Project to the Consultant, which will include:
- (a) Site Development / Civil
 - (i) Site development design drawings that highlight preliminary concepts related to piping, roads, parking lots and other major civil works.
 - (ii) Construction stockpile and laydown areas for the proposed construction.
 - (iii) Drawings that show pipes and appurtenances, above and underground, greater than 100 mm in diameter, on plan to scale.
 - (iv) Associated specifications will be provided as required to convey quality information.
 - (v) Site excavation plan drawings showing all excavations, slopes and shoring requirement showing dimensions and depths on the drawings.
 - (vi) A description of all minor civil works, not clearly shown on the drawings. For example, the scope of work associated with landscaping shall be described.
 - (b) Temporary Construction Requirements
 - (i) Temporary construction works required to implement the planned construction. This may include, but is not limited to temporary piping / flow bypasses, special tie-in requirements, electrical cable relocations, and temporary structural supports.
 - (ii) A description of all minor temporary construction requirements, not clearly shown on the drawings.
 - (c) Structural Design
 - (i) The Project's structural requirements will be provided and conveyed in such a manner that a quantitative take-off of required components, piling, reinforced concrete and structural steel etc. can be performed. This will include:
 - ◆ Foundation / piling drawings.
 - ◆ Structural plan and section drawings for all building elevations.
 - (ii) Associated specifications will be provided as required to convey quality information. This will include general notes for the building indicating design criteria, foundation requirements, concrete material and concrete reinforcing requirements, concrete surface finishing, masonry requirements, as well as structural steel and metal fabrication requirements.
 - (iii) A description of all minor structural requirements, not clearly shown on the drawings.
 - (d) Building / Architectural
 - (i) Floor plans for each level and all architectural elevations, with dimensions shown. The drawings will also show all access hatches sizes and materials for covers, ladders, guardrails, and other access and safety requirements as well as special architectural details to accommodate the process.
 - (ii) Building exterior elevation drawings, with dimensions and materials of construction shown.

- (iii) Building section drawings, to allow for complete definition of the building configuration.
 - (iv) Typical wall and roof sections for each type of construction, identifying all materials of construction.
 - (v) A description of all internal and external architectural finishes including special finishes as appropriate such as waterproofing, etc.
 - (vi) A description of all minor architectural requirements, not clearly shown on the drawings.
 - (vii) Associated specifications will be provided as required to convey quality information.
- (e) Building Mechanical
- (i) Process and Instrumentation Diagram (P&ID) drawings for all HVAC, sump pump and plumbing systems. The P&IDs will include unit heaters, piping, and valves. The design airflow and temperature values for all equipment and spaces for all operating states will be shown. All building rooms and spaces, along with ductwork interconnections and louvres, grilles, and balancing dampers will be shown. Ductwork materials and dimensions will also be shown.
 - (ii) Equipment layout drawings showing building mechanical equipment. These drawings may be common with the process equipment layout drawings.
 - (iii) An equipment list for all new building mechanical equipment to be supplied under the work including major criteria to allow for costing.
 - (iv) A description of all minor building mechanical requirements, not clearly shown on the drawings.
 - (v) Associated specifications will be provided as required to convey quality information.
- (f) Process
- (i) P&ID drawings for all process systems.
 - (ii) Hydraulic profile drawing(s) for the proposed design.
 - (iii) Piping layout drawing(s).
 - (iv) An equipment list for all new process equipment to be supplied under the work including major criteria to allow for costing.
 - (v) A valve list for all valves >100 mm including major criteria to allow for costing.
 - (vi) A description of all minor process requirements, not clearly shown on the drawings.
 - (vii) Associated specifications will be provided as required to convey quality information.
- (g) Electrical
- (i) A plan drawing of the existing electrical pole line to the facility, with the proposed work on the pole line clearly identified.
 - (ii) A single-line drawing indicating the proposed electrical design.
 - (iii) An electrical equipment list.
 - (iv) Plan drawing(s) of the proposed electrical equipment layout.
 - (v) A lighting basis of design in the WSTP Level 2 Design Report which identifies for each room and chamber, including the exterior: the type of lighting, the illumination level, the means of lighting control, and emergency lighting (if applicable).
 - (vi) A cable schedule of all medium voltage cables and all low voltage cables (<750 V) greater than 1/0 AWG in size.
 - (vii) A description of all minor electrical requirements, not clearly shown on the drawings.

