



THE CITY OF WINNIPEG

REQUEST FOR PROPOSAL

RFP NO. 333-2020

**PROFESSIONAL CONSULTING SERVICES FOR THE DEACON BOOSTER
PUMPING STATION ULTRAVIOLET DISINFECTION SYSTEM UPGRADES**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 PROFESSIONAL CONSULTING SERVICES FOR THE DEACON BOOSTER PUMPING STATION ULTRAVIOLET DISINFECTION SYSTEM UPGRADES

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 7, 2020.

B2.2 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. SITE INVESTIGATION

B3.1 The Project Manager or an authorized representative will conduct a Site investigation tour of the Deacon Booster Pumping Station for each individual Proponent during the week of June 15 to 19, 2020. Investigations are by **appointment only** and for a **maximum of three (3) attendees** per Proponent to maintain current social distancing measures related to the COVID-19 pandemic. The tour will be approximately one hour in duration.

B3.1.1 Proponents are required to request a Site Investigation by contacting the City's Project Manager identified in D2. Directions to the Winnipeg Drinking Water Treatment Plant and Site access procedures will be provided to the Proponent upon registration for the Site investigation.

B3.1.2 Proponents registered for a Site investigation must provide the City's Project Manager with a Public Safety Verification check obtained not earlier than one (1) year prior to the Site investigation.

(a) The Public Safety Verification check may be obtained from Sterling Talent Solutions. Proponents will need to setup a Sterling Talent Solutions account prior to requesting individual background checks. This process should be done a minimum of 72 hours prior to requesting the first check. The account can be setup using the following link:

<http://forms.sterlingbackcheck.com/partners/platform2-en.php?&partner=winnipegcity>

Note that the check will take up to 48 hours to complete. Refer to PART E – Security Clearance for further information.

The Public Safety Verification check may be obtained from Sterling Talent Solutions. Proponents will need to setup a Sterling Talent Solutions account prior to requesting individual background checks.

(b) The results of the Public Safety Verification check must be received by the City directly through Sterling Talent Solutions. Proponents must set up an account with Sterling Talent Solutions directly under their company name and grant Sterling Talent Solutions permission to share the results of the Public Safety Verification Checks with the City of Winnipeg.

B3.1.3 Attendees are required to wear CSA approved safety footwear while in the Deacon Booster Pumping Station.

B3.1.4 All attendees are required to confirm in writing the following COVID-19-related screening verifications approximately one (1) day prior to the Site investigation. Failure to provide written confirmation to the Project Manager may result in the attendee being denied access to the Site Investigation.

(a) The attendee is not exhibiting any flu-like symptoms;

(b) The attendee has not travelled outside of Manitoba in the last 14 days;

(c) The attendee has not been in contact with anyone who has travelled outside of Manitoba in the last 14 days; and

(d) The attendee has not been in contact with anyone diagnosed with COVID-19.

B3.2 Although attendance at the Site investigations is not mandatory, the City strongly suggests that Proponents arrange for a visit to view the Site.

B3.3 The Proponents shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Proponent's direct observation, or is provided by the Project Manager in writing.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Project Manager identified in D2.

B4.2 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.

B4.3 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.

B4.4 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.

B4.5 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 identified in D2. Failure to restrict correspondence and contact to the Project Manager may result in the rejection of the Proponents Proposal Submission.

B4.6 The Proponent shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Project Manager in writing.

B4.7 Any enquiries concerning submitting through MERX should be addressed to:
MERX Customer Support
Phone: 1-800-964-6379
Email: merx@merx.com

B5. CONFIDENTIALITY

B5.1 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.

B5.2 The Proponent shall not make any statement of fact or opinion regarding any aspect of the RFP to the media or any member of the public without the prior written authorization of the Project Manager.

B6. ADDENDA

B6.1 The Project Manager may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the RFP, or clarifying the meaning or intent of any provision therein.

- B6.2 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.
- B6.3 Addenda will be available on the MERX website at www.merx.com.
- B6.4 The Proponent is responsible for ensuring that he/she has received all addenda and is advised to check the MERX website for addenda regularly and shortly before the Submission Deadline, as may be amended by an Addendum.
- B6.5 The Proponent shall acknowledge receipt of each Addendum in Paragraph 10 of Form A: Bid/Proposal. Failure to acknowledge receipt of an Addendum may render a Proposal non-responsive.
- B6.6 Notwithstanding B4, enquiries related to an Addendum may be directed to the Project Manager indicated in D2.

B7. PROPOSAL SUBMISSION

- B7.1 The Proposal shall consist of the following components:
- (a) Form A: Bid/Proposal (Section A) in accordance with B8;
 - (b) Fees (Section B) in accordance with B9.
- B7.2 The Proposal should also consist of the following components:
- (a) Experience of Proponent and Subconsultants (Section C) in accordance with B10;
 - (b) Experience of Key Personnel Assigned to the Project (Section D), in accordance with B11;
 - (c) Project Understanding and Methodology (Section E) in accordance with B12; and
 - (d) Project Schedule (Section F) in accordance with B13.
- B7.3 Further to B7.1 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.
- B7.4 Further to B7.2, 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.
- B7.5 Proposal format, including number of pages, size of pages and, font, etc., will not be regulated, except that the Proposal should contain a table of contents, page numbering and should be 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 proposed solution.
- B7.6 The Proposal shall be submitted electronically through MERX.
- B7.6.1 Proposals will **only** be accepted electronically through MERX.
- B7.7 Proponents are advised that inclusion of terms and conditions inconsistent with the RFP, will be evaluated in accordance with B22.1(a).
- B7.8 Any cost or expense incurred by the Proponent that is associated with the preparation of the Proposal shall be borne solely by the Proponent.

B8. PROPOSAL (SECTION A)

- B8.1 The Proponent shall complete Form A: Bid/Proposal, making all required entries.

- B8.2 Paragraph 2 of Form A: Bid/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.
- B8.2.1 If a Proposal is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid/Proposal, the Proponent shall identify a contact person who is authorized to represent the Proponent for purposes of the Proposal.
- B8.4 Paragraph 13 of Form A: Bid/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;
 - (d) if the Proponent is carrying on business under a name other than his/her 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.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid/Proposal should be entered below such signatures.
- B8.5 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.

B9. FEES (SECTION B)

- B9.1 The Proponent Shall Complete Form B: Fees.
- B9.2 The Proposal shall include a Fixed Fee for the following sections identified in D7 – Scope of Services:
- (a) Project Management in accordance with D8;
 - (b) preliminary design in accordance with D9;
 - (c) regulator interfacing services in accordance with D10;
 - (d) detailed design in accordance with D11;
 - (e) non-resident services in accordance with D12;
 - (f) validation and commissioning services in accordance with D14;
 - (g) Record Drawings in accordance with D15;
 - (i) The Fixed Fee for Record Drawings shall be \$30,000.00, to be paid upon satisfactory completion of the Record Drawings as described in D15; and
 - (h) Post Construction Services in accordance with D16.
- B9.3 The Proposal shall include a Time-Based Fee schedule for the following sections identified in D7 – Scope of Services:

- (a) Resident contract administration services
 - (i) Time-Based Fees shall be based on on-site inspection services as described in D13.
 - (ii) For Proposal purposes these fees shall be based on 500 hours of inspection.
 - (iii) The number of hours listed in B9.3(a)(ii) is to be considered approximate only. The City will use this number for the purpose of comparing bids.
 - (iv) The number of hours for which payment will be made to the Proponent for resident services is to be determined by the actual amount of hours worked by the Proponent.
- (b) Additional Work Allowance in accordance with D17.
 - (i) The Proponent shall include an additional work allowance of \$30,000 in their Proposal.
 - (ii) The additional work allowance is to be used for engineering and design services that arise due to unforeseen conditions arising in the preliminary design stages of the project.
 - (iii) The additional work allowance is to be included in the calculation of total Fees proposed by the Proponent.
 - (iv) The additional work allowance shall only be used with written permission of the Project Manager and formally documented in a Change in Scope of Services form.

B9.4 There will be no fee escalation allowed for yearly adjustments, promotion, etc. The fee scale shall be fixed for the duration of the Project.

B9.5 Adjustments to fees will only be considered based on increases to the Scope of Services.

B9.5.1 The City will not consider an adjustment to the fees based on changes in the Project budget or the Final Total Construction Cost.

B9.6 Notwithstanding C1.1(b), fees shall include costs for out of town travel, related meals and accommodations for the duration of the Project and shall not be considered an Allowable Disbursement.

B9.7 The Fee Proposal shall also include an allowance for Allowable Disbursements as defined in C1.1(b), but shall exclude the costs of any materials testing, soils and hazardous materials investigation during construction.

B9.8 Notwithstanding C11.1, 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.

B9.9 Payments to Non-Resident Consultants are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B10. EXPERIENCE OF PROPONENT AND SUBCONSULTANTS (SECTION C)

B10.1 Proposals should include:

- (a) details demonstrating the history and experience of the Proponent and Subconsultants in providing programming, design, management of the project and contract administration services on two (2) projects of similar complexity, scope and value.
 - (i) If more than two (2) projects are submitted, only the first two (2) referenced will be evaluated.

B10.2 For each project listed in B10.1(a), the Proponent should submit:

- (a) a description of the project;
- (b) role of the consultant;
- (c) the project's original contracted consulting cost and final consulting cost;
 - (i) where the original contracted consulting cost and final cost differ, the Proponent should submit an explanation;

- (d) the project's original contracted construction cost and final construction cost;
 - (i) where the original contracted price construction cost and final cost differ, the Proponent should submit an explanation;
- (e) design and construction schedule (anticipated project schedule and actual project delivery schedule, showing design phases separately);
 - (i) where the anticipated project schedule and the actual project delivery schedule differ, the Proponent should submit an explanation;
- (f) the project owner; and
- (g) reference information (two current names with telephone numbers per project).
 - (i) references should have worked directly on the projects described, such as the Project Manager or Contract Administrator.
 - (ii) references may be utilized to verify the information provided in the Proposal.

B10.2.1 Where applicable, information should be separated into Proponent and Subconsultant project listings.

B10.3 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 Consultant and all Subconsultants.

B11. EXPERIENCE OF KEY PERSONNEL ASSIGNED TO THE PROJECT (SECTION D)

B11.1 Describe your approach to overall team formation and coordination of team members.

B11.1.1 Include an organizational chart for the Project.

- (a) Clearly identify Subconsultants to be engaged by the Proponent on the organizational chart.

B11.2 The Proponent should identify the following Key Personnel assigned to the project:

- (a) the project manager;
- (b) lead process professional;
- (c) lead automation and controls professional;
- (d) lead electrical engineer;
- (e) lead mechanical engineer;
- (f) resident contract administrator;
- (g) non-resident contract administrator; and
- (h) any other personnel with over 5% of the total project hours.

B11.2.1 Include the following for each of the Key Personnel:

- (a) educational background and degrees;
- (b) professional recognition;
- (c) job title;
- (d) years of experience in current position;
- (e) years of experience in design and construction; and
- (f) years of experience with existing employer.

