



THE CITY OF WINNIPEG

TENDER

TENDER NO. 276-2021

KEEWATIN UNDERPASS PUMPING STATION – 2021 UPGRADES

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 KEEWATIN UNDERPASS PUMPING STATION – 2021 UPGRADES

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, June 9, 2021.

B2.2 The Contract Administrator 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 Further to C3.1, the Contract Administrator or an authorized representative will be available at the Site at 1:00 pm on May 26, 2021 to provide Bidders access to the Site.

(a) The Site is located at 15 Park Lane Avenue, Winnipeg, Manitoba.

B3.2 The Bidder is advised that they are responsible for providing their own safety equipment for the site visit. At minimum, a hard hat, safety boots, and safety glasses are required for access on the main floor. Entry into the Station wetwell is only permitted by the Contractor wearing a portable gas monitor, gloves, and fall arrest equipment, in addition to the aforementioned safety equipment. The City will not provide any safety equipment such as fall arrest davit or gas monitoring equipment.

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

B3.4 Depending on the number of Bidders anticipated to take part in the Site investigation and the COVID-19 requirements at the time of the Site investigation, a second Site investigation date may be proposed.

B3.5 Further to D19, the City acknowledges that COVID-19 may impact how the Site investigation is conducted and a number of protocols have been implemented for the safety of all participants.

B3.5.1 A limit of one (1) representative per company will be permitted at the Site investigation to facilitate social distancing protocols

B3.5.2 The Site investigation shall be carried out in accordance with the applicable Federal, Provincial, and local government regulations for COVID-19 current at the time of the Site investigation. Bidders should be aware that the Contract Administrator will conduct a screening assessment based on these regulations (e.g. exhibiting symptoms, recent travel, etc.) at the commencement of the Site investigations. Any attendants for the Site investigation who do not pass all associated screening questions will not be permitted to attend the Site investigation.

B3.5.3 Notwithstanding B3.5.2, each attendee will be required to wear a face mask at all times during the Site investigation, exercise good hygiene practices, and maintain social distancing of a minimum of two (2) meters.

B3.6 Notwithstanding B3.1, the City may cancel or reschedule the Site investigations due to health and safety concerns stemming from COVID-19 or to adhere to current COVID-19 regulations.

B3.7 In the event that the Site investigation is unable to be held due to COVID-19, the City will consider providing a virtual tour of the facility. This may include photographs and/or videos. Bidders will be provided the opportunity to request specific photographs and videos, subject to the City's approval.

B4. ENQUIRIES

- B4.1 All enquiries shall be directed to the Contract Administrator identified in D5.1.
- B4.2 If the Bidder finds errors, discrepancies or omissions in the Tender, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.
- B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Tender will be provided by the Contract Administrator to all Bidders by issuing an addendum.
- B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Tender will be provided by the Contract Administrator only to the Bidder who made the enquiry.
- B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.
- B4.6 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 Bidder by the City or acquired by a Bidder 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 Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:
- (a) was known to the Bidder before receipt hereof; or
 - (b) becomes publicly known other than through the Bidder; or
 - (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.
- B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Tender to the media or any member of the public without the prior written authorization of the Contract Administrator.

B6. ADDENDA

- B6.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Tender, or clarifying the meaning or intent of any provision therein.
- B6.2 The Contract Administrator 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 Bidder 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 addendum.
- B6.5 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid/Proposal. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6.6 Notwithstanding B4, enquiries related to an Addendum may be directed to the Contract Administrator indicated in D5.

B7. SUBSTITUTES

B7.1 The Work is based on the Plant, Materials and methods specified in the Tender.

B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B7.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.

B7.4 The Bidder shall ensure that any and all requests for approval of a substitute:

- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
- (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
- (c) identify any anticipated cost or time savings that may be associated with the substitute;
- (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
- (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.

B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.

B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.

B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.

B7.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.

B7.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B18.

B7.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid/Proposal;
 - (b) Form B: Prices;
 - (c) Form G1: Bid Bond and Agreement to Bond.
- B8.2 Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely.
- B8.3 The Bid shall be submitted electronically through MERX at www.merx.com.
- B8.3.1 Bids will **only** be accepted electronically through MERX.
- B8.4 Bidders are advised that inclusion of terms and conditions inconsistent with the Tender document, including the General Conditions, will be evaluated in accordance with B18.1(a).

B9. BID

- B9.1 The Bidder shall complete Form A: Bid/Proposal, making all required entries.
- B9.2 Paragraph 2 of Form A: Bid/Proposal shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
 - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Bidder 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.
- B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.
- B9.3 In Paragraph 3 of Form A: Bid/Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B9.4 Paragraph 13 of Form A: Bid/Proposal shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
 - (d) if the Bidder 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.
- B9.4.1 The name and official capacity of all individuals signing Form A: Bid/Proposal should be entered below such signatures.
- B9.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B10. PRICES

- B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B10.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B10.1.2 Prices stated on Form B: Prices shall not include any costs which may be incurred by the Contractor with respect to any applicable funding agreement obligations as outlined in D30. Any such costs shall be determined in accordance with D30.
- B10.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B10.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).
- B10.5 The Bidder shall enter the Total Bid Price from Form B: Prices into the Total Bid Price field in MERX.
- B10.5.1 Bidders are advised that the calculation indicated in B18.4 will prevail over the Total Bid Price entered in MERX.

B11. DISCLOSURE

- B11.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.
- B11.2 The Persons are:
- (a) N/A.

B12. CONFLICT OF INTEREST AND GOOD FAITH

- B12.1 Further to C3.2, Bidders, by responding to this Tender, declare that no Conflict of Interest currently exists, or is reasonably expected to exist in the future.
- B12.2 Conflict of Interest means any situation or circumstance where a Bidder or employee of the Bidder proposed for the Work 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 Bids or award of the Contract; or
- (ii) compromise, impair or be incompatible with the effective performance of a Bidder'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 Tender process or the Work; or
- (f) has knowledge of confidential information (other than confidential information disclosed by the City in the normal course of the Tender process) of strategic and/or material relevance to the Tender process or to the Work that is not available to other bidders and that could or would be seen to give that Bidder an unfair competitive advantage.

B12.3 In connection with its Bid, each entity identified in B12.2 shall:

- (a) avoid any perceived, potential or actual Conflict of Interest in relation to the procurement process and the Work;
- (b) upon discovering any perceived, potential or actual Conflict of Interest at any time during the Tender process, promptly disclose a detailed description of the Conflict of Interest to the City in a written statement to the Contract Administrator; 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.

B12.4 Without limiting B12.3, 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 Bidder 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.

B12.5 Without limiting B12.3, 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 Bidder that fails to disclose a perceived, potential or actual Conflict of Interest of the Bidder or any of its employees proposed for the Work;
- (b) require the removal or replacement of any employees proposed for the Work 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 Bidder or employees proposed for the Work that fails to comply with any requirements prescribed by the City pursuant to B12.4 to avoid or mitigate a Conflict of Interest; and
- (d) disqualify a Bidder if the Bidder, or one of its employees proposed for the Work, has a perceived, potential or actual Conflict of Interest that, in the City's sole discretion, cannot be avoided or mitigated, or otherwise resolved.

B12.6 The final determination of whether a perceived, potential or actual Conflict of Interest exists shall be made by the City, in its sole discretion.

B13. QUALIFICATION

B13.1 The Bidder 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; 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 Work in strict accordance with the terms and provisions of the Contract.

B13.2 The Bidder and any proposed Subcontractor (for the portion of the Work 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 <https://www.winnipeg.ca/matmgt/Templates/files/debar.pdf>

B13.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

B13.4 Further to B13.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) Written confirmation of a safety and health certification meeting SAFE Work Manitoba's SAFE Work Certified Standard (e.g., COR™ and SECOR™) in the form of:
 - (i) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
 - (ii) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>).

B13.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B13.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B14. BID SECURITY

B14.1 The Bidder shall include in its Bid Submission bid security in the form of a digital bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in Form G1: Bid Bond and Agreement to Bond, available on The City of Winnipeg, Corporate Finance, Materials Management Division website at <https://www.winnipeg.ca/MatMgt/templates/files/eBidsecurity.pdf>.

B14.2 Bid security shall be submitted in a digital format meeting the following criteria:

- (a) The version submitted by the Bidder must have valid digital signatures and seals;
- (b) The version submitted by the Bidder must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.

- (c) The version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
- (d) The verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
- (e) The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding B14.2(b).

B14.3 Bonds failing the verification process will not be considered to be valid and the bid shall be determined to be non-responsive in accordance with B18.1(a).

B14.4 Bonds passing the verification process will be treated as original and authentic.

B14.4.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B14.5 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly formed with the successful Bidder and the contract securities are furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B14.6 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Tender.

B15. OPENING OF BIDS AND RELEASE OF INFORMATION

B15.1 Bids will not be opened publicly.

B15.2 Following the Submission Deadline, the names of the Bidders and their Total Bid Prices (unevaluated and pending review and verification of conformance with requirements) will be available on the MERX website at www.merx.com.

B15.3 After award of Contract, the name(s) of the successful Bidder(s) and their Contract amount(s) will be available on the MERX website at www.merx.com.