- (viii) Associated specifications will be provided as required to convey quality information.
- (h) Instrumentation / Controls / Automation
 - (i) P&ID drawings.
 - (ii) Drawing(s) to detail the networking connection between the WEWPCC Effluent Monitoring Station and the existing DCS in the main WEWPCC facility.
 - (iii) A control system architecture block diagrams that shows all control system equipment including but not limited to PLCs, remote I/O, network switches, network gateways, firewalls, operator workstations, and PROFIBUS segment couplers.
 - (iv) Automation networking block diagrams showing all networking equipment required.
 - (v) A plan layout drawing of the proposed automation equipment layout.
 - (vi) A comprehensive instrument list for all new or modified instruments including process instruments, HVAC instruments, and operator pushbuttons and indicators not located within motor starters or other major equipment.
 - (vii) A comprehensive automation equipment list for all automation equipment (other than instruments).
 - (viii) A PLC rack layout drawing(s) for the PLC processor and any remote I/O racks (if required).
 - (ix) Include a list of the local HMI graphics screens required.
 - (x) A description of all minor automation requirements, not clearly shown on the drawings.
 - (xi) Associated specifications will be provided as required to convey quality information.
- (i) Project Schedule
 - (i) A schedule that provides a detailed critical path for the Project covering activities from commencement of detailed design until turnover to operations. The level of detail will be such that it clearly conveys the significant activities related to the various Project components with their inter-dependencies.
- D9.4.2 Project specific construction risks identified by the Program Team will be provided for costing.
- D9.4.3 Refer to Appendix B for a preliminary list of technical deliverables expected to be provided to the Consultant as the basis for the cost estimate.

D10. CONSTRUCTION COST ESTIMATE REPORT

D10.1 Organization and Major Components

- D10.1.1 Construction Cost Estimate Reports shall be neat, organized, and consist of the following components:
 - (a) Summary Section, including:
 - (i) Introduction,
 - (ii) Methodology including but not limited to:
 - ◆ Methodology and valuation of escalation,
 - ◆ Methodology and valuation of MRST, and
 - ◆ Costing tools utilized (unit rates, benchmarks, vendor quotations, CPI, etc.).
 - (iii) Final accuracy of the estimate,
 - (iv) Assumptions,
 - (v) Any allowances that have been made,

- (vi) Exclusions,
 - (vii) List of Cost Development Documents,
 - (viii) Notes of additional information received from site visits, workshops, meetings, and correspondence,
 - (ix) Methodology for application of contingencies,
 - (x) Summary of costs, broken down by area code (discipline in matrix form. It shall be possible to easily see the individual and total costs of each discipline and each process area. Include MRST as a separate line item, and
 - (xi) A Construction Total Cost in Canadian Dollars. Include MRST as a separate line item as applicable.
- (b) Detail Section
- (i) Exhaustive breakdown of the cost estimate by line item,
 - (ii) Elemental line item, broken out by area code (as applicable) and then by discipline, and
 - (iii) For each line item, indicate, at minimum, the quantity, unit material cost, unit labour cost, and total cost.