B11.2.2 Roles of each of the Key Personnel in the Project should be identified in the organizational chart referred to in B11.1.1.

B11.2.3 For each Key Personnel identified, list **two (2)** comparable projects in which they have played a primary role similar to that proposed for this Project. If a project selected for a Key

Personnel is included in B10, provide only the project name and the role of the Key Personnel. For other projects provide the following:

- (a) a description of the project;
- (b) the role of the Key Personnel on the comparable project;
- (c) the project Owner; and
- (d) reference information (two current names with telephone numbers per project).

B11.2.4 If a Key Personnel is assigned to multiple roles (as identified in the organizational chart referred to in B11.1.1), **two (2)** comparable projects as detailed in B11.2.3 are required for **each role** of the Key Personnel.

B12. PROJECT UNDERSTANDING AND METHODOLOGY (SECTION E)

B12.1 Describe your firm's project management approach 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. The methods shall include:

- (a) activities to be performed either by the Proponent's employees or by Subconsultants at an office located outside of the Province of Manitoba. Identify proposed arrangements (i.e. conference calls, webinars, travel, communication protocol, etc.) involving out-of-town employees to participate in coordination and review functions; and
- (b) the collaborative process/method to be used by the Key Personnel of the team in the various phases of the Project.

B12.2 Methodology should be presented in accordance with the Scope of Services identified in D7.

B12.3 Describe the collaborative process/method to be used by the Key Personnel of the team in the various phases of the Project.

B12.4 Proposals shall include:

- (a) the methodology that the Proponent intends to use to carry out the Scope of Services;
 - (i) the methodology should be presented in accordance with the Scope of Services identified in D7 – Scope of Services.
- (b) The Proponent's team's understanding of the broad functional and technical requirements;
- (c) the work activities related to the Scope of Services;
- (d) the deliverables associated with the Scope of Services;
- (e) all significant assumptions and interpretations related to the Scope of Services; and
- (f) any other insight, proposed usage of innovation, or identification of risks related to the Scope of Services that demonstrates the Proponent's suitability to the Project.

B12.5 The Proposal should include Form P: Person Hours for all disciplines and phases identified in D7 Scope of Services.

B12.5.1 The total fees on Form P: Person Hours should match fees submitted in response to B9.

B12.6 For each person identified in B11.2, list the percent of the person's time to be dedicated to the Project in accordance with the Scope of Services identified in D7.

B12.7 Proponents may use Form P: Person Hours or a table of their own design provided it includes all information requested in accordance with B12.5.

B12.8 A sample of Form P: Person Hours can be found at <https://winnipeg.ca/matmgt/templates/information.stm>

B13. PROJECT SCHEDULE (SECTION F)

- B13.1 Proponents should present a carefully considered critical path method schedule using Microsoft Project or similar project management software, complete with resource assignments (key designers), durations (weekly timescale) and milestone dates or events. The schedule should address each requirement of the Scope of Services identified in D7.
- B13.2 Further to B13.1, the Proponent's schedule should also include:
- (a) a work breakdown structure;
 - (b) critical dates for review;
 - (c) anticipated review and approval periods by the City during the design and tendering phases of the project;
 - (i) two (2) weeks should be allotted for the City's review of major Project Deliverables;
 - (ii) a four (4) week construction tender period should be assumed;
 - (iii) a four (4) week construction tender award period should be assumed;
 - (d) Project meetings; and
 - (e) submission dates for required Deliverables.
- B13.3 The schedule should incorporate the critical dates listed in D24. The Proponent shall give justification in the event that the milestone dates listed in the schedule deviate.

B14. DISCLOSURE

- B14.1 Various Persons provided information or services with respect to this RFP. 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) AECOM Canada Ltd.;
 - (b) Cengys Ltd.
- B14.3 The following reports was prepared by the organizations identified in B14.2 and is also listed in Appendix B.
- (a) Deacon Ultraviolet Disinfection System Upgrade Assessment (AECOM, 2016)
 - (b) Deacon Booster Pumping Station Power Quality Assessment and Metering Improvement Phase 1 Report (Cengys, March 2020).

B15. CONFLICT OF INTEREST AND GOOD FAITH

- B15.1 Proponents, by responding to this RFP, declare that no Conflict of Interest currently exists, or is reasonably expected to exist in the future.
- B15.2 Conflict of Interest means any situation or circumstance where a Propoent or Key Personnel proposed for the Services has:
- (a) other commitments;
 - (b) relationships;
 - (c) financial interests; or
 - (d) involvement in ongoing litigation;
- that could or would be seen to:
- (i) exercise an improper influence over the objective, unbiased and impartial exercise of the independent judgment of the City with respect to the evaluation of Proposals or award of the Contract; or

- (ii) compromise, impair or be incompatible with the effective performance of a Proponent's obligations under the Contract;
- (e) has contractual or other obligations to the City that could or would be seen to have been compromised or impaired as a result of its participation in the RFP process or the Project;
or
- (f) has knowledge of confidential information (other than confidential information disclosed by the City in the normal course of the RFP process) of strategic and/or material relevance to the RFP process or to the Project that is not available to other Proponents and that could or would be seen to give that Proponent an unfair competitive advantage.

B15.3 In connection with its Proposal, each entity identified in B15.2 shall:

- (a) avoid any perceived, potential or actual Conflict of Interest in relation to the procurement process and the Project;
- (b) upon discovering any perceived, potential or actual Conflict of Interest at any time during the RFP process, promptly disclose a detailed description of the Conflict of Interest to the City in a written statement to the Project Manager; and
- (c) provide the City with the proposed means to avoid or mitigate, to the greatest extent practicable, any perceived, potential or actual Conflict of Interest and shall submit any additional information to the City that the City considers necessary to properly assess the perceived, potential or actual Conflict of Interest.

B15.4 Without limiting B15.3, the City may, in its sole discretion, waive any and all perceived, potential or actual Conflicts of Interest. The City's waiver may be based upon such terms and conditions as the City, in its sole discretion, requires to satisfy itself that the Conflict of Interest has been appropriately avoided or mitigated, including requiring the Proponent to put into place such policies, procedures, measures and other safeguards as may be required by and be acceptable to the City, in its sole discretion, to avoid or mitigate the impact of such Conflict of Interest.

B15.5 Without limiting B15.3, and in addition to all contractual or other rights or rights at law or in equity or legislation that may be available to the City, the City may, in its sole discretion:

- (a) disqualify a Proponent that fails to disclose a perceived, potential or actual Conflict of Interest of the Proponent or any of its Key Personnel;
- (b) require the removal or replacement of any Key Personnel proposed for the Services that has a perceived, actual or potential Conflict of Interest that the City, in its sole discretion, determines cannot be avoided or mitigated;
- (c) disqualify a Proponent or Key Personnel proposed for the Services that fails to comply with any requirements prescribed by the City pursuant to B15.4 to avoid or mitigate a Conflict of Interest; and
- (d) disqualify a Proponent if the Proponent, or one of its Key Personnel proposed for the Project, has a perceived, potential or actual Conflict of Interest that, in the City's sole discretion, cannot be avoided or mitigated, or otherwise resolved.

B15.6 The final determination of whether a perceived, potential or actual Conflict of Interest exists shall be made by the City, in its sole discretion.

B16. QUALIFICATION

B16.1 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;

B16.2 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 <https://winnipeg.ca/finance/findata/matmgt/listing/debar.pdf>

B16.3 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 services for the programming; design, management of construction and contract administration for architectural and/or engineering projects of similar complexity, scope and value; and to those required for this Project;
- (b) have experience with the assessment and design of UV disinfection systems;
- (c) be fully capable of performing the Services required to be in strict accordance with the terms and provisions of the Contract; and
- (d) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);
- (e) have the knowledge and resources to administer the requirements of The Workplace Safety and Health Act (Manitoba) during the construction works associated with this Contract; and
- (f) undertake to meet all licensing and regulatory requirements of the appropriate governing authorities and associations in the Province of Manitoba.
- (g) upon request of the Project Manager, provide the Security Clearances as identified in PART E - Security Clearance.

B16.4 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.

B16.5 The Proponent shall provide, on the request of the Project Manager, full access to any of the Proponent's equipment and facilities to confirm, to the Project Manager's satisfaction, that the Proponent's equipment and facilities are adequate to perform the Services.

B17. OPENING OF PROPOSALS AND RELEASE OF INFORMATION

B17.1 Proposals will not be opened publicly.

B17.2 After award of Contract, the Contract amount and the name of the successful Proponent and their address will be available on the MERX website at www.merx.com.

B17.3 The Proponent is advised any information contained in any Proposal Submission may be released if required by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law or by City policy or procedures (which may include access by members of City Council).

B17.3.1 To the extent permitted, the City shall treat as confidential information, those aspects of a Proposal Submission identified by the Proponent as such in accordance with and by reference to Part 2, Section 17 or Section 18 or Section 26 of The Freedom of Information and Protection of Privacy Act (Manitoba), as amended.

B17.4 Following the award of Contract, a Proponent will be provided with information related to the evaluation of his/her submission upon written request to the Project Manager.

B18. IRREVOCABLE OFFER

- B18.1 The Proposal(s) submitted by the Proponent shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid/Proposal.
- B18.2 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 for the time period specified in Paragraph 11 of Form A: Bid/Proposal.

B19. WITHDRAWAL OF OFFERS

- B19.1 A Proponent may withdraw his/her Proposal without penalty prior to the Submission Deadline.

B20. INTERVIEWS

- B20.1 The Project Manager may, in his/her sole discretion, interview Propoents during the evaluation process.

B21. NEGOTIATIONS

- B21.1 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.
- B21.2 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.
- B21.3 If, in the course of negotiations pursuant to B21.2, 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.

B22. EVALUATION OF PROPOSALS

- B22.1 Award of the Contract shall be based on the following evaluation criteria:
- | | |
|---|-------------|
| (a) compliance by the Proponent with the requirements of the RFP or acceptable deviation therefrom: | (pass/fail) |
| (b) qualifications of the Proponent and the Subconsultants, if any, pursuant to B16: | (pass/fail) |
| (c) Fees; (Section B) | 40% |
| (d) Experience of Proponent and Subconsultant; (Section C) | 15% |
| (e) Experience of Key Personnel Assigned to the Project; (Section D) | 20% |
| (f) Project Understanding and Methodology (Section E) | 20% |
| (g) Project Schedule. (Section F) | 5% |
- B22.2 Further to B22.1(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.