B15.4 The Bidder is advised that any information contained in any Bid 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).

B15.4.1 To the extent permitted, the City shall treat as confidential information, those aspects of a Bid Submission identified by the Bidder 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.

B16. IRREVOCABLE BID

B16.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid/Proposal.

B16.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly formed and the contract securities have been furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid/Proposal.

B17. WITHDRAWAL OF BIDS

B17.1 A Bidder may withdraw his/her Bid without penalty at any time prior to the Submission Deadline.

B18. EVALUATION OF BIDS

- B18.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Tender, or acceptable deviation there from (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B13 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B7.
- B18.2 Further to B18.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B18.3 Further to B18.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is qualified.
- B18.4 Further to B18.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.
- B18.4.1 Further to B18.1(a), in the event that a unit price is not provided on Form B: Prices, the City may determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B18.4.2 Bidders are advised that the calculation indicated in B18.4 will prevail over the Total Bid Price entered in MERX.

B19. AWARD OF CONTRACT

- B19.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B19.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be qualified, and the Bids are determined to be responsive.
- B19.2.1 Without limiting the generality of B19.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
 - (b) the prices are materially in excess of the prices received for similar work in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
 - (d) only one Bid 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.
- B19.3 If funding for the Work is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, Bidders are advised that the terms of D30 shall immediately take effect upon confirmation of such funding, regardless of when funding is confirmed.
- B19.4 Where an award of Contract is made by the City, the award shall be made to the qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B18.
- B19.4.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2020 01 31) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* 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 Tender to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. FORM OF CONTRACT DOCUMENTS

D2.1 Notwithstanding C4.1(c) and C4.4, the Contract Documents will be provided to the Contractor electronically and there will be no requirement for execution and return to the City by the Contractor. Accordingly, the provisions under C4.4(a) and C4.4(b) are no longer applicable.

D3. SCOPE OF WORK

D3.1 The Work to be done under the Contract shall consist of construction of a new generator building addition attached to the existing building, as well as replacement of the existing roof, natural gas service, domestic water service, electrical service, telephone service, pumps, motors, electrical distribution, ventilation system, and controls.

D4. DEFINITIONS

D4.1 When used in this Tender:

- (a) "CSTE" means Customer Service Termination Enclosure;
- (b) "HVAC" means Heating, Ventilation, and Air Conditioning;
- (c) "IO" or "I/O" means Input/Output;
- (d) "MCC" means Motor Control Centre;
- (e) "PLC" means Programmable Logic Controller;
- (f) "RTU" means Remote Terminal Unit;
- (g) "SCADA" means Supervisory Control and Data Acquisition;
- (h) "Standardized Goods" means the respective goods identified in D25 that have been standardized by the City.
- (i) "Standardization Vendor" means a contractor or supplier of Standardized Goods, as identified in D25.

D5. CONTRACT ADMINISTRATOR

D5.1 The Contract Administrator is SNC-Lavalin Inc., represented by:

Brian Cleven, P.Eng.
Project Manager, Electrical and Automation Engineer
Telephone No. 204-786-8080
Email Address brian.cleven@snclavalin.com

D5.2 At the pre-construction meeting, Brian Cleven will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D6. CONTRACTOR'S SUPERVISOR

D6.1 At the pre-construction meeting, the Contractor shall identify his/her designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D7. NOTICES

- D7.1 Except as provided for in C22.4, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid/Proposal.
- D7.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D7.3 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator identified in D5.
- D7.3 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204 947-9155

D8. FURNISHING OF DOCUMENTS

- D8.1 Upon award of the Contract, the Contractor will be provided with 'issued for construction' Contract Documents electronically, including Drawings in PDF format only.

SUBMISSIONS

D9. AUTHORITY TO CARRY ON BUSINESS

- D9.1 The Contractor 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 Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D10. SAFE WORK PLAN

- D10.1 The Contractor shall provide the Contract Administrator 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 Documents, if applicable.
- D10.2 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>
- D10.3 Notwithstanding B13.4 at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated COR Certificate or Annual Letter of good Standing. A Contractor, who fails to provide a satisfactory COR Certificate or Annual Letter of good Standing, will not be permitted to continue to perform any Work.

D11. INSURANCE

- D11.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed

motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;

- (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. 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) all risks course of construction insurance in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, at all times during the performance of the Work and until the date of Total Performance.

D11.2 Deductibles shall be borne by the Contractor.

D11.3 The Contractor shall provide the City Solicitor 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 Work but in no event later than the date specified in C4.1 for the return of the executed Contract Documents, as applicable.

D11.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D12. CONTRACT SECURITY

D12.1 The Contractor shall provide and maintain the performance bond and the labour and material payment bond until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; and
- (b) a labour and material payment bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H2: Labour and Material Payment Bond), in an amount equal to fifty percent (50%) of the Contract Price.

D12.1.1 Where the contract security is a performance bond, it may be submitted in hard copy or digital format. If submitted in digital format the contract security must meet the following criteria:

- (a) the version submitted by the Contractor must have valid digital signatures and seals;
- (b) the version submitted by the Contractor must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
- (c) the version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
- (d) the verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
- (e) the results of the verification must provide a clear, immediate and printable indication of pass or fail regarding D12.1(b).

D12.1.2 Digital bonds failing the verification process will not be considered to be valid and may be determined to be an event of default in accordance with C18.1. If a digital bond fails the verification process, the Contractor may provide a replacement bond (in hard copy or digital format) within seven (7) Calendar Days of the City's request or within such greater period of time as the City in its discretion, exercised reasonably, allows.

- D12.1.3 Digital bonds passing the verification process will be treated as original and authentic.
- D12.2 The Contractor shall provide the City Solicitor with the required performance and labour and material payment bonds within seven (7) Calendar Days of notification of the award of the Contract by way of an award letter and 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 Documents, if applicable.
- D12.3 The Contractor shall, as soon as practicable after entering into a contract with a Subcontractor:
- (a) give the Subcontractor written notice of the existence of the labour and material payment bond in D12.1(b); and
 - (b) post a notice of the bond and/or a copy of that bond in a conspicuous location at the Site of the Work.

D13. SUBCONTRACTOR LIST

- D13.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) 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 Documents, if applicable.

D14. DETAILED WORK SCHEDULE

- D14.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) 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 Documents if applicable.
- D14.2 The detailed work schedule shall consist of the following:
- (a) a critical path method (C.P.M.) schedule for the Work;
 - (b) a Gantt chart for the Work based on the C.P.M. schedule;
 - (c) a daily manpower schedule for the Work;
- all acceptable to the Contract Administrator.
- D14.3 Further to D14.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path.
- (a) Product submittals,
 - (b) Order date and shipping date for new pumping units,
 - (c) Order date and shipping date for natural gas generator and transfer switch,
 - (d) Relocation of domestic water service,
 - (e) Replacement of natural gas service,
 - (f) Replacement of electrical service,
 - (g) Replacement of telephone service,
 - (h) Installation of piles and grade beams for building addition,
 - (i) Installation of building addition floor slab and walls,
 - (j) Roof replacement,
 - (k) Station equipment shutdown and start of demolition,
 - (l) Installation of 600V distribution equipment and pump starters,
 - (m) Installation of 120V distribution, lighting, and receptacles,
 - (n) Installation and commissioning of generator and transfer switch,

- (o) Installation and commissioning of new pumps, controls and instrumentation,
- (p) Installation and commissioning of new HVAC systems,
- (q) In service date for new Station pumps under automatic control,
- (r) Site restoration and cleanup, and
- (s) Submission of O&M manuals, as-built drawing markups, and final documentation.

D14.4 Further to D14.2(b), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

D14.5 Further to D14.2(c), the daily manpower schedule shall list the daily number of individuals on the Site for each trade.

SCHEDULE OF WORK

D15. COMMENCEMENT

D15.1 The Contractor shall not commence any Work until he/she is in receipt of an award letter from the Award Authority authorizing the commencement of the Work.

D15.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D9;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D10;
 - (iv) evidence of the insurance specified in D11;
 - (v) the contract security specified in D12;
 - (vi) the Subcontractor list specified in D13; and
 - (vii) the detailed work schedule specified in D14.
- (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D15.3 The Contractor shall not commence any Work affecting the operation of the Station pumps before November 15, 2021 or as otherwise indicated by the Contract Administrator.

D16. WORKING DAYS

D16.1 Further to C1.1(tt), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.

D16.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.

D16.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.

D16.4 The Contract Administrator will furnish the Contractor with a daily record for each major type of work showing various information concerning the equipment, the time it worked, could have

worked and Working Days charged. This report is to be signed each day by an authorized representative of the Contractor.

D17. CRITICAL STAGES

D17.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Two (2) new underpass pumping units operating from the new pump starters and new PLC-based controls in automatic mode shall be completed by February 28, 2022.

D18. SUBSTANTIAL PERFORMANCE

D18.1 The Contractor shall achieve Substantial Performance by April 29, 2022.

D18.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D18.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D19. TOTAL PERFORMANCE

D19.1 The Contractor shall achieve Total Performance by May 31, 2022.