D10.2 General Costing Requirements

- (a) The estimate shall be based upon a DBB procurement model.
- (b) Costs shall be based on the location of the site to capture factors such as but not limited to:
 - (i) local material and construction labour costs,
 - (ii) the potential effect of construction labour availability / shortages and other construction activity in and around Winnipeg, and
 - (iii) winter construction premiums.
- (c) Costs shall take into account specific site conditions, including access and working space and the effect of continued operations.
- (d) Cost estimate development shall be based on appropriate principles required for the specific Project scope of work. Typical costing practices for commercial applications will not be applicable or accepted for this Project. For example, the electrical and automation requirements are not well suited to utilizing general commercial allowance factors.
- (e) Provide separate material and labour costs on each individual costing line item.
- (f) Indicate estimated subcontractor and general contractor markups.
- (g) No cost shall be allocated as an allowance if the information to provide a more detailed cost breakdown is available within the Cost Development Documents.
- (h) The cost estimator shall ensure that the prices are consistent with the quality requirements indicated in the Cost Development Documents.
- (i) Where appropriate for work that is small in scale, provide allowances for minimum contractor charges that may be applicable.

D10.3 Cost components shall include, but not be limited to:

D10.3.1 General Requirements

- (a) Mobilization and Demobilization,
- (b) Contractor Project Planning, Scheduling and Progress Reporting,
- (c) Submittals,
- (d) Contractor Quality Control,
- (e) Health and Safety,
- (f) Temporary Facilities,
- (g) Environmental Protection & Temporary Controls,

- (h) Training,
- (i) Cleaning,
- (j) As-Built Markup Drawings,
- (k) Operations and Maintenance Manuals,
- (l) Insurance (City will provide insurance requirements),
- (m) Bonding,
- (n) Overhead,
- (o) Construction Permits,
- (p) Construction power, heating and hording, utilities, and services,
- (q) Construction cost escalation based on the schedule,
- (r) Delivery to site, and
- (s) MRST, as applicable.

D10.3.2 Risks

- (a) Include the estimated costs to address risks, as identified in the Cost Development Documents.

D10.3.3 Demolition

- (a) The cost estimate shall include all demolition costs, quantified as appropriate.
- (b) The cost estimate shall include removal and appropriate disposal of all hazardous substances such as but not limited to asbestos, lead and PCB.

D10.3.4 Temporary Construction Works

- (a) The sewage treatment facilities operate on a 24/7/365 basis and thus shutdowns to accommodate process, electrical, and automation interconnections are not necessarily straightforward.
- (b) Include costs for flow shutdown and diversion as required during construction.
- (c) Include costs for temporary electrical work (such as connections and generators) as appropriate to implement the required construction.
- (d) Include costs for temporary / manual automation, as appropriate, to implement the required construction.

D10.3.5 Civil

- (a) The cost estimate shall include, but not be limited to, individual takeoff of quantities for the following:
 - (i) Shoring,
 - (ii) Excavations,
 - (iii) Backfill,
 - (iv) Roadwork,
 - (v) Parking Lots,
 - (vi) Crushed rock for substations, and
 - (vii) Buried utilities including pipework >100 mm in diameter.
- (b) Include costs for dewatering as appropriate to implement the required construction.
- (c) Include costs for the contractor's design responsibilities and associated professional costs (such as design shoring, etc.).
- (d) Other costs shall be included and quantified as appropriate.
- (e) Include winter construction costs and allowances as appropriate based on the proposed construction schedule.

D10.3.6 Structural / Architectural

- (a) The cost estimate shall include, but not be limited to, individual takeoff of quantities for the following:
 - (i) Foundations / Piles,
 - (ii) Concrete,
 - (iii) Masonry,
 - (iv) Handrails and guardrails,
 - (v) Stairways,
 - (vi) Roofing, coping and parapets,
 - (vii) Doors and windows,
 - (viii) Flooring and concrete coating, and
 - (ix) Painting.
- (b) Include costs for the contractor's design responsibilities and associated professional costs (such as design of formwork, rigging, etc.).
- (c) Other costs shall be included and quantified as appropriate.
- (d) Include winter construction costs and allowances as appropriate based on the proposed construction schedule.