- B22.3 Further to B22.1(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 qualified.
- B22.4 If, in the sole opinion of the City, a Proposal does not achieve a pass rating for B22.1(a) and B22.1(b), the Proposal will be determined to be non-responsive and will not be further evaluated.
- B22.5 Where references are requested, the reference checks to confirm information provided may not be restricted to only those submitted by the Propoent, and may include organizations representing Persons, known to have done business with the Proponent.
- B22.6 Further to B22.1(c), fees will be evaluated based on fees submitted in accordance with B9.
- B22.7 Further to B22.1(d), Experience of Proponent and Subconsultants will be evaluated considering the information provided in response to B10, including but not limited to the following criteria:
- (a) Similarity of the Proponent's past projects to this Project;
 - (b) Success of the Proponent on past projects; and
 - (c) Past performance on City of Winnipeg projects, including but not limited to:
 - (i) adherence to project budget;
 - (ii) adherence to project schedule;
 - (iii) quality of work; and
 - (iv) overall satisfaction with the Proponent.
- B22.7.1 Proponents that have not worked with the City of Winnipeg before will be evaluated based on the information provided in response to B10.1(a)
- B22.8 Further to B22.1(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 and complexity, considering the information provided in B11, including but not limited to the following criteria:
- (a) appropriateness of related years of experience of the Key Personnel;
 - (b) relevancy of experience of the Key Personnel; and
 - (c) appropriateness of the approach to the overall team formation and coordination of team members.
- B22.8.1 Proposals that receive less than half of the available evaluation points for Experience of Key Personnel Assigned to the Project (Section D) will be rejected in accordance with B22.2 and B22.3.
- B22.9 Further to B22.1(f), Project Understanding and Methodology will be evaluated considering the information provided in response to B12, including but not limited to the following criteria:
- (a) appropriateness of the project management approach;
 - (b) consistency and completeness of the Methodology;
 - (c) appropriateness of hours assigned to individual tasks per person;
 - (d) proponent's understanding of the Project, including the deliverables and constraints; and
 - (e) demonstration of insight beyond the information presented in this RFP.
- B22.9.1 Proposals that receive less than half of the available evaluation points for Project Understanding and Methodology (Section E) will be rejected in accordance with B22.2 and B22.3.
- B22.10 Further to B22.1(g), Project Schedule will be evaluated considering the Proponent's ability to comply with the requirements of the Project, in accordance with B13, including but not limited to the following criteria:

- (a) completeness and consistency of the Project schedule;
- (b) logic and sequencing of the tasks; and
- (c) appropriateness of the timelines provided.

- B22.11 Notwithstanding B22.1(d) to B22.1(g), where Proponents fail to provide a response to B7.2(a) to B7.2(d), the score of zero may be assigned to the incomplete part of the response.
- B22.12 Proposals will be evaluated considering the information in the Proposal Submission and any interviews held in accordance with B20.

B23. AWARD OF CONTRACT

- B23.1 The City will give notice of the award of the Contract, or will give notice that no award will be made.
- B23.2 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 qualified, and the Proposals are determined to be responsive.
- B23.2.1 Without limiting the generality of B23.2, 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.
- B23.3 Where an award of Contract is made by the City, the award shall be made to the qualified Proponent submitting the most advantageous offer.
- B23.4 The City may, at its discretion, award the Contract in phases.
- B23.5 Further to B23.4 the City reserves the right to negotiate and award future phases to the successful Proponent.
- B23.6 Further to Paragraph 7 of Form A: Bid/Proposal and C4, the City may issue an award letter to the successful Proponent in lieu of execution of Contract Documents
- B23.6.1 The Contract documents as defined in C1.1(o)(ii) in their entirety shall be deemed to be incorporated in and to form a part of the award letter notwithstanding that they are not necessarily attached to or accompany said award letter.
- B23.7 The form of Contract with the City of Winnipeg will be based on the Contract as defined in C1.1(o).
- B23.8 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.
- B23.9 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 2017-03-24) 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 RFP 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:

Ken Dyck, P.Eng.

Telephone No. 204-986-3130

Email Address: kdyck@winnipeg.ca

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.

D3. BACKGROUND

D3.1 The Deacon Booster Pumping Station (DBPS) was commissioned in 1980 and is a vital part of the City's water supply and treatment system. The DBPS pumps treated drinking water from the Winnipeg Drinking Water Treatment Plant (WTP) into the branch aqueduct network, which conveys treated drinking water to the City's three regional reservoirs.

D3.2 Five years prior to the commissioning of the WTP, an ultraviolet (UV) disinfection treatment process was implemented in the DBPS in 2004 as part of City Tender 556-2003. The scope of the work consisted of the following:

- (a) installation of six (6) UV reactors;
- (b) installation of associated process piping modifications to incorporate the UV system;
- (c) installation of all UV-related electrical and instrumentation;
- (d) installation of monorails, platforms, and ship ladders to access equipment on the pump room floor due to the process piping modifications; and
- (e) building Heating Ventilation and Air Conditioning (HVAC) upgrades to accommodate the additional heat load generated from the UV electrical equipment.

D3.3 Further upgrades to the DBPS occurred in 2006 as part of City Bid Opportunity 35-2006. The upgrade work consisted of, but was not limited to the following:

- (a) upgrades to the electrical distribution equipment, including Motor Control Centre (MCC), starters, relays, and other accessories;
- (b) installation of two (2) new pumps, including variable speed drives and motors; and
- (c) upgrades to the instrumentation and controls, including upgrades to the existing station Programmable Logic Controllers (PLCs), Supervisory Control and Data Acquisition (SCADA) workstations, and communication networks.

D3.4 The UV disinfection system at DBPS consists of six (6), 1220 mm (48 inch) diameter Sentinel UV reactors manufactured by Calgon Carbon Corporation. Each UV reactor is equipped with nine (9) nominal 20 kW lamps, each controlled by ballast. The lamps are organized in three (3) banks of three (3) bulbs each. The lamps are oriented horizontal and perpendicular to the flow within quartz sleeves equipped with a mechanical wiping mechanism to remove foulants that accumulate on the quartz sleeve surface. Each reactor has a dedicated control panel housing

the lamp power supplies, ballasts, and the operator interface terminal. A drawing of the existing UV reactors is included in Appendix B.

- D3.5 The UV disinfection system was originally designed and validated for the treatment of unfiltered water with a minimum ultraviolet transmittance (UVT) of 75%. Since implementation of the WTP, the UVT of the current filtered water at the DBPS has increased to a minimum of approximately 92%.
- (i) From original WTP commissioning until November 2018, the coagulant used for dissolved air floatation treatment was ferric chloride. Since November 2018, the City has used ferric sulphate for coagulation. The results of UVT measurements and their seasonal fluctuations as a result of the coagulant change have not been investigated.
- D3.6 The UV disinfection system is required under the City's Operating Licence, and is required to provide a minimum 2-log inactivation of *Cryptosporidium* oocysts and *Giardia lamblia* cysts. The UV disinfection system was not designed to treat viruses, as the upstream WTP chlorination system is sufficient to provide the required contact time to achieve the log reduction as stated in the Operating Licence.
- D3.6.1 The Operating Licence further prescribes a minimum dosage of 18.1 mJ/cm² to ensure 2-log inactivation of *Cryptosporidium* oocysts and *Giardia lamblia* cysts.
- D3.7 In recent history, the City has experienced increasing maintenance requirements with increased UV bulb breakage and increased ballast replacements. Operations personnel have also noted an increase in quartz sleeve bubbling/deformation as a result of bulb overheating. The exact reason for this increased maintenance has not been determined.
- D3.8 The existing UV lamp wiper cleaning systems experience chatter during reactor operation. This chatter may have resulted in accelerated wear of the wiper drive components, increased bulb breakages, and noted wear in the quartz sleeve in the wiper's parked position.
- D3.9 In 2016, AECOM Canada was commissioned by the City to provide an assessment of the current DBPS UV disinfection system and to provide an upgrade feasibility study. The final report concluded that the system is currently operating in an inefficient configuration due to the outdated validation using an assumed unfiltered water UVT value of 75%. The report further recommended that a calculated dose approach was likely to be the most cost efficient option for UV upgrades. This assessment report will be provided in accordance with D5.
- D3.10 In 2019, Cengys was commissioned by the City to provide an assessment on the power quality at the DBPS. Among other power quality recommendations, the report recommended further investigation into the functionality of the Transient Voltage TVSS Suppressor (TVSS) units located on each UV reactor panel. While the TVSS unit light appears to show the units are functional, however the counters read zero in all instances.

D4. DEFINITIONS

- D4.1 When used in this RFP:
- (a) "**Addendum**" means a written addendum to the RFP issued by the City as set out in B6;
 - (b) "**CAD**" means Computer Assisted Drawing;
 - (c) "**Class 1 Cost Estimate**" means an estimate within an expected accuracy within -10% to +15%;
 - (d) "**Class 3 Cost Estimate**" means an estimate with an expected accuracy within -20% to +30%;
 - (e) "**Class 4 Cost Estimate**" means an estimate with an expected accuracy within -30% to +50%;
 - (f) "**DBPS**" means the Deacon Booster Pumping Station;
 - (g) "**HMI**" means Human Machine Interface;

- (h) “**HVAC**” means Heating Ventilation and Air Conditioning;
- (i) “**I/O**” means input/output;
- (j) “**Key Personnel**” means an individual designated in a Proponent's Proposal Submission to perform a lead role in one or more of the proposed key organizational positions indicated in this RFP for the Proponent or its team members;
- (k) “**MCC**” means Motor Control Centre;
- (l) “**NMS**” means National Master Specification;
- (m) “**NSF**” means NSF International (formerly known as the National Sanitation Foundation);
- (n) “**ODW**” means the Manitoba Conservation and Water Stewardship's Office of Drinking Water;
- (o) “**OIT**” means Operator Interface Terminal;
- (p) “**O&M**” means Operation and Maintenance;
- (q) “**Operating Licence**” means licence number *PWS-09-412-01*, issued by the Manitoba Conservation and Water Stewardship's Office of Drinking Water;
- (r) “**PCN**” means Proposed Change Notice;
- (s) “**PDF**” means Portable Document Format;
- (t) “**PLC**” means Programmable Logic Controller;
- (u) “**RFI**” means Request for Information;
- (v) “**Record Drawings**” means Drawings prepared by the Consultant after verifying in detail the actual conditions of the completed Project;
- (w) “**SCADA**” means Supervisory Control and Data Acquisition;
- (x) “**Scope of Services**” means all Services executed under the Contract;
- (y) “**TVSS**” mean Transient Voltage Surge Suppressor;
- (z) “**UPS**” means Uninterruptable Power Supply;
- (aa) “**UV**” means Ultraviolet;
- (bb) “**UVT**” means Ultraviolet Transmittance;
- (cc) “**WBS**” means Work Breakdown Structure; and
- (dd) “**WTP**” means the Winnipeg Drinking Water Treatment Plant.

D5. RELEVANT DOCUMENTS

- D5.1 Relevant documents and drawings listed in Appendix B are available by request to the City's Project Manager after completion of a Non-Disclosure Agreement. These documents and drawings will be released at the sole discretion of the City.
- D5.2 Publicly available documentation includes:
 - (a) Tender 556-2003, available on the City of Winnipeg Materials Management website: https://winnipeg.ca/MatMgt/FolderContents.asp?FOLDER_NAME=556-2003&YEAR=2003
 - (b) Bid Opportunity 35-2006, available on the City of Winnipeg Materials Management website: https://www.winnipeg.ca/MatMgt/FolderContents.asp?FOLDER_NAME=35-2006&YEAR=2006

D6. GENERAL REQUIREMENTS

- D6.1 General Requirements of the Consultant
 - D6.1.1 The Consultant shall ensure that the Scope of Services is performed under direct supervision of a Professional Engineer.