D19.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D19.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D20. LIQUIDATED DAMAGES

D20.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Calendar Day for each and every Calendar Day following the days fixed herein for same during which such failure continues:

- (a) Pumps operating in automatic mode – Fifteen hundred dollars (\$1,500);
- (b) Substantial Performance – Five hundred dollars (\$500);
- (c) Total Performance – Five hundred dollars (\$500).

D20.2 The amounts specified for liquidated damages in D20.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.

D20.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D21. COVID-19 SCHEDULE DELAYS

- D21.1 The City acknowledges that the schedule for this Contract may be impacted by the COVID-19 pandemic. Commencement and progress of the Work shall be performed by the Contractor with due consideration to the health and safety of workers and the public, directives from health authorities and various levels of government and in close consultation with the Contract Administrator.
- D21.2 If the Contractor is delayed in the performance of the Work by reason of the COVID-19 pandemic, the Work 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.
- D21.3 A minimum of seven (7) Calendar Days prior to the commencement of Work, the Contractor shall declare whether COVID-19 will affect the start date. The Contractor shall provide sufficient evidence that the delay is directly related to COVID-19, including but not limited to evidence related to availability of staff, availability of Material or work by others.
- D21.4 For any delay related to COVID-19 and identified after Work has commenced, the Contractor 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 D21.3. Failure to provide this notice will result in no additional time delays being considered by the City.
- D21.5 The Work schedule, including the durations identified in D17 to D19 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator. No additional payment will be made for adjustment of schedules except where seasonal work, not previously identified in the Contract, is carried over to the following construction season.
- D21.6 Where Work not previously identified is being carried over solely as a result of delays related to COVID-19, as confirmed by the Contract Administrator, the cost of temporary works to maintain the Work in a safe manner until Work recommences, will be considered by the Contract Administrator. Where the Work is carried over only partially due to COVID-19, a partial consideration of the cost of temporary works will be considered by the Contract Administrator.
- D21.7 Any time or cost implications as a result of COVID-19 and in accordance with the above, as confirmed by the Contract Administrator, shall be documented in accordance with C7.

CONTROL OF WORK

D22. JOB MEETINGS

- D22.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D22.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D23. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D23.1 Further to C6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

D24. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D24.1 Further to B13.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B13.4.

STANDARDIZATION

D25. STANDARDIZED GOODS

D25.1 The following goods have been standardized by the City and will be supplied by the Contractor:

- (a) Standardized Control System and Motor Control Equipment as per E4.
- (b) Standardized Instrumentation as per E5.

D26. CONTRACTUAL ARRANGEMENT

D26.1 Each Standardization Vendor shall be a Subcontractor of the Contractor.

D26.2 The City's contract with each of the Standardization Vendors defines the prices and general terms of supply to the Contractor. Each Standardization Vendor is obligated to enter into a contract with the Contractor, based upon such prices and general terms of supply.

D26.2.1 The City is not a party to any contract between a Standardization Vendor and the Contractor, or any Subcontractor.

D26.3 In the event that a potential dispute arises between the Contractor and a Standardization Vendor, the Contract Administrator shall be notified.

D27. PAYMENT OF STANDARDIZATION VENDORS

D27.1 The Contractor is obligated to pay the Standardization Vendors in accordance with general terms of supply applicable to such Standardization Vendor.

D27.2 The Contractor's payment terms to the Standardization Vendor, in respect of Standardized Control System and Motor Control Equipment identified in E4, include the following:

D27.2.1 Except as indicated in D27.2.2, payment shall be in Canadian funds net thirty (30) Calendar Days after shipment.

D27.2.2 Payment for motor control centres shall be in Canadian funds net thirty (30) Calendar Days and initiated based upon the following schedule:

- (a) Upon approval of the shop drawings or forty (40) Calendar days after the last comprehensive submittal, in the event that a response is not made to the submittal: 25% of the total value.
- (b) Upon delivery of the complete MCC along with all associated as-manufactured documentation: 60% of the total value; or
- (c) In the event that the delivery is intentionally delayed, upon request by the Contractor, the following payment schedule would replace the 60% payment:
 - (i) Upon completion of the FAT and delivery of all as-manufactured documentation to the Contractor – 30% of the total value.
 - (ii) Forty (40) Calendar days after delivery of the as-manufactured documentation to the Contractor, or upon delivery, whichever comes sooner – 30% of the total value.
- (d) Upon successful commissioning and delivery of documentation or six (6) months after delivery, whichever comes first: 15% of the total value.

D27.3 The Contractor's payment terms to the Standardization Vendor, in respect of Standardized Instrumentation identified in E5, include the following:

D27.3.1 Payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Standardization Vendor's invoice.

MEASUREMENT AND PAYMENT

D28. PAYMENT

D28.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D29. WARRANTY

D29.1 Warranty is as stated in C13.

THIRD PARTY AGREEMENTS

D30. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

D30.1 In the event that funding for the Work of the Contract is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, the following terms and conditions shall apply, as required by the applicable funding agreements.

D30.2 Further to D30.1, in the event that the obligations in D30 apply, actual costs legitimately incurred by the Contractor as a direct result of these obligations ("Funding Costs") shall be determined by the actual cost to the Contractor and not by the valuation method(s) outlined in C7.4. In all other respects Funding Costs will be processed in accordance with Changes in Work under C7.

D30.3 For the purposes of D30:

- (a) "**Government of Canada**" includes the authorized officials, auditors, and representatives of the Government of Canada; and
- (b) "**Government of Manitoba**" includes the authorized officials, auditors, and representatives of the Government of Manitoba.

D30.4 Modified Insurance Requirements

D30.4.1 If not already required under the insurance requirements identified in D11, the Contractor will be required to provide wrap-up liability insurance in an amount of no less than two million dollars (\$2,000,000) inclusive per occurrence. Such policy will be written in the joint names of the City, Contractor, Consultants and all sub-contractors and sub-consultants and include twelve (12) months completed operations. The Government of Manitoba and its Ministers, officers, employees, and agents shall be added as additional insureds.

D30.4.2 If not already required under the insurance requirements identified in D11, the Contractor will be required to provide builders' risk insurance (including boiler and machinery insurance, as applicable) providing all risks coverage at full replacement cost, or such lower level of insurance that the City may identify on a case-by-case basis, such as an installation floater.

D30.4.3 The Contractor shall obtain and maintain third party liability insurance with minimum coverage of two million dollars (\$2,000,000.00) per occurrence on all licensed vehicles operated at the Site. In the event that this requirement conflicts with another licensed vehicle insurance requirement in this Contract, then the requirement that provides the higher level of insurance shall apply.

- D30.4.4 Further to D11.3, insurers shall provide satisfactory Certificates of Insurance to the Government of Manitoba prior to commencement of Work as written evidence of the insurance required. The Certificates of Insurance must provide for a minimum of thirty (30) days' prior written notice to the Government of Manitoba in case of insurance cancellation.
- D30.4.5 All policies must be taken out with insurers licensed to carry on business in the Province of Manitoba.
- D30.5 Indemnification By Contractor
- D30.5.1 In addition to the indemnity obligations outlined in C17 of the General Conditions for Construction, the Contractor agrees to indemnify and save harmless the Government of Canada and the Government of Manitoba and each of their respective Ministers, officers, servants, employees, and agents from and against all claims and demands, losses, costs, damages, actions, suit or other proceedings brought or pursued in any manner in respect of any matter caused by the Contractor or arising from this Contract or the Work, or from the goods or services provided or required to be provided by the Contractor, except those resulting from the negligence of any of the Government of Canada's or the Government of Manitoba's Ministers, officers, servants, employees, or agents, as the case may be.
- D30.6 Records Retention and Audits
- D30.6.1 The Contractor shall maintain and preserve accurate and complete records in respect of this Contract and the Work, including all accounting records, financial documents, copies of contracts with other parties and other records relating to this Contract and the Work during the term of the Contract and for at least six (6) years after Total Performance. Those records bearing original signatures or professional seals or stamps must be preserved in paper form; other records may be retained in electronic form.
- D30.6.2 In addition to the record keeping and inspection obligations outlined in C6 of the General Conditions for Construction, the Contractor shall keep available for inspection and audit at all reasonable times while this Contract is in effect and until at least six (6) years after Total Performance, all records, documents, and contracts referred to in D30.6.1 for inspection, copying and audit by the City of Winnipeg, the Government of Manitoba and/or the Government of Canada and their respective representatives and auditors, and to produce them on demand; to provide reasonable facilities for such inspections, copying and audits, to provide copies of and extracts from such records, documents, or contracts upon request by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada and their respective representatives and auditors, and to promptly provide such other information and explanations as may be reasonably requested by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada from time-to-time.
- D30.7 Other Obligations
- D30.7.1 The Contractor consents to the City providing a copy of the Contract Documents to the Government of Manitoba and/or the Government of Canada upon request from either entity.
- D30.7.2 If the Lobbyists Registration Act (Manitoba) applies to the Contractor, the Contractor represents and warrants that it has filed a return and is registered and in full compliance with the obligations of that Act, and covenants that it will continue to comply for the duration of this Contract.
- D30.7.3 The Contractor shall comply with all applicable legislation and standards, whether federal, provincial, or municipal, including (without limitation) labour, environmental, and human rights laws, in the course of providing the Work.
- D30.7.4 The Contractor shall properly account for the Work provided under this Contract and payment received in this respect, prepared in accordance with generally accepted accounting principles in effect in Canada, including those principles and standards approved or recommended from time-to-time by the Chartered Professional Accountants of Canada or the Public Sector Accounting Board, as applicable, applied on a consistent basis.