D10.3.7 Process

- (a) The cost estimate shall include, but not be limited to, individual takeoff of quantities for the following:
 - (i) All equipment identified on the equipment list,
 - (ii) Valves >100 mm diameter,
 - (iii) All sluice gates and weir gates, and
 - (iv) Piping >100 mm diameter.
- (b) Spare parts (2 year allowance) shall be estimated and included.
- (c) Include costs for the contractor's design responsibilities and associated professional costs (such as design of pipe hangers, rigging, etc.).
- (d) Include commissioning costs, estimated by the number of hours / days of commissioning effort.
 - (i) Costs to be broken out by major process / area as appropriate.
- (e) Other costs shall be included and quantified as appropriate.

D10.3.8 Building Mechanical

- (a) The cost estimate shall include, but not be limited to, individual takeoff of quantities for the following:
 - (i) All ventilation equipment identified,
 - (ii) Ductwork >100 mm diameter, and
 - (iii) All plumbing equipment (i.e. sump pumps, fixtures, etc).
- (b) The cost estimate shall include, but not be limited to, calculation of costs by area measurement for the following:
 - (i) Small diameter plumbing.
- (c) Spare parts (2 year allowance) shall be estimated and included.
- (d) Include costs for the contractor's design responsibilities and associated professional costs.
- (e) Include commissioning costs, estimated by the number of hours / days of commissioning effort.
 - (i) Costs to be broken out by major area / system as appropriate.
 - (ii) Include testing and air balancing.

- (f) Other costs shall be included and quantified as appropriate.

D10.3.9 Electrical

- (a) The cost estimate shall include, but not be limited to, individual takeoff of quantities for the following:
 - (i) All transformers,
 - (ii) All high-voltage (66 kV) power equipment and components,
 - (iii) All medium voltage switchgear and breakers,
 - (iv) All medium voltage power equipment and components,
 - (v) All low voltage switchgear and breakers,
 - (vi) All MCCs, broken down to the individual motor level,
 - (vii) All medium voltage cables,
 - (viii) All 600 V cables greater or equal to 1/0 AWG,
 - (ix) All panelboards,
 - (x) All uninterruptible power supplies,
 - (xi) All motor disconnect switches,
 - (xii) Cable tray (if shown on the drawings), and
 - (xiii) All electrical equipment shown on the automation equipment list.
- (b) The cost estimate shall include, but not be limited to, calculation of costs by area measurement for the following:
 - (i) Industrial-grade lighting including associated wiring, and
 - (ii) Industrial-grade receptacles including associated wiring.
- (c) Spare parts (2 year allowance) shall be estimated and included.
- (d) Include costs for the contractor's design responsibilities and associated professional costs.
- (e) Include commissioning costs, estimated by the number of hours / days of commissioning effort.
 - (i) Costs to be broken out by major area / system as appropriate.
- (f) Other costs shall be included and quantified as appropriate.
- (g) The electrical cost estimate for the NEWPCC Power Supply Upgrade Project shall be prepared under the supervision and review of a Professional Electrical Engineer.
- (h) The services of a Professional Electrical Engineer of the development of the electrical cost estimate for the WEPCC Effluent Monitoring Station is not mandatory.

D10.3.10 Automation

- (a) The cost estimate shall include, but not be limited to, individual takeoff of quantities for the following:
 - (i) All PLC modules,
 - (ii) All control panels,
 - (iii) All HMI servers and operator workstations,
 - (iv) All fibre-optic cabling,
 - (v) Programming costs by I/O and networked device,
 - (vi) All equipment shown on the automation equipment list, and
 - (vii) All instrumentation shown on the instrument list.
- (b) Spare parts (2 year allowance) shall be estimated and included.
- (c) Include costs for the contractor's design responsibilities and associated professional costs.
- (d) Include commissioning costs, estimated by the number of hours / days of commissioning effort, broken out by the following:

- (i) Factory Acceptance Testing,
- (ii) Site Acceptance Testing (of Automation Equipment),
- (iii) Process Commissioning Support,
- (iv) Building Mechanical Commissioning Support, and
- (v) Electrical Commissioning Support.