- (a) All drawings, reports, recommendations, and other documents involving the practice of professional engineering shall bear the stamp or seal and signature of a qualified engineer as required by the Engineering and Geoscientific Professions Act of the Province of Manitoba and By-laws of the Engineers Geoscientists Manitoba.
- (b) Final design documents irrespective of the level of design shall have an engineer's seal.
- (c) Other reports and documents not involving the practice of professional engineering, such as letters of information, minutes of meetings, may be originated and signed by other personnel engaged by the Consultant and accepted by the City.

D6.1.2 Progress estimates, completion certificates, and other reports related to the technical aspects of this Project, shall be endorsed by the Consultant's Representative in a manner acceptable to the City.

D6.1.3 The Consultant shall, at a minimum, utilize the most current industry standard sustainable practices and conform to the latest codes, standards, regulations, and legislative requirements in effect. The Consultant shall liaise with the City on the application of codes and standards.

D6.1.4 The Consultant shall not substitute or replace Key Personnel throughout the duration of the Project without the written approval of the Project Manager. Experience and qualification as specified in B11 shall be submitted for all requested substitute(s) and replacement(s).

D6.1.5 The Consultant shall coordinate and obtain approval/permit(s) where required, including but not limited to: Manitoba Hydro, MTS, and City Departments.

D6.1.6 The following design guides and standards shall apply to the Services:

- (a) City of Winnipeg Water & Waste Department Electrical Design Guide
 - (i) The Electrical Design Guide can be accessed online at <https://winnipeg.ca/waterandwaste/pdfs/dept/ElectricalDesignGuide.pdf>
- (b) City of Winnipeg Water & Waste Department Electrical Identification Standard
 - (i) This standard is only applicable to new equipment. Existing equipment names shall be maintained as much as is practical to minimize impact to existing systems.
 - (ii) The Electrical Identification Standard can be accessed online at: <https://winnipeg.ca/waterandwaste/pdfs/dept/IdentificationStandard.pdf>
- (c) City of Winnipeg Water and Waste Department Computer Assisted Drafting (CAD) and Geographic Information System (GIS) Standards, available at http://winnipeg.ca/waterandwaste/dept/cad_gis.stm

D6.2 General Requirements for Project Deliverables

D6.2.1 Project Deliverables include but are not limited to:

- (a) Proposed UV operational changes technical memorandum;
- (b) Preliminary design report;
- (c) Detailed design drawings;
- (d) Technical specifications;
- (e) Tender documents;
- (f) Contract administration documentation; and
- (g) Record Drawings.

D6.2.2 All Project Deliverables are to be delivered with a document lifecycle approach.

D6.2.3 Where possible, all documents provided as PDF shall be searchable.

D6.2.4 Unless otherwise indicated, the review period for Project Deliverables shall be a minimum of two (2) weeks and correspond to the number of pages and complexity of the document.

The Consultant shall indicate these review periods on the critical path method schedule as outlined in B13.1.

D6.2.5 All Deliverables shall have incorporated the Consultant's internal quality procedures before being submitted to the City.

- (a) All Deliverables shall be reviewed by a representative of the Consultant who is proficient in technical writing prior to being submitted to the City.
- (b) Any Deliverables deemed by the City to be of poor quality shall be rejected and will be required to be revised and resubmitted at no additional cost to the City or additional time to the Project schedule.

D6.2.6 The Deliverables shall be submitted in a substantially completed draft format for review prior to submittal as a final document.

- (a) Draft versions of written documents shall be submitted in Microsoft Word 2010 (.docx) native format.
- (b) All Deliverables shall be submitted to the Project Manager.

D6.3 General Requirements for Drawings

D6.3.1 Drawings shall not be prepared using the City's GeoMedia and Google Earth screen captures and instead shall be prepared from the legal plans, certificates of title, as-built records, and topographic survey.

D6.3.2 All profile components of Drawings shall be in natural scale.

D6.3.3 Where existing systems are being modified, the existing Drawings shall be modified or superseded rather than creating a new Drawing only showing a limited portion of the new work.

D6.3.4 Draft Drawings shall be submitted in PDF format. The City will provide comments on the draft Drawings. Comments shall be reviewed and incorporated into the final Drawings.

D6.3.5 All final Drawings shall be submitted in both PDF and AutoCAD format version 2012 and in 11x17 hard copy format, unless otherwise specified.

D6.4 General Requirements for Photographs

D6.4.1 All photographs submitted to the City as part of the Project shall include captions with the following information:

- (a) date photograph was taken;
- (b) location and orientation where the photograph was taken; and
- (c) a brief description of what is depicted by the photograph.

D6.5 General Requirements for Design Reports

D6.5.1 The City requires a preliminary design report to be prepared as part of the Consultant's Scope of Services. The report shall include sufficient evaluation documentation, including, but not limited to:

- (a) Background information;
- (b) Review of options;
- (c) Cost comparisons;
- (d) Life-cycle cost analysis;
- (e) Conclusions; and
- (f) Recommendations.

D6.6 General Requirements for Meetings

D6.6.1 Schedule and chair Project meetings

- (a) Provide an agenda a minimum of two (2) Business Days before the meeting date.
- (b) Provide meeting minutes within three (3) business days after the meeting date.

D7. SCOPE OF SERVICES

- D7.1 The Scope of Work of this RFP generally consists of consulting engineering design and contract administration services to facilitate the following:
- (a) Upgrades to the current UV disinfection systems, including mechanical, electrical, and controls upgrades.
- D7.2 The Services required under this Contract shall consist of the following phases and as outlined in D8 to D16 in accordance with the following:
- (a) Project Management in accordance with D8;
 - (b) Preliminary Design in accordance with D9;
 - (c) Regulator Interfacing in accordance with D10;
 - (d) Detailed Design in accordance with D11;
 - (e) Non-Resident Services in accordance with D12;
 - (f) Resident Services in accordance with D13;
 - (g) Commissioning Services in accordance with D14;
 - (h) Record Drawings in accordance with D15; and
 - (i) Post Construction Services in accordance with D16.
- D7.3 Unless otherwise stated, Appendix A – Definition of Professional Consultant Services (Consulting Engineering Services) shall be applicable to the provision of Professional Engineering services for this Project. These services are specific to design and contract administration services.
- D7.4 The Services required in the Contract shall be in accordance with the City's Project Management Manual <http://winnipeg.ca/infrastructure/asset-management-program/templates-manuals.stm#2> and templates <http://winnipeg.ca/infrastructure/asset-management-program/templates-manuals.stm#4> . Notwithstanding the foregoing, the Consultant is being engaged by the City for its professional expertise; the Consultant shall bring to the Project Manager's attention any aspect of the City's Project Management Manual or templates which the Consultant is of the opinion is not consistent with good industry practice.

D8. PROJECT MANAGEMENT

- D8.1 Plan, organize, secure, and manage resources to complete the phases outlined in D9 to D16.
- D8.2 Create and submit a project management plan no later than two (2) weeks after Project Award. The project management plan shall include but not be limited to:
- (a) Scope and Schedule
 - (i) Include the schedule information required in B13.
 - (ii) Provide a Deliverable based Work Breakdown Structure (WBS) that identifies major elements relative to how the assignment will be managed and in terms of tangible and verifiable results (including milestones, critical triggers, Deliverables, etc.).
 - (iii) Provide a Project schedule, listing all Project activities and milestones. Identify responsibilities, timelines, and dependencies for all activities and milestones.
 - (iv) The approved schedule will be used as the Project baseline schedule throughout the Project.
 - (v) The City's Project Manager may request updates to the Project baseline schedule due to delays in receiving deliverables.
 - (b) Budget

- (i) Include the information required in B9.
 - (ii) Include a description of the processes used to carry out earned value analysis such that the Project's performance can be measured against scope, schedule, and cost baselines.
- (c) Quality Management
 - (i) Describe quality management methods used to address quality planning, quality assurance, and quality control for the following:
 - (i) field surveying procedures and controls;
 - (ii) data review, verification, and validation;
 - (iii) City reviews;
 - (iv) corrective action process; and
 - (v) quality assurance and control of Deliverables.
- (d) Human Resources
 - (i) Describe the team organizational and management approach.
 - (ii) Include an organizational chart.
- (e) Communication
 - (i) Describe communication interfaces (organizational, technical, and interpersonal) and the roles and responsibilities of each stakeholder.
 - (ii) Identify the processes that will be used to liaise with the City throughout the provision of the Services and to provide ample opportunity for input and review by the City's Project team.
- (f) Change Management Plan
 - (i) Identify the schedule, quality, and budget impacts of any proposed changes.
- (g) Quality Assurance and Control plan
 - (i) Establish appropriate levels of review and approvals for all Project Deliverables.
- (h) Risk Management Plan
 - (i) Develop a risk management plan identifying risk event causes, risk event outcomes, degree of certainty, effects on Project objectives, severity of risk, response/action(s) to be undertaken, contingency plan and associated costs to manage risks.
 - (ii) The risk management plan shall be documented using the City's spreadsheet template located on the City's Asset Management Program website located at: <https://www.winnipeg.ca/infrastructure/asset-management-program/templates-manuals.stm>.
 - (iii) Outline process for updating the risk management plan in various phases of the Project.

D8.3 Submit quarterly project status reports, including the following:

- (a) work carried out in the previous quarter;
- (b) work in progress;
- (c) work anticipated for the following quarter, including projected person-hours;
- (d) percentage completion of each task and the overall Project;
- (e) information requests for the following quarter;
- (f) issues to date;
- (g) schedule and quality performance. In particular, report on items that are behind schedule and how they will be addressed;
- (h) any modifications to the Project Management Plan;
- (i) budget and actual cost for completed tasks and projected cost for planned tasks; and
- (j) description, action, and mitigation of extreme and high risk(s).

- D8.3.1 Quarterly project status reports shall be a maximum of two (2) pages and be submitted within three (3) days of the quarter's end.
- D8.4 Coordinate regular project meetings and provide minutes. The meetings shall be used to update the Project Manager on the status of the Project and to discuss other project management issues.
- (a) Meetings shall be held monthly during design stages.
 - (i) If critical design dates outlined in D24 are not achieved during the design stages, regular project meeting frequency shall increase to every two weeks until the design stage is complete. No additional fees will be contemplated for additional meetings.
 - (b) The frequency of meetings may vary based upon the level of project activity.
- D8.5 Schedule and chair milestone meetings and provide minutes at the following stages:
- (a) project kick-off meeting – to be scheduled immediately upon award of the Project;
 - (b) upon completion of the draft regulator technical memorandum;
 - (c) upon completion of the draft preliminary design report;
 - (d) upon completion of the draft detailed design;
 - (e) upon completion of the draft tender documents;
 - (f) pre-construction meeting – to be scheduled upon award of the construction contract; and
 - (g) Project completion meeting – to be schedule upon notification of the construction contract Total Performance.
- D8.5.1 Additional meetings may be required in the event that issues arise during the course of the Project.
- D8.6 Provide adequate notice (at least one (1) week) prior to any Site visit or work that will require assistance from City personnel.
- D8.7 Carry out other project management activities as required.