D30.7.5 The Contractor represents and warrants that no current or former public servant or public office holder, to whom the Value and Ethics Code for the Public Sector, the Policy on Conflict of Interest and Post Employment, or the Conflict of Interest Act applies, shall derive direct benefit from this Contract, including any employment, payments, or gifts, unless the provision or receipt of such benefits is in compliance with such codes and the legislation.

D30.7.6 The Contractor represents and warrants that no member of the House of Commons or of the Senate of Canada or of the Legislative Assembly of Manitoba is a shareholder, director or officer of the Contractor or of a Subcontractor, and that no such member is entitled to any benefits arising from this Contract or from a contract with the Contractor or a Subcontractor concerning the Work.

FORM H1: PERFORMANCE BOND
(See D12)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____ dollars (\$_____.)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

TENDER NO. 276-2021

KEEWATIN UNDERPASS PUMPING STATION – 2021 UPGRADES

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

FORM H2: LABOUR AND MATERIAL PAYMENT BOND
(See D12)

KNOW ALL MEN BY THESE PRESENTS THAT

his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Principal"), and

his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), for the use and benefit of claimants as herein below defined, in the amount of

_____ dollars (\$_____)

of lawful money of Canada, for the payment whereof we, the Principal and the Surety jointly and severally bind ourselves firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

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KEEWATIN UNDERPASS PUMPING STATION – 2021 UPGRADES

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labour, service and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect subject, however, to the following conditions:

- (a) A claimant is defined as one having a direct contract with the Principal for labour, service and material, or any of them, used or reasonably required for use in the performance of the contract, labour, service and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment (but excluding rent of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract;
- (b) The above-named Principal and Surety hereby jointly and severally agree with the Obligee that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work, labour or service was done or performed, or materials were furnished by such claimant, may sue on this bond, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon;
- (c) No suit or action shall be commenced hereunder by any claimant
 - (i) unless claimant shall have given written notice to the Principal and the Surety above-named, within one hundred and twenty (120) days after such claimant did or performed the last of the work, labour or service, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work, labour or service was done or performed. Such notice shall be served by mailing the same by registered mail to the Principal, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the Province of Manitoba;

- (ii) after the expiration of one (1) year following the date on which Principal ceased work on said Contract; including work performed under the guarantees provided in the Contract;
 - (iii) other than in a court of competent jurisdiction in the Province of Manitoba.
- (d) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.
- (e) The Surety shall not be liable for a greater sum than the specified penalty of this bond.

The Principal and Surety hereby agree that The Guarantors' Liability Act (Manitoba) shall apply to this Bond.

IN TESTIMONY WHEREOF, the Principal has hereunto set its hand affixed its seal, and the Surety has caused these presents to be sealed and with its corporate seal duly attested by the authorized signature of its signing authority this

_____ day of _____, 20_____.

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>.
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Tender shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B7. In every instance where a brand name or design specification is used, the City will also consider approved equals and/or approved alternatives in accordance with B7.
- E1.4 The following are applicable to the Work:

<u>Specification No.</u>	<u>Specification Title</u>
Division 01 - General Requirements	
01 33 00	Submittal Procedures
01 45 00	Quality Control
01 51 00	Temporary Utilities
01 52 00	Construction Facilities
01 56 00	Temporary Barriers and Enclosures
01 61 00	Common Product Requirements
01 73 03	Execution Requirements
01 74 11	Cleaning
01 78 00	Closeout Submittals
Division 03 - Concrete	
03 05 10	Cast-In-Place Concrete
03 20 00	Concrete Reinforcing
Division 04 - Masonry	
04 05 00	Masonry
Division 05 - Metals	
05 50 00	Metal Fabrications
Division 07 - Thermal and Moisture Protection	
07 21 13	Board Insulation
07 26 00	Vapour Retarders
07 46 13	Preformed Metal Siding
07 61 00	Sheet Metal Roofing
07 62 00	Sheet Metal Flashing and Trim

07 92 10 Joint Sealing

Division 08 - Openings

08 11 14 Metal Doors and Frames

Division 09 - Finishes

09 91 23 Painting

Division 10 -

10 44 20 Fire Extinguishers

Division 22 - Plumbing

22 11 18 Domestic Water Piping Copper
22 42 01 Plumbing Specialties and Accessories

Division 23 - HVAC

23 05 00 Common Work Results for HVAC
23 05 54 Mechanical Identification
23 05 93 Testing, Adjusting, and Balancing For HVAC
23 07 13 Duct Insulation
23 09 33 Electric and Electronic Control System for HVAC
23 11 23 Facility Natural Gas Piping
23 31 14 Metal Ducts – Low Pressure to 500 Pa
23 33 00 Air Duct Accessories
23 33 14 Dampers – Balancing
23 33 15 Dampers – Operating
23 34 00 HVAC Fans
23 37 13 Louvers
23 37 14 Diffusers, Registers and Grilles
23 41 00 Particulate Air Filtration
23 55 01 Duct Heaters
23 82 40 Unit Heaters – Electric

Division 26 - Electrical

26 05 01 Common Work Results - Electrical
26 05 21 Wires And Cables (0-1000 V)
26 05 27 Grounding – Primary
26 05 28 Grounding – Secondary
26 05 29 Hangers And Supports for Electrical Systems
26 05 31 Splitters, Junction, Pull Boxes and Cabinets
26 05 32 Outlet Boxes, Conduit Boxes and Fittings
26 05 34 Conduits, Conduit Fastenings and Conduit Fittings
26 05 44 Installation of Cables in Trenches and in Ducts
26 12 17 Dry Type Transformers Up To 600 V Primary
26 24 01 Service Equipment
26 24 17 Panelboards Breaker Type
26 24 19 Motor Control Centres
26 27 26 Wiring Devices
26 28 21 Moulded Case Circuit Breakers
26 28 23 Disconnect Switches – Fused and Non-Fused
26 29 10 Motor Starters to 600 V
26 32 10 Natural Gas Generator
26 50 00 Lighting
26 52 01 Unit Equipment for Emergency Lighting

Division 27 - Communications

27 30 00 Voice Communications

Division 31 - Earthwork

31 23 10 Excavating, Trenching and Backfilling

Division 33 - Utilities

33 41 01 Storm Pumps

Division 40 - Automation

40 05 01 Common Work Results - Automation
 40 80 08 Factory Acceptance Test
 40 80 11 Automation Commissioning
 40 90 01 Automation - Field Pushbuttons, Switches, and Indicators
 40 91 00 Automation - Process Measurement Devices
 40 92 00 Automation - Primary Control Devices
 40 94 43 Programmable Logic Controllers
 40 95 13 Control Panels
 40 99 01 Training
 40 99 90 Maintenance and Support

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
1-0304U-D0001-001	COVER SHEET
1-0304U-D0002-001	DRAWING INDEX
1-0304U-A0001-001	AUTOMATION PLAN LAYOUT, PUMPING STATION AND GENERATOR ROOM
1-0304U-A0002-001	PANEL LAYOUT & BILL OF MATERIAL, CONTROL PANEL CP-U81
1-0304U-A0002-002	PANEL LAYOUT & BILL OF MATERIAL, CONTROL PANEL CP-U81
1-0304U-A0003-001	NETWORK BLOCK DIAGRAM, CONTROL PANEL CP-U81
1-0304U-A0004-001	POWER DISTRIBUTION SCHEMATIC, CONTROL PANEL CP-U81
1-0304U-A0005-001	PLC I/O WIRING DIAGRAM, CONTROL PANEL CP-U81, DISCRETE INPUTS RACK 01, MODULE 04
1-0304U-A0006-001	PLC I/O WIRING DIAGRAM, CONTROL PANEL CP-U81, DISCRETE INPUTS RACK 01, MODULE 05
1-0304U-A0007-001	PLC I/O WIRING DIAGRAM, CONTROL PANEL CP-U81, DISCRETE OUTPUTS RACK 01, MODULE 07
1-0304U-A0008-001	PLC I/O WIRING DIAGRAM, CONTROL PANEL CP-U81, ANALOG INPUTS RACK 01, MODULE 09
1-0304U-A0009-001	PLC I/O WIRING DIAGRAM, CONTROL PANEL CP-U81, ANALOG INPUTS RACK 01, MODULE 10
1-0304U-A0010-001	CONTROL SCHEMATIC, CONTROL PANEL CP-U81, PUMP CONTROL, ATS AND GENERATOR STATUS
1-0304U-A0011-001	PANEL LAYOUT & BILL OF MATERIAL, VENTILATION PANEL JBA-U86
1-0304U-A0012-001	POWER DISTRIBUTION SCHEMATIC, VENTILATION PANEL JBA-U86
1-0304U-A0013-001	PANEL LAYOUT & BILL OF MATERIAL, INTRINSICALLY SAFE JUNCTION BOX, JBA-U82
1-0304U-A0014-001	LOOP DIAGRAM, AUTOMATIC TRANSFER SWITCH, ATS-U72
1-0304U-A0015-001	LOOP DIAGRAM, GENERATOR GEN-U72, RUNNING, ALARM AND BREAKER STATUS
1-0304U-A0016-001	LOOP DIAGRAM, GENERATOR ROOM COOLING DAMPERS, FV-U691, FV-U692, FV-U693
1-0304U-A0017-001	LOOP DIAGRAM, GENERATOR ROOM GAS DETECTOR, AIT-U550, AE-U550, AAH-U550, YAF-U550
1-0304U-A0018-001	LOOP DIAGRAM, WET WELL LEVEL CONTROLLER, LIC-U500, LE-U500, YAF-U500