- (e) Other costs shall be included and quantified as appropriate.
- (f) The automation cost estimate shall be prepared under the supervision and review of a qualified Professional Engineer or CET.

D10.3.11 Tools and Portable Equipment

- (a) The cost estimate shall include costs for all tools and portable equipment required for operations personnel to operate and maintain the equipment including, but not be limited to:
 - (i) Medium voltage breaker removal trucks; and
 - (ii) Portable lifting devices.

D10.4 The estimate shall not include the following:

- (a) Land acquisition costs and impost charges,
- (b) Operating costs,
- (c) Cost of City staff,
- (d) Cost of the City's design consultant,
- (e) Cost of Contract Administration, and
- (f) Goods and Services Tax.

D10.5 The City has standardized a number of process, electrical, instrumentation, and control equipment types.

- (a) Preselected equipment vendors are as follows:
 - (i) Control System and Motor Control Equipment – RFP 756-2013: Covering voltages of 600V and lower for Motor Control Centre (MCC)'s both intelligent and standard, MCC related equipment such as semiconductor based drives, metering and switchgear. PLC's, Human Machine Interface (HMI)'s, historians, software and related protocol and communication equipment. Preselected vendor is Schneider Electric Canada Inc.,
 - (ii) Electric Valve Actuators RFP 331-2014: Covering electric valve actuators in the range of >150 Nm for the applications of multi-turn and quarter-turn applications. The preselected vendor is Rotork Controls Canada Ltd.,
 - (iii) Gas Detection Equipment RFP 123-2014: Covering fixed gas detection systems. The preselected vendor is Mine Safety Appliances LLC.,
 - (iv) Uninterruptible Power Supplies RFP 341-2013: Covering three-phase Uninterruptible Power Supplies (UPS). The preselected vendor is Eecol Electric, and
 - (v) Instrumentation RFP 449-2014: Covering flow, level, pressure and temperature instrumentation of all types. The preselected vendor is Trans-West Supply Company Inc.
- (b) The City will provide contact information for these vendors after award.
- (c) Obtain pricing for applicable equipment from the corresponding equipment vendor. These vendors should provide component pricing in accordance with the agreement with the City at no charge; however the Consultant is responsible for providing sufficient information to the vendors to allow them to price components.
 - (i) The vendors' are not responsible for providing cost estimates based on vague information or generalities.

- (ii) The vendors' responsibility for costing information is limited to material supply. The Consultant is responsible for estimating all installation, programming, commissioning, and other applicable requirements.
- (d) The standardized equipment supplied by the vendors will be paid for by the City through the contractor and applicable subcontractors. Ensure that applicable markups are included.

D11. PROJECT SCHEDULE

D11.1 The following key milestone activities are outlined below for the NEWPCC Power Supply Upgrade Project:

Milestone Activity	Estimated Timeline
Attend a Project Kickoff Meeting (shared with D11.2)	1 to 2 weeks after award
City to issue Cost Development Documents	Within 6 months after award
Attend half-day workshop with Program Team and Design Consultant	Within 1 month of issuance of Cost Development Documents
Issue Construction Cost Estimate Report	Within 3 months after issuance of Cost Development Documents
Issue Final Construction Cost Estimate Report	Within 3 weeks of issuance of City final comments

D11.2 The following key milestone activities are outlined below for the WEWPCC Effluent Monitoring Station Project:

Milestone Activity	Estimated Timeline
Attend a Project Kickoff Meeting (shared with D11.1)	1 to 2 weeks after award
City to issue Cost Development Documents	Within 12 months after award
Issue Construction Cost Estimate Report	Within 2 months after issuance of Cost Development Documents
Issue Final Construction Cost Estimate Report	Within 3 weeks of issuance of City final comments

D11.3 The Consultant shall not assume that the Cost Development Documents for the two Projects will arrive simultaneously or that any potential work may be common between the two Projects, other than the common Project Kickoff Meeting indicated.

D12. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

D12.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Consultant are the property of the City and shall not be appropriated for the Consultants own use, or for the use of any third party.