D9. PRELIMINARY DESIGN

- D9.1 Review all pertinent background information including, but not limited to:
- (a) drawings;
 - (b) past bid opportunities and tenders;
 - (c) past reports and technical memorandums; and
 - (d) UV reactor operating and maintenance manuals.
- D9.2 The Consultant shall conduct a detailed Site investigation to verify existing drawings and documentation reviewed in D9.1 and to familiarize themselves with the DBPS facility and the UV systems.
- D9.3 Investigate the following two (2) UV upgrade options for the DBPS:
- (a) upgrades to components of the existing UV system as listed in D9.4; and
 - (b) replacement of the entire UV system, including the reactor units and any associated piping modifications required to suit new reactors.
- D9.3.1 For each upgrade option considered, provide, at a minimum;
- (a) a detailed description of the various components of the upgrade scenario, including all modifications that are required;
 - (b) a Class 4 Cost Estimate to complete the UV upgrade works;

- (c) a Class 3 Cost Estimate of the maintenance and operating costs of the associated option. The City will provide data regarding utility and labour costs to be assumed in the estimate;
- (d) the total anticipated life expectancy of the upgrade option. The target remaining useful service life of the UV reactor units to be modified within this scope of work is a minimum of fifteen (15) years. Replacement options may yield a longer service life expectancy as determined by the Consultant;
- (e) a tabulated comprehensive list of pros and cons for each option, including financially immeasurable benefits (e.g. increased safety, operational flexibility, etc.); and
- (f) consideration on how the option can be implemented while maintaining compliance with the City's Operating Licence.

D9.3.2 Complete a life-cycle cost-benefit assessment of the rehabilitation options. Include the expected service life of each option, the electrical utility costs of operating the equipment, the cost of the maintenance work, and the cost of replacement (if applicable).

- (a) Complete all tabs in the City's Net Present Value and Benefit Calculation template excluding the "Benefits" and the "Status Quo" tab. The City's Net Present Value and Benefit Calculation Template can be found at <https://www.winnipeg.ca/infrastructure/asset-management-program/templates-manuals.stm>. Before starting the task, the Consultant shall ensure the most recent version of the template is being used as the templates are updated on a regular basis.

D9.3.3 Make a recommendation as to the most advantageous UV system upgrade scenario for the DBPS.

D9.4 Further to D9.3(a), the upgrades to the DBPS UV systems shall include, but not necessarily be limited to the following;

- (a) replacement of the wiper systems, including any associated modifications to the existing reactor units;
- (b) modification to the existing reactors as required to accommodate new UV dose sensors to ensure compatibly with the new wiper system;
- (c) upgrades to the existing UV reactors to accommodate bulbs with ceramic ends for ease of installation;
- (d) upgrade of the existing DBPS UVT sensors;
- (e) an investigation into the functionality of the TVSS units on each UV reactor;
- (f) upgrades to the current UV disinfection control systems, including the following:
 - (i) replacement of the current local and master PLCs with new PLCs utilizing Schneider Modicon M580 processors.
 - (ii) replacement of the current outdated Operator Interface Terminals (OITs) with new OIT hardware of suitable size;
 - (iii) replacement of the existing serial cabling connecting the local UV reactor panels to the master PLC with fibre optic data cabling;
 - (iv) reprogramming of the existing WTP SCADA to accommodate the new UV system interface The WTP SCADA is a Wonderware System platform currently using version 2014R2 with planned upgrades to 2017U3;
 - (v) integrating and implementing a new updated UV alarm database into the WTP's existing Wonderware System Platform alarm and event database to facilitate remote troubleshooting. Application objects in the Wonderware system platform need to be modified to generate appropriate alarms and events;

D9.4.1 The preliminary design work scope for upgrading the existing UV system is based on the May 2016 report "Deacon Ultraviolet Disinfection System Upgrade Assessment" prepared by AECOM Canada Ltd. Alternative designs may be considered that deviate from the proposed upgrades, but will require prior approval from the City.

- D9.5 Further to D9.3(b), the UV system replacement shall include full removal and replacement of the entire UV system, including, but not limited to:
- (a) replacement of the UV reactors;
 - (b) replacement of each individual reactor control cabinet;
 - (c) replacement of all power and communication cabling as required;
 - (d) removal and replacement of the master UV PLC cabinet; and
 - (e) any associated process piping modifications to suit the new reactors.
- D9.6 Provide a proposed schedule for the recommended upgrade implementation, taking into consideration the logistics of the phased construction requirements in order to maintain compliance with the City's Operating Licence.
- D9.7 Advance the design for the recommended upgrade option to a preliminary level.
- D9.8 Prepare and submit a draft preliminary design report based on the information gathered in Sections D9.3 to D9.7, and Section D10.
- D9.9 The Consultant shall present and discuss their report and recommendations with the City's project team in a review meeting approximately two (2) weeks following submission of the draft preliminary design technical memorandum.
- D9.10 Resubmit the final preliminary design technical memo after incorporating City review comments, or comments that may arise during the preliminary design review meeting.

D10. REGULATOR INTERFACING SERVICES

- D10.1 Complete process engineering design to determine the minimum and recommended UV dosage arrangement based on the current 2-log inactivation requirements and the current WTP operating conditions.
- D10.1.1 The process design shall include a review of key operational data including water demands, and treated water quality data.
- D10.1.2 The process design shall include a detailed review of historical UVT data for the last five (5) years. Possible impacts of the change from ferric chloride to ferric sulphate coagulant shall be investigated and considered in the data review.
- D10.2 Prepare a draft technical memorandum summarizing the proposed operating changes to the UV disinfection systems. The memorandum shall be suitable for submission to the ODW and must include, but not be limited to the following sections:
- (a) the current operating conditions of the DBPS UV systems;
 - (b) the existing on-site validation conditions as they relate to current operating conditions;
 - (c) the current UV dosing conditions;
 - (d) current industry standards as it relates to UV dosing and validation;
 - (e) examples of other major North American municipalities and their dosage, testing and reporting requirements;
 - (f) the proposed changes to the DBPS UV disinfection systems, including UV dosage arrangements, including justifications;
 - (g) a high level overview of the proposed methodology for implementing the changes while maintaining the current licencing arrangement. The final implementation methodology is to be determined in the detailed design and commissioning phases.
- D10.3 The draft technical memorandum outlined in D10.2 shall be completed in conjunction with preliminary design. The final technical memorandum shall be appended to the preliminary design report.

- D10.4 Attend a review meeting with the City and the ODW to discuss the technical memorandum approximately two weeks after submittal of the draft technical memorandum. The meeting shall be held at City Water and Waste offices at 1199 Pacific Avenue. The Consultant shall assume a two (2) hour meeting length.
- D10.4.1 At a minimum, the Consultant project manager and lead process professional shall be present at the review meeting.
- D10.4.2 The Consultant shall prepare a maximum 30 minute PowerPoint presentation outlining the contents of the technical memorandum listed in D10.2 to facilitate an open table discussion of the review.
- D10.5 The technical memorandum shall be revised to final following incorporation of City and ODW comments, as applicable.
- D10.6 Communication and formal licencing documentation with the ODW such as the licence amendment application will be the responsibility of the City.

D11. DETAILED DESIGN

- D11.1 Advance the recommended upgrade option in the preliminary design report as reviewed and approved by the City to a detailed design level.
- D11.1.1 For bidding purposes, the Proposal submission shall assume that **upgrades to the existing UV components** will be selected as the recommended option to proceed to detailed design. Any changes to the scope of work will be addressed in accordance with C8 of the General Conditions for Consultant Services.
- D11.2 Where necessary, conduct field surveys and investigations to verify the existing conditions and to supplement all available information. Notify the City's Project Manager if existing conditions are found to deviate from City records.
- D11.3 The detailed design shall address technical and operational issues, reliability and safety concerns, and all current applicable code requirements.
- D11.4 The Consultant shall identify all permits necessary for construction.
- D11.5 Prepare a detailed design package, including drawings and specifications for the upgrade scope of work as outlined in D9.4.
- D11.6 Detailed Tender Package
- D11.6.1 Prepare a detailed tender package that includes:
- (a) design Drawings from all disciplines;
 - (b) technical specifications;
 - (c) the tender document;
 - (d) the validation plan;
 - (e) the commissioning plan;
 - (f) process control narrative(s), updates only as applicable;
 - (g) a major equipment list with reference information to the drawings;
 - (h) cable lists and lamacoid schedules as applicable;
 - (i) I/O lists for PLC modifications;
 - (j) applicable reference drawings of the existing site and equipment;
 - (k) any other applicable information required by the contractor.

- D11.6.2 Submit one (1) electronic copy of the 60% draft detailed tender package for all aspects of the work listed in D9.4, including detailed construction Drawings and technical specifications.
- (a) The Consultant is encouraged to submit for review at an earlier stage for any individual components that may be of interest to the City or where City direction is required. Coordinate with the Project Manager as required.
 - (b) Submit electronic copies of the draft tender document and technical specifications in Microsoft Word format.
 - (c) The electronic copies of the draft Drawings shall be submitted in PDF format.
 - (d) Conduct a meeting to review the City's comments on the 60% draft tender documents.
- D11.6.3 Submit one (1) electronic copy of the 90% draft detailed tender package for all aspects of the work, including all tender package items listed in D11.6.1.
- (a) the electronic copies of the draft tender document, technical specifications, commissioning plan and process control narrative updates shall be submitted in Microsoft Word format.
 - (b) The electronic copies of the draft Drawings shall be submitted in PDF format.
 - (c) Conduct a meeting to review the City's comments on the 90% draft tender package.
 - (d) Incorporate all City comments into the final tender package.
- D11.7 Technical Specifications Requirements
- (a) The technical specifications shall cover all disciplines and scope of work in NMS format. Ensure the following are included:
 - (i) submittal requirements;
 - (ii) quality assurance requirements;
 - (iii) validation requirements;
 - (iv) commissioning plan; and
 - (v) O&M information.
- D11.8 Prepare the tender document utilizing the appropriate City template from Materials Management. Identify and comply with all Materials Management policies and requirements.
- D11.9 All construction Drawings are to have a Water and Waste Department drawing number assigned before the work is tendered. Drawing numbers shall be requested through the Project Manager.
- D11.10 Prepare a Class 1 cost estimate following incorporation of City Review comments of the 90% tender package submission.
- (a) The Class 1 Cost Estimate shall be submitted at least one (1) week prior to sending the Tender for posting by the Materials Management division.
 - (b) The Class 1 Cost Estimate shall be completed using the latest version of the City's Basis of Estimate template, available on the City Asset Management Program page at The City of Winnipeg, Corporate Finance, Infrastructure Planning Division website: <https://winnipeg.ca/infrastructure/asset-management-program/templates-manuals.stm#3>
- D11.11 Submit two (2) paper copies and one (1) electronic PDF copy of the detailed design notes package, including detailed engineering calculations, Drawings and criteria assumed and employed in the design(s).
- D11.12 Procurement
- (a) Arrange for advertisement of the tender package with the City's Materials Management Division.