1-0304U-A0019-001	LOOP DIAGRAM, WET WELL LEVEL SWITCH, LSHH-U500
1-0304U-A0020-001	LOOP DIAGRAM, MCC-U71 TVSS ALARM, XS-U711
1-0304U-A0021-001	LOOP DIAGRAM, MCC-U72E 600 VOLT POWER STATUS, ESL-U72E1
1-0304U-A0022-001	LOOP DIAGRAM, MAIN FLOOR SUPPLY FAN AIR FILTER PLUGGED SWITCH, PDSH-U610
1-0304U-A0023-001	LOOP DIAGRAM, PUMP P-U01 & P-U02 MOTOR HIGH TEMPERATURE SWITCHES, TSH-U010, TSH-U020
1-0304U-A0024-001	LOOP DIAGRAM, MOTOR ROOM TEMPERATURE TRANSMITTER, TT-U603
1-0304U-A0025-001	LOOP DIAGRAM, STATION OCCUPANCY SWITCH, HS-U600
1-0304U-A0026-001	LOOP DIAGRAM, WET WELL OCCUPANCY SWITCH, HS-U650
1-0304U-A0027-001	LOOP DIAGRAM, HCE-U62 MAIN FLOOR DUCT HEATER, TY-U620, TE-U621
1-0304U-A0028-001	LOOP DIAGRAM, HCE-U66 WET WELL DUCT HEATER, TY-U650, TE-U661
1-0304U-A0029-001	LOOP DIAGRAM, MOTOR ROOM SEAL WATER LOSS, PSL-U526
1-0304U-A0030-001	LOOP DIAGRAM, MOTOR ROOM SEAL WATER FLOAT SWITCHES, FSL-U011, FSL-U021
1-0304U-A0031-001	LOOP DIAGRAM, WET WELL SUPPLY FAN, SF-U66
1-0304U-A0032-001	LOOP DIAGRAM, GENERATOR ROOM TEMPERATURE SENSORS, TE-U691, TE-U692, TE-U693, TE-U694
1-0304U-A0033-001	LOOP DIAGRAM, GENERATOR ROOM COMBUSTION AIR DAMPER, FV-U694
1-0304U-A0034-001	LOOP DIAGRAM, GENERATOR & MOTOR ROOM VENTILATION DAMPERS, FV-U601, FV-U602, FV-U603
1-0304U-A0035-001	LOOP DIAGRAM, GENERATOR ROOM TEMPERATURE TRANSMITTER, TT-U695
1-0304U-B0001-001	PUMPHOUSE, BUILDING REMOVALS, PLAN AND ELEVATIONS
1-0304U-B0002-001	PUMPHOUSE ADDITION, EXTERIOR, ROOF PLAN AND ELEVATIONS
1-0304U-B0003-001	PUMPHOUSE ADDITION, INTERIOR, PLAN AND ELEVATIONS
1-0304U-B0004-001	PUMPHOUSE ADDITION, SECTIONS AND DETAIL
1-0304U-C0001-001	PUMPHOUSE ADDITION, SITE PLAN
1-0304U-E0001-001	ELECTRICAL SINGLE LINE DIAGRAM, DEMOLITION
1-0304U-E0002-001	ELECTRICAL FLOOR PLAN, MOTOR ROOM AND WET WELL AREA, DEMOLITION
1-0304U-E0003-001	ELECTRICAL SINGLE LINE DIAGRAM
1-0304U-E0004-001	ELECTRICAL AND LIGHTING PLAN LAYOUT, PUMPING STATION AND GENERATOR ROOM
1-0304U-E0005-001	HAZARDOUS AND WET LOCATION PLAN, PUMPING STATION AND GENERATOR ROOM
1-0304U-E0006-001	GROUNDING INSTALLATION DETAILS, PUMPING STATION AND GENERATOR ROOM
1-0304U-E0007-001	CONNECTION DIAGRAM, AUTOMATIC TRANSFER SWITCH, ATS-U72
1-0304U-E0008-001	MCC ELEVATIONS AND DETAILS, MCC-U71 AND MCC-U72E
1-0304U-E0009-001	ELECTRICAL SCHEDULES, AND PHOTOCELL DETAILS
1-0304U-E0010-001	MOTOR STARTER SCHEMATIC, UNDERPASS PUMP, P-U01
1-0304U-E0011-001	MOTOR STARTER CONNECTION DIAGRAM, UNDERPASS PUMP, P-U01
1-0304U-E0012-001	MOTOR STARTER SCHEMATIC, UNDERPASS PUMP, P-U02
1-0304U-E0013-001	MOTOR STARTER CONNECTION DIAGRAM, UNDERPASS PUMP, P-U02
1-0304U-E0014-001	MOTOR STARTER SCHEMATIC, MAIN FLOOR SUPPLY FAN SF-U63
1-0304U-E0015-001	MOTOR STARTER SCHEMATIC, MOTOR ROOM COOLING FAN SF-U67
1-0304U-E0016-001	PANEL LAYOUT, JB-U72, TEMPORARY LOAD BANK CONNECTION
1-0304U-E0017-001	ELECTRICAL SITE PLAN AND DETAILS, PUMPING STATION AND GENERATOR ROOM
1-0304U-M0001-001	MECHANICAL LAYOUT, MAIN FLOOR PLAN, DEMOLITION
1-0304U-M0002-001	MECHANICAL LAYOUT, MAIN FLOOR PLAN, NEW WORK
1-0304U-M0003-001	MECHANICAL LAYOUT, SECTIONS, NEW WORK
1-0304U-M0004-001	MECHANICAL LAYOUT, PLAN & SECTIONS, REMOVALS
1-0304U-M0005-001	MECHANICAL LAYOUT, PLAN & SECTIONS, NEW WORK
1-0304U-P0001-001	PROCESS & INSTRUMENTATION DIAGRAM - HVAC & MISCELLANEOUS

1-0304U-P0002-001	PROCESS & INSTRUMENTATION DIAGRAM - UNDERPASS PUMPING
1-0304U-S0001-001	STRUCTURAL NOTES
1-0304U-S0001-002	STRUCTURAL NOTES
1-0304U-S0002-001	ORIGINAL SUPERSTRUCTURE MODIFICATIONS, PLAN & ELEVATIONS
1-0304U-S0003-001	BUILDING ADDITION FOUNDATION, PLANS
1-0304U-S0004-001	BUILDING ADDITION FOUNDATION, SECTIONS AND DETAILS
1-0304U-S0005-001	BUILDING ADDITION FOUNDATION, DETAILS
1-0304U-S0006-001	BUILDING ADDITION WALL, PLAN AND ELEVATIONS
1-0304U-S0007-001	ORIGINAL SUPERSTRUCTURE MODIFICATIONS, DETAILS
1-0304U-S0008-001	BUILDING WALL DUCT OPENINGS, DETAILS

Appendix No.

Appendix A
Appendix B
Appendix C
Appendix D
Appendix E
Appendix F

Document Title

Testing Forms
Functional Requirements Specification
Geotechnical Investigation
Instrument List
I/O List – PLC-U81
Wetwell Photos

E2. SOILS INVESTIGATION REPORT

E2.1 Further to C3.1, the document titled “Geotechnical Investigation – Keewatin Pump Station 15 Park Lane Avenue, Winnipeg, Manitoba”, dated October 2020, and prepared by Eng-Tech Consulting Ltd., is included with this Bid Opportunity.

CONTRACTOR SUPPLIED STANDARDIZED GOODS

E3. GENERAL REQUIREMENTS

- E3.1 Comply with the general requirements of E3 for all Standardized Goods supplied by the Contractor.
- E3.2 Comply with the following Standardization Goods requirements:
- E3.2.1 Control System and Motor Control Equipment in accordance with E4.
 - E3.2.2 Instrumentation in accordance with E5.
- E3.3 Contact the Contract Administrator regarding any potential uncertainty as to whether a good is covered under a standardization agreement.
- E3.4 The Contractor may utilize a Standardization Vendor to provide other goods required under the Contract, in addition to Standardized Goods.
- E3.5 The Contractor shall separately track all goods supplied under each standardization agreement.
- E3.5.1 In the event that one or more Standardization Vendors are utilized to procure goods not covered under a standardization agreement, the Contractor shall ensure such goods are quoted, ordered, tracked and accounted in a separate manner.
- E3.6 Pricing:
- E3.6.1 The City has obtained discounted pricing for Standardized Goods. Each Standardization Vendor is obligated to sell Standardized Goods to all prospective Contractors at the discounted price, provided the goods are for the City of Winnipeg.
 - E3.6.2 The Standardization Vendors may at their option provide lump sum pricing for goods packages. The Standardization Vendor is not required to provide breakout pricing details to the Contractor.
 - E3.6.3 The Contractor and Subcontractors shall not utilize the City’s agreements with the Standardization Vendors for any purpose other than City work.