D12.2 The Consultant shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Project Manager.

- D12.3 The following shall be confidential and shall not be disclosed by the Consultant to the media or any member of the public without the prior written authorization of the Project Manager;
- (a) information provided to the Consultant by the City or acquired by the Consultant during the course of the Work;
 - (b) the Contract, all deliverables produced or developed; and
 - (c) any statement of fact or opinion regarding any aspect of the Contract.
- D12.4 A Consultant who violates any provision of D12 may be determined to be in breach of Contract.

SUBMISSIONS PRIOR TO START OF SERVICES

D13. AUTHORITY TO CARRY ON BUSINESS

- D13.1 The Consultant shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Consultant does not carry on business in Manitoba, in the jurisdiction where the Consultant does carry on business, throughout the term of the Contract, and shall provide the Project Manager with evidence thereof upon request.

D14. INSURANCE

- D14.1 The Consultant shall procure and maintain, at its own expense and cost, insurance policies with limits no less than those shown below.
- D14.2 As a minimum, the Consultant shall, without limiting its obligations or liabilities under any other contract with the City, procure and maintain, at its own expense and cost, the following insurance policies:
- (a) Comprehensive or Commercial General Liability Insurance including:
 - (i) an inclusive limit of not less than \$2,000,000 for each occurrence or accident with a minimum \$2,000,000 Products and Completed Operations aggregate and \$5,000,000 general aggregate;
 - (ii) all sums which the Consultant shall become legally obligated to pay for damages because of bodily injury (including death at any time resulting therefrom) sustained by any person or persons or because of damage to or destruction of property caused by an occurrence or accident arising out of or related to the Services or any operations carried on in connection with this Contract;
 - (iii) coverage for Products/Completed Operations, Blanket Contractual, Consultant's Protective, Personal Injury, Contingent Employer's Liability, Broad Form Property Damage, Employees as Additional Insureds, and Non-Owned Automobile Liability;
 - (iv) a Cross Liability clause and/or Severability of Interest Clause providing that the inclusion of more than one Insured shall not in any way affect the rights of any other Insured hereunder in respect to any claim, demand, suit or judgment made against any other Insured;
 - (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Consultant directly or indirectly in the performance of the Service. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.
 - (c) Professional Errors and Omissions Liability Insurance including:
 - (i) an amount not less than \$250,000 per claim and \$500,000 in the aggregate.
- D14.2.1 The Consultant's Professional Errors and Omissions Liability Insurance shall remain in force for the duration of the Project and for twelve (12) months after total performance.

- D14.3 The policies required in D14.2(a) shall provide that the City is named as an Additional Insured thereunder and that said policies are primary without any right of contribution from any insurance otherwise maintained by the City.
- D14.4 The Consultant shall require each of its Subconsultants to provide comparable insurance to that set forth under D14.2(a) and D14.2(c).
- D14.5 The Consultant shall provide the Project Manager with a certificate(s) of insurance for itself and for all of its Subconsultants, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Services, but in no event later than the date specified in C4.1 for the return of the executed Contract. Such Certificates shall state the exact description of the Services and provide for written notice in accordance with D14.10.
- D14.6 The Consultant may take out such additional insurance as it may consider necessary and desirable. All such additional insurance shall be at no expense to the City.
- D14.7 All insurance, which the Consultant is required to obtain with respect to this Contract, shall be with insurance companies registered in and licensed to underwrite such insurance in the Province of Manitoba.
- D14.8 If the Consultant fails to do all or anything which is required of it with regard to insurance, the City may do all that is necessary to affect and maintain such insurance, and any monies expended by the City shall be repayable by and recovered from the Consultant.
- D14.9 The failure or refusal to pay losses by any insurance company providing insurance on behalf of the Consultant or any Subconsultants shall not be held to waive or release the Consultant or Subconsultants from any of the provisions of the insurance requirements or this Contract. Any insurance deductible maintained by the Consultant or any Subconsultants under any of the insurance policies is solely for their account and any such amount incurred by the City will be recovered from the Consultant as stated in D14.8.
- D14.10 The Consultant shall not cancel, materially alter, or cause any policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the City.