- (b) Provide appropriate response to bidders and advice to the City during the tender posting period.
- (c) Issue addenda to the bid opportunity, as required.
- (d) Arrange for and attend bidder's site visit(s).
- (e) Evaluate the bids received and provide an award of contract recommendation letter.
- (f) If the bids deviate more than 15% from the Class 1 Cost Estimate, provide justification for the difference in pricing in the award recommendation letter.

D12. NON-RESIDENT SERVICES

D12.1 Administer the construction contract.

D12.2 Use the appropriate City templates throughout the course of the Project. All documents can be found on the City's Infrastructure Planning Office website: <https://www.winnipeg.ca/infrastructure/asset-management-program/templates-manuals.stm>

Relevant documents include:

- (a) pre-construction meeting agenda and meeting minutes;
- (b) proposed change notice;
- (c) proposed change notice log;
- (d) request for information (RFI);
- (e) RFI log;
- (f) field instruction;
- (g) field instruction log;
- (h) contract change log;
- (i) change of work order (CWO);
- (j) decision log;
- (k) daily construction report;
- (l) inspection report;
- (m) meeting minutes;
- (n) site meeting minutes;
- (o) project status report;
- (p) Certificate of Substantial Performance;
- (q) Certificate of Total Performance; and
- (r) Certificate of Acceptance.

D12.3 Conduct a pre-construction meeting and provide minutes.

D12.4 Prior to construction, prepare and submit a written and photographic record of the physical condition of the Work area, existing facilities, and structures sufficient to equip the City to provide valid evidence and relevant testimony in settlement of any claim involving the City by any court of law, or by any other party for damages arising from the Project.

D12.5 Coordinate with the contractor for completion of permits, if applicable in a timely manner.

D12.6 Review and accept contractor submittals (i.e. shop Drawings, safe work plan, etc.) supplied by the contractor or supplier. Each submittal shall be reviewed by a Professional Engineer.

- D12.7 Review and report to the City on laboratory, shop, and other test results conducted upon materials and/or equipment.
- D12.8 Review and provide recommendations for requests for alternate materials and methods. No alternates shall be approved without written authorization from the City.
- D12.9 Submit a copy of all correspondence relating directly or indirectly to the project, originating from or distributed to parties external to the Consultant, immediately following receipt or dispatch by the Consultant.
- D12.10 Coordinate and prepare proposed change notices (PCN's) regarding the contractor scope of work as required. This may include the preparation of specifications and Drawings for the PCN.
- D12.11 Review extra work claims submitted by the contractor. Prepare and process change work orders (CWO's) accordingly in a timely manner.
- D12.12 Review and respond to contractor RFIs in a timely manner.
- D12.13 Prepare contractor site instructions/clarifications/directives as required.
- D12.14 Interpret technical aspects of the contract as requested by the City.
- D12.15 Coordinate regular construction review meetings. The meetings shall include representatives of the City and the contractor. The meetings shall be used to update the City on the status of construction, and to discuss any other construction related issues.
 - (a) The typical frequency of meetings shall be weekly during the course of construction, although meeting frequency may vary based upon the level of construction activity.
 - (b) Prepare and distribute meeting minutes within three (3) Business Days. Update the meeting minutes with corrections from other parties. Items requiring immediate actions shall be emailed prior to issuance of the meeting minutes.
- D12.16 Prepare, certify, and submit progress estimates to the City for payment to the contractor for construction performed in accordance with the Drawings and specifications.
- D12.17 Coordinate and lead a comprehensive, detailed inspection prior to substantial performance, including the contractor and the City. Document and report on all issues identified and coordinate completion of the issues.
- D12.18 Make a recommendation to the Project Manager when the contractor has achieved substantial performance and upon approval, prepare and issue a certificate of substantial performance.
- D12.19 Coordinate and lead a comprehensive, detailed inspection prior to total performance, including the contractor and the City. Document and report on all issues identified and coordinate completion of the issues.
- D12.20 Make a recommendation to the Project Manager when the contractor has achieved total performance and upon approval, prepare and issue a certificate of total performance.

D13. RESIDENT SERVICES

- D13.1 Provide full time inspection services when the contractor is on-site to ensure that the construction conforms to the design Drawings and specifications.
- D13.2 Visit and inspect work at fabrication shops, staging areas, and manufacturing facilities, as required.
- D13.3 Provide a weekly construction report during the course of construction. The weekly construction report shall include, but not be limited to:
 - (a) working days and days lost due to unforeseen conditions the course of construction; and

- (b) written and photographic records of the construction, including construction progress;
 - (i) Provide a brief description of each photograph.

D13.4 Keep a continuous record of project activities including but not limited to weekly reports, photographic record of construction work and equipment, working days, teleconferences, emails, inspections and observations sufficient to equip the City to provide valid evidence and relevant testimony in settlement of any claim involving the City by any court of law, or by any other party for damages arising from the Project.

D13.5 Witness quality control procedures implemented by the contractor.

D13.6 Arrange for and carry out testing of materials utilized by the contractor.

- (a) Notwithstanding C1.1(b), the cost to the Consultant for the provision of third-party testing, as authorized by the Project Manager, will be reimbursed as an Allowable Disbursement.
- (b) The Consultant shall ensure that selected third-party services are provided at competitive market rates.
- (c) Costs shall be substantiated by the provision of suitable documentation.

D13.7 Prepare, update, maintain and coordinate a deficiency list of all issues identified during inspections. Coordinate remediation of the deficiency list with the contractor.

D14. COMMISSIONING SERVICES

D14.1 The Consultant is responsible for the planning and leadership of the overall UV commissioning activities. While the contractor and the City may perform specific commissioning tasks, this does not reduce or eliminate the Consultant's responsibilities. Schedule and coordinate all commissioning works in coordination with the contractor's schedule.

D14.2 UV Validation Plan

- (a) Prepare a UV validation plan document to detail the performance requirements of the validation process.
- (b) All final planning for the validation testing will be the responsibility of the contractor.
- (c) Include all pre-validation requirements.
- (d) Include all phasing requirements of the validation testing, if applicable.
- (e) The UV validation requirements may be produced in NMS style format.

D14.3 Project Commissioning Plan

- (a) Prepare a project commissioning plan to detail the commissioning processes, roles and responsibilities, commissioning specifications and objectives, procedures, verification and certification requirements and documentation and acceptance criteria for the project.
 - (i) Identify all work items requiring commissioning.
 - (ii) Clearly indicate the tasks required and the party responsible for each task.
 - (iii) Include all disciplines and coordination between the disciplines.
 - (iv) Include all pre-commissioning requirements.
 - (v) Include all phasing requirements.
 - (vi) Integrate a project training plan within the project commissioning plan. Identify all operations and maintenance training requirements, the responsible party (contractor, Consultant, supplier, etc.) and an outline of the content of each training session. As part of the commissioning process, the Consultant shall provide resources to train City personnel on any areas of gaps that are not addressed by the other planned training providers.
 - (vii) Include commissioning phasing plans to ensure the UV disinfection system is able to treat water at all times throughout the course of construction.
 - (viii) Include verifications forms with the commissioning plan.

- (b) Ensure the integration of contractor commissioning requirements into the tender package.
- (c) The Project Commissioning Plan may be produced in NMS style format.

D14.4 Commissioning Services

- (a) Provide comprehensive leadership during the commissioning of the works. The Consultant has the responsibility to ensure that all commissioning activities are carried out to ensure all equipment is fully operational upon completion of the project.
- (b) Consult with and advise the City during the course of commissioning.
- (c) Coordinate closely with City operations personnel throughout the course of the commissioning process. Ensure that City operations personnel are always aware of the current commissioning status and any upcoming operational requirements or impacts.
- (d) Ensure that no untreated water enters the distribution system.
- (e) Monitor commissioning activities, witness and certify the accuracy of the reported results.
- (f) Sign off on all commissioning records.
- (g) Compile and hand over to the City all commissioning documentation, including but not limited to:
 - (i) commissioning plans and procedures;
 - (ii) evidence of commissioning verification;
 - (iii) deficiency reports and corrective actions taken;
 - (iv) training material and records; and
 - (v) any other commissioning documents.

D15. RECORD DRAWINGS

- D15.1 Prepare and submit draft Record Drawings within one (1) month of total performance.
 - (a) Submit one (1) electronic PDF copy of the draft Record Drawings for City review.
- D15.2 Upon receipt of City review comments submit one (1) set of size A1 Mylar and one (1) electronic copy of PDF and AutoCAD files of the final Record Drawings.
- D15.3 Record Drawings shall reflect Site verified as-constructed conditions, including contractor markups, contract change orders, RFI's, and markups from resident inspection of the work. Reliance solely on contractor markups without Site verification of as-constructed conditions is not satisfactory.
- D15.4 Record Drawings shall be authenticated by the engineer-of-record in accordance with the Engineers and Geoscientists of Manitoba document entitled "Authentication of Hardcopy and Electronic Professional Documents."
- D15.5 Record Drawings shall adhere to the General Requirements for Drawings as stated in D6.

D16. POST CONSTRUCTION SERVICES

- D16.1 Confirm and ensure complete turnover of project documentation (shop Drawings, Record Drawings, O&M manuals, design notes and calculations, etc.) to the City by the contractor and verify that the documents are in conformance with the construction contract.
- D16.2 Provide a final construction report to the City within two months of Total Performance. The final construction report shall include the following:
 - (a) A brief summary of the project, including;
 - (i) services accomplished, including the initial and final scope of the Project;
 - (ii) issues encountered during the Project and the resolutions achieved;
 - (iii) final or projected final contract cost.

- (b) Appendices, including:
- (i) photographs – typical pre-construction, during construction, and post-construction photographs;
 - (ii) cost summary;
 - (iii) tabulation of tenders;
 - (iv) change orders;
 - (v) summary of progress payments;
 - (vi) final Contract schedule;
 - (vii) subcontractor list;
 - (viii) daily or weekly reports;
 - (ix) progress meeting minutes;
 - (x) shop Drawings/submittals;
 - (xi) field instructions;
 - (xii) contractor RFI's & responses;
 - (xiii) material test reports;
 - (xiv) warranty information;
 - (xv) validation documentation;
 - (xvi) commissioning documentation; and
 - (xvii) certificates of substantial & total performance.

D16.2.1 The Consultant shall submit three (3) paper copies and one (1) electronic PDF copy of the Final Construction Report.

D16.3 Provide one (1) year warranty services tied to the date of Total Performance. The warranty services shall include but are not limited to the following:

- (a) provision of inspection services, at the request of the City, during the warranty period of the construction contract to advise the City in writing of any deficiencies and the proposed resolution of the deficiencies. Upon approval of the City, provide the contractor appropriate notice to correct the deficiencies;
- (b) determination if corrective work is part of contractor's warranty;
- (c) liaison and coordination with the contractor to repair defective work;
- (d) conduction of the inspection and approval of warranty work;
- (e) issuance of instructions for correction of deficiencies;
- (f) review of updates to O&M manuals and resolve deficiencies;
- (g) respond to requests of the City related to the Project; and
- (h) provision of a detailed inspection of the Project with the Contractor and the City prior to the end of the warranty period and provide to the City in written form associated itemized deficiency list or appropriate recommendation of acceptance of the construction contract work.