- E3.6.4 The City may audit the goods purchased from the Standardization Vendors under the standardization agreements and may identify to the Standardization Vendors any goods procured that are not associated with the Contract.
- E3.7 The Contractor is responsible for ensuring that the Material supplied by the Standardization Vendors meets the requirement of the Contract. The Contractor shall review and confirm quotations supplied by the Standardization Vendors to ensure that all required Material is supplied.
- E3.8 Without limiting or otherwise affecting any other term or condition of the Contract, including (non-exhaustive) D26.2.1:
- E3.8.1 The supply of goods through a Standardization Vendor shall not relieve the Contractor of their obligations.
- E3.8.2 Errors or omissions by a Standardization Vendor shall not be a cause for a Change in Work.
- E3.8.3 Delays by a Standardization Vendor shall not be a cause for a Change in Work where the delay could have been avoided through reasonable planning, contingency allocation, or communication by the Contractor.
- E3.8.4 The Contractor shall engage directly with the persons listed as the Standardized Vendor contact in sections E4.6 and E5.6 unless otherwise directed by the Contract Administrator.
- E3.9 Submittals
- E3.9.1 Submittals shall be provided for Standardized Goods in accordance with the Specifications and typical industry practice. Submittals shall not be bypassed for Standardized Goods.

E4. STANDARDIZED CONTROL SYSTEM AND MOTOR CONTROL EQUIPMENT

- E4.1 The City has standardized on a specific vendor for the supply and delivery of control system and motor control equipment. The Standardization Vendor was selected via RFP 756-2013 and was awarded to Schneider Electric Canada Inc. (Schneider).
- (a) Refer to E4.6 for contact information.
- (b) Copies of the tender documents are available from City of Winnipeg Material Management's website.
- E4.2 Goods to be procured via this standardization agreement and applicable to this Tender includes but is not limited to:
- (a) Programmable Controllers (PLCs) including all associated components, hardware and software.
- (b) Touchscreen HMI systems such as Magellis HMIs.
- (c) Motor Control Centers including all components.
- E4.3 For clarity, this standardization agreement does not include:
- (a) Computer workstation hardware including operating systems;
- (b) Computer server hardware, including operating systems and general terminal server / client software;
- (c) Thin client terminals;
- (d) Fused and un-fused disconnect switches not incorporated into a MCC or other motor starter;
- (e) Control stations and pendants not incorporated into a MCC or other motor starter;
- (f) Electrical Transformers not in a MCC or motor starter;
- (g) Panelboards not integrated in a MCC;
- (h) Switchboards / Switchgear not integrated in a MCC;

- (i) System Integration Services (including programming and configuration);
- (j) Control Panels to house PLCs;
- (k) Instrumentation;
- (l) Power supplies not integrated with the PLC / HMI systems; and
- (m) Terminal blocks not integrated with the PLC / HMI systems

E4.4 The following model series shall be utilized unless otherwise indicated in the Specifications, Drawings or otherwise approved by the Contract Administrator:

- (a) M580 PLC;
- (b) X80 PLC I/O;
- (c) Unity Pro programming software;
- (d) Local HMI – Magellis HMIGTO or HMIGTU series;
- (e) Model 6 MCC – NEMA rated starters.

E4.5 Commissioning and start-up:

E4.5.1 Except as identified in E4.5.2, commissioning and start-up of all goods purchased under this standardization agreement shall be performed by the Contractor.

E4.5.2 Schneider shall provide MCC start-up services, but not commissioning services. Coordinate with Schneider as required to understand the limitations of Schneider's MCC start-up services and provide all remaining testing, commissioning and start-up services to provide a complete commissioning and start-up.

E4.6 The contact information for all quotations and purchases from Schneider is:

Garth Eastman
21 Omands Creek Blvd
Winnipeg, MB, R2R 2V2
Telephone: 204-631-0670
E-mail: garth.eastman@schneider-electric.com

E4.6.1 Goods to be procured via Eecol Electric (Eecol), as Schneider's High Tech Automation Distributor (HTAD):

- (a) Further to E4.2, goods to be procured via Eecol includes but is not limited to:
 - (i) Programmable Controllers (PLCs) including all associated components hardware and software;
 - (ii) Programmable Controller Programming Software;
 - (iii) HMI System software;
 - (iv) Touchscreen HMI systems such as Magellis HMIs;
 - (v) Touchscreen HMI Programming Software;
 - (vi) Motor Control Centers including all components;
 - (vii) Loose VFDs, motor starters, soft starters, and associated components; and
 - (viii) Industrial Ethernet Switches as per design. Note that some Ethernet switches may be specified to be from other vendors due to application requirements. Refer to drawings and specifications.
- (b) The Eecol contact:

Trevor Hambleton
1760 Wellington Avenue
Winnipeg, MB, R3H 0E9
Telephone: 204-774-2800
E-mail: hambleton@eecol.com
- (c) All correspondence related to requests-for-quotations to Eecol for goods listed under E4.6.1(a) shall be copied to the Schneider contact listed under E4.6.

- (d) For whatever reason, if Eecol is unable to receive or respond to request-for-quotations for goods listed under E4.6.1(a), request-for-quotations may be issued directly to the Schneider contact listed under E4.6.

E4.7 Quotations and orders:

E4.7.1 Reference the following in all quotation requests and purchase orders:

- (a) This Bid Opportunity number; and
- (b) A statement indicating:
"This request / purchase order is subject to the Terms and Conditions of City of Winnipeg Request for Proposal RFP 756-2013."

E5. STANDARDIZED INSTRUMENTATION

E5.1 The City has standardized on a specific vendor for the supply and delivery of specific instrumentation. The Standardization Vendor was selected via RFP 449-2014 and was awarded to Trans-West Supply Company Inc. (Trans-West).

- (a) Copies of the tender documents are available from City of Winnipeg Material Management's website.

E5.2 Goods to be procured via this standardization agreement and applicable to this Tender include but are not limited to:

- (a) Temperature Transmitters including temperature elements and thermowells;
- (b) Ultrasonic Level Transmitters; and
- (c) Associated accessories.

E5.3 For clarity, this standardization agreement does not include:

- (a) Flowmeters - Coriolis;
- (b) Flowmeters - Thermal Dispersion;
- (c) Flowmeters - Ultrasonic;
- (d) Flow switches (i.e. mechanical);
- (e) Pressure switches;
- (f) Temperature switches;
- (g) Radar Level Transmitters; and
- (h) Level Switches (non-ultrasonic based).

E5.4 The following model series shall be utilized unless otherwise indicated in the Specifications, Drawings or otherwise approved by the Contract Administrator:

- (a) Temperature Transmitters
 - (i) SITRANS TF (Process Applications)
 - (ii) SITRANS TH400 (HVAC applications)
- (b) Ultrasonic Level Transmitters
 - (i) Integrated applications: SITRANS Probe LU
 - (ii) Separate controller applications: Multiranger 100/200 with EchoMax transducers.

E5.5 Field setup and commissioning:

E5.5.1 Field setup and commissioning of the instrumentation may be performed by Trans-West under the Standardization Agreement. Coordinate with Trans-West as required to understand the capabilities and limitations of Trans-West's field setup and commissioning services and provide all remaining services to provide a complete commissioning and start-up.

- E5.5.2 Field setup and commissioning of the standardized instrumentation shall be performed by Trans-West under the standardization agreement for the following:
- (a) The first instrument of each type installed on site; and
 - (b) A minimum of five additional instruments of each type, or 10% of the actuators of that type, whichever is greater.
- E5.5.3 The Contractor may provide field setup and commissioning services for the remaining instrumentation via alternate means, provided that this does not result in a reduction of the services or quality of work.
- E5.5.4 The services provided are to include at all standard manufacturer recommended start-up and commissioning procedures, as well as the following:
- (a) Visual Inspection
 - (i) Inspect instrument for signs of damage,
 - (ii) Verify mechanical and piping installation per drawings and manufacturer requirements,
 - (iii) Verify wiring installation per drawings and manufacturer requirements, and
 - (iv) Inspect electrical terminal compartment for foreign objects.
 - (b) Mechanical Inspection
 - (i) Check all connections and bolts for tightness and to the correct torque,
 - (ii) Check for alignment, and
 - (iii) Ensure appropriate clearances for all connecting bushings and connecting faces.
 - (c) Electrical Inspection
 - (i) Check all power wiring connections for tightness,
 - (ii) Check all fuses in the instrument for continuity,
 - (iii) Confirm input voltage is correct, and
 - (iv) Confirm that the signal / fieldbus connections are correct.
 - (d) Start-up Services
 - (i) Coordinate turning on power to the instrument,
 - (ii) Configure all applicable settings and parameters that could not be configured prior to installation,
 - (iii) Perform functional tests,
 - (iv) Coordinate with City personnel and designated representatives to confirm and finalize the application requirements,
 - (v) Configure and document all settings, as appropriate for the application,
 - (vi) Coordinate to perform test demonstrations to verify instrument performance,
 - (vii) Verify that all configuration values are in the correct state, and
 - (viii) Transfer the configuration settings to on-site personnel.
 - (e) Documentation
 - (i) Provide a signed documented commissioning form for each instrument, in a format acceptable to the Contract Administrator.
 - (f) Travel
 - (i) Provide all travel and accommodations at no additional cost.
 - (g) Personnel:
 - (i) Personnel shall be factory trained in the maintenance, configuration, and service of the proposed instrumentation.