SCHEDULE OF SERVICES

D15. COMMENCEMENT

- D15.1 The Consultant shall not commence any Services until it is in receipt of a notice of award from the City authorizing the commencement of the Services.
- D15.2 The Consultant shall not commence any Services until:
- (a) the Project Manager has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D13;
 - (ii) evidence of the insurance specified in D14;
 - (b) the Consultant has attended a meeting with the Project Manager, or the Project Manager has waived the requirement for a meeting.
- D15.3 The City intends to award this Contract by November 17, 2015.

MEASUREMENT AND PAYMENT

D16. INVOICES

- D16.1 Further to C10, the Consultant shall submit an invoice for each portion of work based on the Payment Schedule in D18.

D16.2 Invoices must clearly indicate, as a minimum:

- (a) the City's project number and name;
- (b) the amount payable with GST and MRST shown as separate amounts; and
- (c) the Consultant's GST registration number.

D16.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D17. PAYMENT

D17.1 Further to C10, the City may at its option pay the Consultant by direct deposit to the Consultant's banking institution.

D18. PAYMENT SCHEDULE

D18.1 The following payment schedule shall be applicable for the:

- (a) NEWPCC Power Supply Upgrade Project
 - (i) 50% on acceptance the of draft Cost Construction Estimate Report as per clause D8.2.3, by the City's Project Manager; and
 - (ii) Remainder on acceptance of the final Cost Construction Estimate Report by the City's Project Manager.
- (b) WEWPCC Effluent Monitoring Station Project
 - (i) 50% on acceptance the of draft Cost Construction Estimate Report as per clause D8.3.3, by the City's Project Manager; and
 - (ii) Remainder on acceptance of the final Cost Construction Estimate Report by the City's Project Manager.

D18.2 Payment may be reduced, at the discretion of the City Project Manager, if the Consultant does not comply with the requirements of the RFP.

APPENDIX A

NEWPCC Power Supply Upgrade Estimated Deliverable List

Drawings:

Discipline	Description
Architectural	Basement Floor Plan
Architectural	Main Floor Plan
Architectural	Second Floor Plan
Architectural	Interconnection Tunnel Plan
Architectural	Fan-Building Tunnel Plan
Architectural	Building Elevations
Architectural	Building Details Sheet 1
Architectural	Building Details Sheet 2
Architectural	Tunnel Details
Architectural	Utilidor Details
Architectural	Door schedule
Structural	Building Foundation Details
Structural	Tunnel Foundation Details
Structural	Transformer Foundation and Drainage Details
Civil	Civil Site Plan
Civil	Road Plans 1
Civil	Road Plans 2
Electrical and Automation	Initial Switchyard Site Plan
Electrical and Automation	Final Site Arrangement
Electrical and Automation	Site Grounding Plan and Details
Electrical and Automation	Site Feeder Cable Routing Plan
Electrical and Automation	Initial NEWPCC Single Line Diagram
Electrical and Automation	Proposed NEWPCC Final Single Line Diagram
Electrical and Automation	Switchyard Plan
Electrical and Automation	Switchyard Elevations
Electrical and Automation	Basement Electrical Plan - Power and Systems
Electrical and Automation	Main Floor Electrical Plan - Power and Systems
Electrical and Automation	Second Floor Electrical Plan - Power and Systems
Electrical and Automation	Interconnection Tunnel Plan - Power and Systems
Electrical and Automation	Fan-Building Tunnel Plan - Power and Systems
Electrical and Automation	Basement Electrical Plan - Lighting
Electrical and Automation	Main Floor Electrical Plan - Lighting
Electrical and Automation	Second Floor Electrical Plan - Lighting
Electrical and Automation	Interconnection Tunnel Plan - Lighting
Electrical and Automation	Fan-Building Tunnel Plan - Lighting
Electrical and Automation	Secondary Clarifier Electrical Modifications - Main Floor
Electrical and Automation	Secondary Clarifier Electrical Modifications - Basement
Electrical and Automation	Secondary Clarifiers Switchgear Modification Sequence