D16.4 Coordinate with the installation contractor and equipment supplier to provide an on-site training session and workshops to provide instruction to City staff on the safe operation of all new equipment including recommended maintenance tasks and schedules. The training provided by the contractor shall be in compliance with best practices for operations staff to earn continuing education credits.

- (a) Training materials to be submitted for review and comment prior to the on-site training.

D16.5 Coordinate with the installation contractor and equipment supplier to provide three (3) full sets of all Operation & Maintenance manuals to the City for all newly installed equipment and devices.

D17. ADDITIONAL WORK ALLOWANCE

D17.1 The additional work allowance is to be used for engineering and design services that arise due to unforeseen conditions arising in preliminary design stages of the Project. When such work arises, the Consultant will prepare a concise scope of work and cost proposal in collaboration with the Project Manager. The proposal shall be submitted to the Project Manager for final approval. No additional work shall start prior to this approval.

D18. SITE SECURITY

D18.1 Each individual proposed to perform Work under this Contract and within the DBPS shall be required to obtain security clearances as described in E1.

D18.2 The Consultant will be issued an access card for access to the DBPS under the following conditions:

- (a) The Consultant shall provide the name and contact information for the person in charge and responsible for the access card(s);
- (b) The Consultant is to coordinate with the City of Winnipeg on the number of cards that will be required;
- (c) The Consultant is to return all access cards immediately after total performance; and
- (d) The Consultant is to immediately report any lost cards and return any damaged or non-functioning cards for replacement.

D18.3 Additional protocols for accessing the site will be provided at the project kick-off meeting.

SUBMISSIONS

D19. AUTHORITY TO CARRY ON BUSINESS

D19.1 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.

D20. SAFE WORK PLAN

D20.1 The Consultant shall provide the Project Manager with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D20.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/safety/default.stm>

D21. INSURANCE

D21.1 The Consultant shall procure and maintain, at its own expense and cost, insurance policies with limits no less than those shown below.

D21.2 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 \$ 2,000,000.00 per claim and \$ 5,000,000.00 in the aggregate.
- D21.2.1 The Consultant's Professional Errors and Omissions Liability Insurance shall remain in force for the duration of the Project and for twenty four (24) months after Total Performance.
- D21.3 The policies required in D21.2(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.
- D21.4 The Consultant shall require any Consultants hired to perform geo technical drilling and sample collecting or closed-circuit television to procure and maintain, at its own expense and cost, comparable insurance to that set forth under D21.2(a) and D21.2(b).
- D21.5 The Consultant shall require each of its Subconsultants hired for design, architectural or engineering services as outlined in the Scope of Services to provide comparable insurance to that set forth under D21.2(a) and D21.2(c).
- D21.6 The Consultant shall provide the Project Manager with a certificate(s) of insurance 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 D21.9.
- D21.7 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.
- D21.8 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.
- D21.9 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

D22. COMMENCEMENT

- D22.1 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.
- D22.2 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 D19;
 - (ii) evidence of the insurance specified in D21.
 - (b) the Consultant has attended a meeting with the Project Manager, or the Project Manager has waived the requirement for a meeting.
- D22.3 The City intends to award this Contract by August 4, 2020.

D23. COVID-19 SCHEDULE DELAYS

- D23.1 The City acknowledges that the schedule for this Contract may be impacted by the COVID-19 pandemic. Commencement and progress of the Services shall be performed by the Consultant with due consideration to the health and safety of workers and the public with directives from health authorities and various levels of government, and in close consultation with the Project Manager.
- D23.2 If the Consultant is delayed in the performance of the Services by reason of the COVID-19 pandemic, the Services schedule may be adjusted by a period of time equal to the time lost due to such delay and costs related to such delay will be determined as identified herein.
- D23.3 Within seven (7) Calendar Days of the award of Contract, the Consultant shall declare whether COVID-19 will affect the start date. If the Consultant declares that COVID-19 will affect the start date, the Consultant shall provide sufficient evidence that the delay is directly related to COVID-19, including but not limited to evidence related to availability of staff or work by others.
- D23.4 For any delay related to COVID-19 and identified after Services have commenced, the Consultant shall within seven (7) Calendar Days of becoming aware of the anticipated delay declare the additional delay and shall provide sufficient evidence as indicated in D23.3. Failure to provide this notice will result in no additional time delays being considered by the City.
- D23.5 Any time or cost implications as a result of COVID-19 and in accordance with the above, as confirmed by the Project Manager, shall be documented in accordance with C8.

D24. CRITICAL STAGES

- D24.1 The Consultant shall achieve critical stages of the Services for this Contract in accordance with the following requirements:
- (a) submission of the draft proposed regulatory changes technical memorandum by August 28, 2020;
 - (b) acceptance of the final preliminary design report by October 30, 2020;
 - (c) submission of 60% draft tender package shall be made no later than December 30 2020;
 - (d) submission of 90% draft tender package shall be made no later than March 17, 2021;
 - (e) tender package posted to MERX no later than June 11, 2021;
 - (f) construction tender to be awarded by August 13, 2021;
 - (g) substantial performance of the construction contract to be achieved by March 1, 2022; and
 - (h) total performance of the construction contract to be achieved by April 1, 2022.

PART E - SECURITY CLEARANCE

E1. SECURITY CLEARANCE

- E1.1 Each individual proposed to perform Services under this Contract and within the Winnipeg Drinking Water Treatment Plant, including the Deacon Booster Pumping Station shall be required to obtain a Police Information Check and a Public Safety Verification. The Police Information Check may be obtained from one of the following:
- (a) police service having jurisdiction at his/her place of residence; or
 - (b) Sterling BackCheck – for existing account holders, log into your account to send individual invitations to employees requiring security clearance. For those that do not have an account, click on the following link to open an account: <https://forms.sterlingbackcheck.com/partners/platform2-en.php?&partner=winnipegcity> ; or
 - (c) Commissionaires (Manitoba Division), forms to be completed can be found on the website at: <https://www.commissionaires.ca/en/manitoba/home>; or
 - (d) FASTCHECK Criminal Record & Fingerprint Specialists, forms to be completed can be found on the website at: <https://myfastcheck.com>
- E1.2 The original Police Information Check (Form P–612) will be provided by the Winnipeg Police Service to the individual applicant. The original has a validation sticker from the Winnipeg Police Service in the top right hand corner. The applicant shall:
- (a) Provide the original Police Information Check (Form P–612) to the Project Manager.
- E1.3 A Sterling BackCheck account must be setup 72 hours prior to requesting your first checks for any individual to allow sufficient time for activation of your account. If you have an existing City of Winnipeg Sterling Backcheck vendor account, you may skip to (c) below.
- (a) Authorized individual of contracting company: Complete the Sterling Backcheck Setup Form. There is no cost to your organization to set up your account. Click on the link below, complete the form and hit Submit. **(This form is completed by the company, not by the individual requiring the security clearance). <https://forms.sterlingbackcheck.com/partners/platform2-en.php?&partner=winnipegcity>
 - (b) Within 48 hours you will receive your Username and Password for Sterling Backcheck. It will appear in your Inbox as a Welcome to Sterling Backcheck email. Please watch for it. Upon receipt you will be asked to login to the Sterling Backcheck website to set your security questions and password. Once you have done so you are ready to submit security clearance requests.
 - (c) In order to run a Criminal Record Check and/or Public Safety Verification, follow the steps below:
 - ◆ Click on the sub-tab labelled “Order eConsent”
 - ◆ Fill out the required information about your employee (the person that requires the security clearance)
 - ◆ Select your location under the “Order Information” section and enter your organization’s phone number, if required.
 - ◆ Select the individual service(s) that you require in the dropdown menu under the “Select Services” section. If you require both the Criminal Record Check and the Public Safety Verification, you will select Sterling Backcheck Package One (with electronic identity verification). Once selected, you should see that both the Canadian Criminal Record Check and the Public Safety Verification have a grey check mark beside them.
 - ◆ Scroll down to the bottom and click the blue “Submit” button. You have now invited your employee to complete their security clearance.

- ◆ Employee receives the invitation, clicks on the link, and completes their Criminal Record Check and/or Public Safety Verification. This takes only a few minutes.
- ◆ 24 hours later the results go direct to City of Winnipeg and to your organization.

(d) If you have any questions please contact Linda Ferens directly at 204-999-0912 or by email at: <mailto:linda.ferens@sterlingcheck.com> OR <mailto:managedsupport@sterlingcheck.com>.

- E1.4 Prior to the award of Contract, and during the term of the Contract if additional or replacement individuals are proposed to perform Services, the Consultant shall supply the Project Manager with a Police Information Check and a Public Safety Verification Check obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform the Services.
- E1.5 Any individual for whom a Police Information Check and/or a Public Safety Verification Check is not provided, or for whom a Police Information Check indicates any convictions or pending charges related to property offences or crimes against another person will not be permitted to perform any Services.
- E1.6 Any Police Information Check and a Public Safety Verification Check obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.
- E1.7 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated Police Information Check and/or a Public Safety Verification Check. Any individual who fails to provide a satisfactory Police Information Check and/or Public Safety Verification Check as a result of a repeated Police Information Check will not be permitted to continue to perform any Services as specified in E1.1

APPENDIX A – DEFINITION OF PROFESSIONAL CONSULTANT SERVICES

DEFINITION OF PROFESSIONAL CONSULTANT SERVICES (CONSULTING ENGINEERING SERVICES)

1 INTRODUCTION

- 1.1 It is the intent of the City of Winnipeg, in defining Professional Consultant Services (Consulting Engineering Services), to clarify the role required of consulting Engineers; to more fully identify the services to be rendered by consulting Engineers to the City and to other parties on behalf of the City; and to provide a more clearly determined basis of obligation in respect thereof by consulting Engineers to the City and to third parties in the provision of such services
- 1.2 The services shall be performed in the City of Winnipeg, unless otherwise authorized by the City, under direct supervision of a professional Engineer. All drawings, reports, recommendations and other documents, originating therefrom involving the practice of professional engineering, shall bear the stamp or seal and signature of a qualified Engineer as required by the Engineering and Geoscientific Professions Act of the Province of Manitoba and By-laws of the Association of Professional Engineers and Geoscientists of the Province of Manitoba. Other reports and documents not involving the "practice of professional engineering", such as letters of information, minutes of meetings, construction progress reports, may be originated and signed by other responsible personnel engaged by the consulting Engineer and accepted by the City. Progress estimates, completion certificates and other reports related to the technical aspects of a project, must be endorsed by the Engineer in a manner acceptable to the City.