- E5.5.5 Responsibility of the Contractor:
- (a) It is the responsibility of the Contractor to ensure that the installation of the instrumentation is complete and that the instrument is ready to commission prior to engaging Trans-West to commission any instrumentation.
- E5.6 The contact for all quotations and purchases:
- Amurthan (Amu) Abimanan Branch Manager
126 Bannister Road
Winnipeg, MB, R3R 0S3
Telephone: 204-783-0100
Mobile: 204-782-1864
E-mail: amu@transwest-mb.com
- E5.7 Quotations and orders:
- E5.7.1 Reference the following in all quotation requests, quotations \ proposals, purchase orders, and invoices:
- (a) This Bid Opportunity number; and
 - (b) A statement indicating:
"This request / purchase order is subject to the Terms and Conditions of City of Winnipeg Request for Proposal RFP 449-2014."

GENERAL REQUIREMENTS

E6. HAZARDOUS MATERIALS

- E6.1 If asbestos or other hazardous materials are encountered during the Work of the Contract, the Contractor shall stop all work and notify the Contract Administrator immediately. Removal of hazardous materials shall be dealt with via a Contract Change Order or by the City, and the Contractor shall await further instruction by the Contract Administrator.

E7. MISCELLANEOUS

- E7.1 The Contractor shall provide all materials, fabrications, finishes, temporary installation, documentation, shop drawings, means and methods necessary to fully install all of the new works identified on the contract drawings in a safe manner, fit-for-purpose intended. The description of work provided herein is intended to be a general description of work activities, and is not intended to be an exhaustive listing of all tasks necessary to complete the scope of installations given on the drawings or specifications.
- E7.2 Exercise care where cutting holes in existing concrete elements so as not to damage existing reinforcing.
- (a) For reinforced concrete floors, locate existing reinforcing utilizing a reinforcing bar locator and mark out on the surface of the concrete prior to cutting.
 - (i) Mark the location of the proposed hole and all adjacent rebar.
 - (ii) Obtain approval from the Contract Administrator prior to cutting.
- E7.3 The Contractor shall exercise care where installing anchors into existing concrete elements so as not to damage existing reinforcing. All anchors shall be installed utilizing carbide tip drill bits. The existing reinforcing shall be located utilizing a reinforcing bar locator and marked out on the surface of the concrete. The drill holes shall be advanced to the required depth for installation of anchors. Should reinforcement be encountered while drilling, terminate the hole and reposition to clear the reinforcement. Do not use core bits that can easily intercept and damage/cut the reinforcing during drilling.
- E7.4 The Contractor shall abide by the Arc Flash PPE requirements of CSA-Z462, Workplace Electrical Safety, and the arc flash labels on existing facility equipment.

- E7.5 Wire nuts
- (a) Wire nuts are not permitted in conduit bodies,
 - (b) Wire nuts are permitted in junction boxes for lighting and receptacle wiring only, and
 - (c) Wire nuts are not permitted for any automation or HVAC wiring.
- E7.6 All conduit routes shall be approved by the Contract Administrator prior to installation of new conduit.

E8. SECURITY

- E8.1 The Contractor is responsible for all material and equipment stored on the site once that material has been received by the Contractor.
- E8.2 Provide a chain-link fence around the construction site and lock after working hours. Supply five (5) copies of the key to the City.
- E8.3 The Contractor is responsible for ensuring the security of the pumping station.
- E8.4 Provide and pay for responsible security personnel to guard the site and contents of site after working hours whenever:
- (a) The pumping station or any associated piece of equipment is not locked and fully secure; or
 - (b) Temporary bypass pumping that is active and not contained within the Contractor's chain-link fence around the construction site.
- E8.5 Costs for security shall be considered incidental to the Contract Work and shall be done at the Contractor's expense.

E9. SALVAGE

- E9.1 All salvaged equipment and materials as determined by the Contract Administrator shall remain property of the City unless specifically noted otherwise. The Contractor shall deliver salvaged equipment and materials to the City of Winnipeg's "Y Yard" outdoor storage compound located at the North East corner of the intersection of Dugald Road and Van Bellegham Avenue, Winnipeg, Manitoba.
- (a) The two (2) existing pumping units, consisting of pumps and motors, shall be salvaged and delivered by the Contractor to the City's "Y Yard".
- E9.2 The Contractor shall notify the Contract Administrator at least 48 hours prior to delivery of salvaged equipment to allow for arrangements to be made to receive the salvaged equipment. All deliveries shall be made between 8:00 am and 3:30 pm on Business days.
- E9.3 The Contractor shall remove and haul all rejected salvage from the site and legally dispose of it.
- E9.4 Removal and delivery of salvageable and non-salvageable equipment and material shall be considered incidental to the Contract Work and no additional payment will be made for such Work.

E10. DANGEROUS WORK CONDITIONS

- E10.1 Further to clause C 6.26 of the General Conditions, the Contractor shall be aware that underground chambers, manholes, and sewers are considered a confined space and shall follow the "Guidelines for confined Entry Work" as published by the Manitoba Workplace Safety and Health Division.
- E10.2 The Contractor shall be aware of the potential hazards that can be encountered in underground chambers, manholes and sewers such as explosive gases, toxic gases and oxygen deficiency. The Contractor's Safe Work Plan should address these issues.

- E10.3 The air in a confined space must be tested before entry and continuously during the time that personnel are inside the space. Equipment for continuous monitoring of gases must be explosion-proof and equipped with a visible and audible alarm. The principal tests are for oxygen deficiency, explosion range and toxic gases. Testing equipment must be calibrated in accordance with manufacturer's specifications.
- (a) The Contractor is responsible for all testing requirements.
- E10.4 The Contractor shall ventilate all confined spaces including underground chambers, tunnels, pipes and shafts as required and approved by the Manitoba Workplace Safety and Health Act (the "Act"). If no ventilation is supplied, a worker must wear a respirator or supplied air to enter the confined space.
- E10.5 The Contractor shall provide a photo-ionization detector (PID) and toxic gas detector on site at all times to monitor potential hydrocarbon vapours and hydrogen sulphide in the confined spaces. The gas detector and safety equipment conforming to the Act shall be made available to the Contract Administrator for his use during inspections.
- E10.6 The Contract Administrator may issue a stop work order to the Contractor if the above guidelines are not being followed. The Contractor shall not resume operations until the Contract Administrator is satisfied the Contractor is following the appropriate procedures. The Contractor shall have no claim for extra time or costs due to the stop work order for not following these safety guidelines.
- E10.7 Scaffolding will be required to work at high elevations, such as the upper space of the wetwell level.
- E11. TEMPORARY USE OF CITY EQUIPMENT**
- E11.1 City facilities, systems and equipment shall not be used during construction without the Contract Administrator's written permission. The Contract Administrator reserves the right to withdraw said permission if, in his opinion, proper care and maintenance are not provided.
- E12. EXISTING PUMPING STATION OPERATION DURING CONSTRUCTION**
- E12.1 The facilities related to the Work are critical to dewatering public roadway underpasses for the City of Winnipeg. Under no condition shall the Station's pumping be shut down without prior permission from the Contract Administrator.
- E12.2 The Contractor is advised that the Station's pumps will only be allowed to be taken out of operation after approximately November 15, 2021, once the weather is consistently below freezing, and after the Contractor's schedule of activities to complete the Work is approved by the Contract Administrator. The Contractor shall plan his construction activities to allow for the minimum amount of disruption time to normal operating status of the Station.
- (a) Work at the sites may begin prior to November 15, 2021 as long as the operation of the underpass pumps is not affected, such as construction of the generator building addition.
- E12.3 The pumping equipment at the Station shall be put back into service on or prior February 28, 2022. Under no circumstance shall the Station pumps be allowed to remain out of service after this date as an early snow melt or rainfall presents the risk of flooding the underpasses.
- E12.4 The Contractor shall cooperate with and provide full access at all times for City personnel to carry out maintenance and operational duties.
- (a) No additional payments will be made for providing access to City forces on the site or any potential affect City crews might have on the Contractor's work.