Electrical and Automation	Grit Building Switchgear Modification Sequence
Electrical and Automation	Basement Floor Mechanical HVAC
Electrical and Automation	Power System Protection Matrix
Electrical and Automation	Power System Trip and Power Transfer Diagram
Electrical and Automation	HVAC Control Schematic
Electrical and Automation	Switchgear SG1 - Three Line Diagram
Electrical and Automation	Switchgear SG2 - Three Line Diagram
Electrical and Automation	Switchgear SG3 - Three Line Diagram
Electrical and Automation	Switchgear SG4 - Three Line Diagram
Electrical and Automation	Control System IO List
Electrical and Automation	Control System Module List
Electrical and Automation	Drainage System P&ID Diagram
Electrical and Automation	Proposed Luminaire Schedules
Electrical and Automation	Proposed Panelboard Schedules
Building Mechanical	Basement HVAC plan
Building Mechanical	Main Floor HVAC plan
Building Mechanical	Second Floor HVAC plan
Building Mechanical	Roof HVAC plan
Building Mechanical	Roof HVAC plan
Building Mechanical	Building Drainage Plans
Building Mechanical	Drainage System P&ID Diagram

APPENDIX B

WEWPCC Effluent Monitoring Station Estimated Deliverable List

Drawings:

Discipline	Description
Civil	Site Layout
Civil	Roadway and Parking Lot
Civil	Excavation Plan
Civil	Outfall Pipe Profile
Construction	Temporary Construction Works
Architectural	Floor Plans
Architectural	Exterior Elevations
Architectural	Building Sections
Architectural	Wall and Roof Sections
Structural	General notes for the building indicating design criteria, foundation requirements, concrete material and concrete reinforcing requirements, concrete surface finishing, masonry requirements, structural steel and metal fabrication requirements and significant material specifications.
Structural	Foundation / Piling Plan
Structural	Structural Building Plan
Structural	Structural Building Sections
Process	P&ID Drawings – Outfall Flow Measurement and Sampling
Process	Hydraulic Profile
Process	Plan and Section of Flowmeter Installation
Process	Piping Layout
Building Mechanical	P&ID drawings – HVAC, Sump Pump, and Plumbing
Building Mechanical	Building Mechanical Equipment Layout
Electrical	Site Plan
Electrical	Floor Plan
Electrical	Single Line Diagram
Automation	P&ID drawings will be provided as per other disciplines
Automation	Control System Architecture Block Diagram
Automation	Automation Network Block Diagrams
Automation	Floor Plan Layout (may be common with electrical drawing)
Automation	PLC Rack Layout Drawings

Other Documents:

Discipline	Description
Civil	Description of all minor civil works
Construction	Description of all minor temporary construction works
Architectural	Description of all minor architectural requirements
Structural	Description of all minor structural requirements

Process	Equipment List including major criteria
Process	Valve List for valves >100 mm including major criteria
Process	Description of all minor process requirements
Building Mechanical	Room schedule consisting of room description, seasonal temperature objectives, minimum ventilation requirement, heat dispersion ventilation requirements, pressurization requirement (negative or positive), special classification and explanatory remarks
Building Mechanical	Description of all minor building mechanical requirements
Electrical	Equipment list of all electrical equipment
Electrical	Lighting basis of design which identifies for each room and chamber, including the exterior the type of lighting, the illumination level, the means of lighting control, and emergency lighting (if applicable).
Electrical	Cable schedule of all cables greater than 1/0 AWG in size
Automation	Instrument list
Automation	Automation equipment list
Automation	Description of all minor automation requirements. It will include a list of the local HMI graphics screens required.
Construction	Proposed schedule
Commissioning	Preliminary Project Commissioning Plan