2 ADVISORY SERVICES

- 2.1 Advisory services are normally not associated with or followed by preliminary design and/or design services, and include, but are not limited to:
- (a) Expert Testimony;
 - (b) Appraisals;
 - (c) Valuations;
 - (d) Rate structure and tariff studies;
 - (e) Management services other than construction management;
 - (f) Feasibility studies;
 - (g) Planning studies;
 - (h) Surveying and mapping;
 - (i) Soil mechanics and foundation engineering;
 - (j) Inspection, testing, research, studies, or reports concerning the collection, analysis, evaluation; and
 - (k) Interpretation of data and information leading to conclusions and recommendations based upon specialized engineering experience and knowledge.

3 PRELIMINARY DESIGN

- 3.1 Preliminary design services are normally a prelude to the detailed design of a project and include, but are not limited to:
- (a) Preliminary engineering studies;
 - (b) Engineering investigation;
 - (c) Surface and subsurface site explorations, measurements, investigations, and surveys;
 - (d) Operations studies including drainage studies, traffic studies, etc.;
 - (e) Functional planning;
 - (f) Physical, economical (capital and operating) and environmental studies including evaluation, comparison, and recommendation regarding alternative preliminary designs;

- (g) Preparation and submission of a report and appropriate drawings to the City, fully documenting data gathered, explaining adequately the assessment made, stating with clarity the resulting conclusions, and containing all recommendations which are relevant to this stage of project implementation;
- (h) Special applications to public agencies for necessary authorizations, preparation and submission of reports and drawings thereto and appearance before same in support of the application.

4 DETAILED DESIGN

4.1 Detailed design services normally involve preparation of detailed designs, tender specifications and drawings, and analysis of bids and recommendations for contract award, and include, but are not limited to:

- (a) Addressing alternative methods of accommodating; relocating; avoiding, and/or avoiding injury to Utilities and railways; proposing alternative methods of solution, reviewing same with the appropriate Regulatory approval agencies and stakeholders;
- (b) Application to public agencies for necessary authorizations, preparation and submission of reports and drawings thereto, and appearance before same in support of the application;
- (c) Preparation and submission of detailed engineering calculations, drawings, and criteria employed in the design(s), securing review of and an acceptance by the City;
- (d) Preparation of detailed engineering drawings, specifications and tender documents consistent with the standards and guidelines of the City, securing review of acceptance by the City;
- (e) Preparation and provision to the City in written form, a fully detailed formal construction contract estimate;
- (f) Provision of appropriate response to bidders and advice to the City during the bid period and, subject to acceptance by the City, issuing addenda to the tender documents;
- (g) Submission of a review, analysis, comparison, tabulation, calculation, and evaluation of the bids received, to the City;
- (h) Preparation of a report including revised contract estimate, identifying and explaining variations from the earlier formal estimate, and containing recommendation regarding contract award identifying the reasons therefore.

5 CONTRACT ADMINISTRATION SERVICES

5.1 Contract administration services are associated with the construction of a project and include the office and field services required to ensure the conduct of the project in accordance with the intent of the City and in conformance with the particulars of the drawings and specifications; and include but are not limited to:

NON-RESIDENT SERVICES

- (a) Consultation with and advice to the City during the course of construction;
- (b) Review and acceptance of shop drawings supplied by the contractor or supplier to ensure that the drawings are in conformance with the drawings and specifications, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (c) Review and report to the City upon laboratory, shop and other tests conducted upon materials and/or equipment placed or installed by the contractor to ensure to the City conformance with the drawings and specifications, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (d) Acceptance of alternate materials and methods, subject to prior acceptance by the City, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (e) Provision to the City of a complete current report on the project status on a monthly basis;
- (f) Provision to the City a current update of revised contract-end cost estimate on a monthly basis, or more frequently if found necessary, with explanation and justification of any significant variation from the preceding contract-end cost estimate;

- (g) Definition and justification of and estimate of cost for additions to or deletions from the contract for authorization by the City;
- (h) Furnishing the City with a copy of all significant correspondence relating directly or indirectly to the project, originating from or distributed to, parties external to the consulting Engineer, immediately following receipt or dispatch of same by the consulting Engineer;
- (i) Provision of adequate and timely direction of field personnel by senior officers of the Consultant;
- (j) Establishment prior to construction and submission to the City of written and photographic records of, and assessment of the physical condition of adjacent buildings, facilities, and structures sufficient to equip the consulting Engineer to provide valid evidence and relevant testimony in settlement of any claim involving the City by any court of law, or by any other party for damages thereto arising from the project;
- (k) Arranging and attending pre-construction meetings and on-site or off-site review meetings, which meetings shall include representatives of the contractor and the City;
- (l) The preparation and submission of:
 - i. a detailed design notes package including items such as structural, geotechnical, hydraulic and heating, air-conditioning and ventilation design calculations; mechanical and electrical design calculations related to process equipment and building services; process design calculations; and instrumentation and process control design calculations;
 - ii. approved related shop drawings and equipment process manuals all within one (1) month of completion of each separate installation contract required to complete the Works.

RESIDENT SERVICES

- (a) Provision of qualified resident personnel acceptable to the City present at the project site to carry out the services as specified immediately below, without relieving the contractor of his contractual and other legal obligations in respect thereof:
 - i. inspection of all pipe prior to installation;
 - ii. inspection and acceptance of excavation for, and full time inspection at the time of bedding placement, pipe laying and backfilling in respect of installation of watermains, land drainage sewers, and wastewater sewers;
 - iii. inspection of installation of all connections to watermains, sewers, manholes, valves, hydrants or house services, and excavation and/or exposing of all underground services, structures, or facilities;
 - iv. "full time inspection" and/or testing of watermains and sewers;
 - v. inspection of all excavations to determine soil adequacy prior to installation of base and subbase courses for sidewalks, public back lanes, and street pavements. It is to be understood that "full time inspection" will require assignment of a qualified person to each specific location when the referenced work is being undertaken by the contractor.
- (b) Without relieving the contractor of his contractual and other legal obligations in respect thereof, conduct detailed inspection of construction sufficient to ensure that the construction carried out by the contractor is in conformance with the drawings and specifications;
- (c) Co-ordination and staging of all other works on the project site including traffic signal installations, hydro, telephone, and gas utility work, railway work forces and City or developer work;
- (d) In conjunction with the City, provision of notice to adjacent residents and businesses of those stages of construction of the project that will interrupt public services or access thereto, sufficiently in advance of same to permit preparation therefore;
- (e) Enforcement of contractor conformance with the City of Winnipeg Manual of Temporary Traffic Control in Work Areas on City Streets and with reasonable standards of safety for motorists and pedestrians, without relieving the contractor of his contractual and other legal obligations in respect thereof;

- (f) Provision of reference line and elevation to the contractor and checking upon the contractor's adherence thereto, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (g) Responsible, sensitive, and prompt reaction to the reasonable requests and complaints of citizens regarding the conduct of the project, acting in the interest of the City;
- (h) Arranging for and carrying out of testing of materials utilized by the contractor to ensure conformance with the drawings and specifications, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (i) Preparation, certification, and prompt submission of progress estimates to the City for payment to the contractor for construction performed in accordance with the drawings and specifications;
- (j) Arrange, attend and prepare and distribute records of and minutes for, regularly held on-site or offsite project review meetings including representatives of the contractor and the City;
- (k) Promptly reporting to the City upon any significant and unusual circumstances;
- (l) Promptly arranging for and taking part in a detailed final inspection of the project with the contractor and the City prior to commencement of the period of contractor maintenance guarantee specified in the contract for the project and providing to the City in written form an appropriate recommendation of acceptance of the constructed or partially constructed project;
- (m) Act as Payment Certifier and administer all contracts as required under the Builder's Liens Act of Manitoba;
- (n) Prepare a Certificate of Substantial Performance;
- (o) Preparation and submission to the City of "as-constructed" drawings for the project within 1 month of project completion;
- (p) Prepare a Certificate of Total Performance;
- (q) Provision of inspection services during the maintenance guarantee period of the contract;
- (r) Undertake a detailed inspection of the project with the contractor and the City prior to the end of the period of contractor maintenance guarantee specified in the contract for the project;
- (s) Keep a continuous record of working days and days lost due to inclement weather during the course of contract works;
- (t) Prepare a Certificate of Acceptance.

6 ADDITIONAL SERVICES

6.1 Additional services are in addition to those specified in other Types of Services and may or may not be associated with a construction project, but are not in place of or in substitution for those services elsewhere specified in the Definition of Standard Consulting Engineering Services in respect of other Types or Categories of Services.

- (a) Revision of completed, or substantially completed, drawings and/or specifications that were in conformance with the original intent of the City or had been accepted by the City;
- (b) Preparation of operating manuals and/or training of operating personnel;
- (c) Startup and/or operation of operating plants;
- (d) Procurement of materials and equipment for the City;
- (e) Preparation for and appearance in litigation on behalf of the City;
- (f) Preparation of environmental studies and reports and presentation thereof in public hearings.

APPENDIX B – RELEVANT DOCUMENTS

The following written documents are available electronically in PDF format by request to the Project Manager:

1	Deacon Ultraviolet Disinfection System Upgrade Assessment	
	Author: AECOM Published: May 2015	The report provides an upgrade assessment of the DBPS UV System and provides recommendations for preliminary design.
2	Deacon Booster Pumping Station Power Quality Assessment	
	Author: Cengys Ltd. Published: April 2020	Phase 1 report on the power quality assessment and proposed metering improvement work in the DBPS
3	Sentinel UV Disinfection System – Operation and Maintenance Manual	
	Author: Calgon Carbon Corp. Published: Sept. 2005	The original O&M manual for the Sentinel UV disinfection system
4	City of Winnipeg Water Treatment Plant User Requirement Specification – Rev. 4	
	Author: CH2MHill et al. Published: March 2010	The original control description for the Drinking Water Treatment Plant, including the DBPS.

The following documents are available in hard copy only and can be viewed at WWD Offices at 1199 Pacific Avenue by appointment only:

5	On-Site Validation Report for 48-in Sentinel UV Reactor	
	Author: Carollo Engineers Published: April 2005	Reactor testing report prepared by a third party during the original 2005/2006 UV reactor installation
6	Deacon UV Disinfection – Installation Contract Testing Documentation	
	Author: EarthTech Published: February 2006	Compiled testing reports from the original installation of the DBPS UV disinfection system
7	Deacon Ultraviolet Light Disinfection Project Proceedings	
	Author: EarthTech Published: 2004	Miscellaneous project records from the original UV disinfection system design.
8	Seven Day Acceptance Test Report	
	Author: EarthTech Published: 2006	Final report outlining the results of the seven day UV disinfection system acceptance testing as outlined in Tender 556-2003.

The following reference Drawings are available in PDF format by request to the Project Manager:

Project Title & Drawing Type	Year	Tender/Bid Opportunity #	# Drawings
DBPS (Original Construction) - As-Built Drawings	1981	N/A	74
DBPS UV Disinfection Project – Record Drawings	2004	556-2003	57
DBPS Upgrade – As-Constructed Drawings	2010	35-2006	45
DBPS Process and Instrumentation Diagrams	2013	N/A	15