E13. SHUTDOWN OF THE PUMPING STATION

- E13.1 All shutdowns must be reviewed and approved by the Contract Administrator prior to the shutdowns. Prepare and submit shutdown plans to the Contract Administrator a minimum of 48 hours prior to each proposed shutdown.
- E13.2 Sequence work such that a minimum amount of shut-down time at each Station is used.
- E13.3 Operation of all City-owned equipment will be by the City unless prior approval is given to the Contractor.
- E13.4 The Contractor shall visually monitor for the presence of water at the underpasses and immediately inform the Contract Administrator if water is seen pooling up at an underpass.
- E13.5 Water and Waste Department personnel will be available to assist the Contractor for temporary shutdown of the pumping operations to facilitate completion of the Work.
- E13.6 There will be no charge to shutdown the pumping station to facilitate completion of the Work.
- E13.7 If an unreasonable number of station shutdowns are required to complete the Work due to the Contractor's method of operation, a fee of \$300.00 per hour for Collection System personnel may be charged to the Contractor and deducted from future Progress Payments.
- E13.8 The Contract Administrator reserves the right to cancel a planned station shutdown if in his opinion, flow conditions or the weather forecast would not allow for a shutdown of sufficient duration to complete the work activity. The Contractor shall reschedule the work activity to a more suitable time.

E14. WETWELL MONITORING AND DEWATERING

- E14.1 Dewatering of the wetwell at the pumping station will be required to facilitate the pump replacement or other work activities. The Contractor is fully responsible for providing all equipment to dewater the wetwells. The City will not be assisting with dewatering activities. The Contractor is required to submit a dewatering plan, for review and approval, to the Contract Administrator prior to the commencement of construction.
- E14.2 The existing pumping station has a remote terminal unit (RTU) that monitors the wetwell level. The RTU panel is equipped with communications devices (cellular and/or dialup modems) so that the City is able to remotely monitor the wetwell level from their Wastewater Collections Control Centre.
- E14.2.1 Since the scope of work includes demolition of the existing electrical distribution and controls, the Contractor is required to provide temporary 120V distribution to power the RTU panel for monitoring the wetwell level. The RTU panel may be relocated so that it is not in the way of construction activities. The wetwell level is monitored by a conductive level probe that will need to be reconnected to the RTU panel if the RTU panel is relocated.
- E14.3 Due to the possibility of a mid-winter rainstorm or a watermain break only one (1) pump shall be allowed to be taken out of service at a time so that the other pump can be used to dewater the wetwell.
- (a) Since the electrical distribution and controls will be out of service during the winter months, the Contractor is responsible for providing temporary 600V distribution, fed from the existing 600V service, and utilize the existing pump starter(s), to operate one of the pumps when required. The Contractor will be required to relocate the existing pump starter panel to make room for the new motor control centre, therefore temporary cabling from the existing starters to the new pump motors will be required.
- (b) It is anticipated that cranes will be required to remove and install the station pumps. The Contractor is advised to include costs for multiple craning operations since only one pump will be allowed to be taken out of service at a time at each Station.

E14.4 The Contractor is responsible for providing a means for dewatering the wetwell to facilitate work activities such as installing the new pumps. Only one station pump is permitted to be taken out of service at a time, therefore the other station pump may be used for dewatering. However, due to the inherent limitations of the station pumps they cannot fully dewater the wetwell. The Contractor is responsible dewatering the remaining volume.

E14.5 The Contractor shall provide periodic visual monitoring of the underpasses to monitor for flooding conditions and advise the Contract Administrator and City of Winnipeg immediately upon observance of a flooded underpass.

E15. EXCAVATION

E15.1 All excavation work to be in accordance with CW 2030 and 3170.

E15.2 Back slope shall be 1:1 or 1:3 as required, suitable for the soil type and stability encountered. All excavation works shall be in accordance with City of Winnipeg and Province of Manitoba guidelines and regulations.

E15.3 Place bedding and fill in accordance with CW 2030.

E15.4 Hydrovac excavation is required for the removal of material in the vicinity of existing sewers and building services.

E15.5 All working areas below grade shall be kept adequately and securely supported during and after excavation until the shoring and bracing is in place to prevent loss of ground and injury to any person from falling or caving material.

E16. MOBILIZATION AND DEMOBILIZATION

E16.1 Mobilization and demobilization will include but not be limited to start-up costs, equipment setup and removal, storage facilities set-up and removal and site cleanup.

E16.2 Refer to Specification 01 52 00 Construction Facilities, and all other specifications that may apply.

E16.3 Measurement and Payment

E16.3.1 A maximum of 50% of Form B, "Mobilization and Demobilization", or 5% of the Total Bid Price, whichever is less, may be submitted for progress payment upon mobilization. The remaining amount will be paid out upon demobilization.

E16.3.2 The Contractor is eligible for payment of mobilization services when the Contract Administrator is satisfied that:

- (a) The Contractor has met all the Commencement requirements specified in D15.
- (b) The contractor has mobilized equipment and initiated work on Site.

E16.3.3 The Contractor is eligible for payment of demobilization services when the Contract Administrator is satisfied that:

- (a) The Contractor has achieved Substantial Performance;
- (b) the Contractor has demobilized; and
- (c) the Contractor has restored and cleaned up the site.

E17. CIVIL AND LANDSCAPING WORK

E17.1 Site Grading

E17.1.1 Finish grade to be flush to the top of existing concrete/new sidewalk adjacent the west and side of the existing building, and sloped to provide positive drainage away from the existing building and the new generator building addition.

E17.2 Site Restoration

- E17.2.1 Restoration of all existing surface areas disturbed by construction activities including but not limited to; excavation for new building addition and services relocations, operation of construction equipment, placement of field office or equipment trailer, snow clearing and where construction materials were stockpiled, shall be restored as follows:
- (a) Grassed areas: sodding using imported topsoil in accordance with CW 3510.
 - (b) Gravel surfaces: in accordance with CW 3150.
 - (c) Asphalt surfaces: match existing base course and asphalt thickness or provide a minimum of 150 millimetres of base course and 75 millimetres of Type 1A Asphaltic concrete whichever is greater, in accordance with CW 3410.
 - (d) Pavement slabs in accordance with CW 3310.
 - (e) Interlocking pavement stones: CW 3330.
 - (f) All private property adjacent the site disturbed by construction activities relating to the work to be restored to its pre-construction condition to the satisfaction of the Contract Administrator.

E17.3 Measurement and Payment:

- E17.3.1 Payment will be based on Form B, "Civil and Landscaping Work", as accepted and measured by the Contract Administrator.
- (a) A maximum of 95% may be submitted for progress payments prior to the total completion of the associated services, including the provision of as-built drawing mark-ups and O&M manuals.

E18. STRUCTURAL AND ARCHITECTURAL WORK

- E18.1 Replacement roof assembly, including framing, sheathing, roof panels, fascia, soffits and eavestroughs (Existing Building)
- E18.1.1 Remove and properly dispose of all roof assembly materials (staged demo, with temporary closure and referenced below).
 - E18.1.2 Properly modify roof south overhang to provide clearance for installation of new piling for standby generator building addition. Temporary attic closure at south end is required and to be provided by contractor.
 - E18.1.3 Remove and salvage existing roof hatch covers for reuse after roof assembly replacement.
 - E18.1.4 Temporary supports for existing walls to be provided by contractor until replacement roof assembly is constructed.
 - E18.1.5 Construct new roof over existing in concert with new standby generator building addition construction. Install new trusses, sheathing, membrane barriers, insulation, ceiling, prefinished metal roofing system, fascia, soffits, trims, eavestrough & downspouts, etc in a colour and profile approved by the Contract Administrator. Install salvaged roof hatches. Install all to provide a weather-tight assembly allowing for differential movement between the existing building and the new standby generator building.
- E18.2 New Mechanical Openings (Existing Building)
- E18.2.1 Neatly provide required openings through the existing masonry block as indicated.
 - E18.2.2 Repair masonry as required.
 - E18.2.3 Supply and install framing for mechanical openings as indicated, provide weather-tight assembly.
- E18.3 Interior Architectural Works (Existing Building)
- E18.3.1 Clean, prime and paint main floor existing walls and new ceiling with satin white.

E18.4 Interior Structural Works (Existing Building)

- E18.4.1 Demolish and dispose of existing engine pad, using care not to damage structural floor. Cut hooks flush to floor surface if present. Restore area as needed.
- E18.4.2 Form and construct new equipment pads.
- E18.4.3 Drill and cut new mechanical openings through floor. Locate existing rebar via scanning and adjust openings to suit to avoid.
- E18.4.4 Fill abandoned floor openings.
- E18.4.5 Install new davit socket.

E18.5 Exterior Architectural Works (Existing Building)

- E18.5.1 Clean the exterior masonry of paints and impurities and apply anti-graffiti coating in accordance with the Manufacturer's written instructions. NOTE: the existing South wall is not included.

E18.6 Construction of the new Standby Generator Building Addition

- E18.6.1 Mark the location of all underground structures, sewers, pipes and utilities. Wait for the City to confirm the locations. Do not proceed with construction prior to receiving approval from the Contract Administrator.
- E18.6.2 Perform removals and relocations necessary to begin construction.
- E18.6.3 Excavate site in preparation of construction of new foundation, and properly dispose of excavated material off the site.
- E18.6.4 Install new (cast-in-place reinforced concrete) piles, grade beams, and structural slab.
- E18.6.5 Install new masonry wall assembly.
- E18.6.6 Install new prefabricated wooden roof trusses.
- E18.6.7 Install new plywood roof sheathing and membrane.
- E18.6.8 Install new prefinished metal roofing system in a colour and profile approved by the Contract Administrator. Install to provide a weather-tight assembly, allowing for differential movement between the existing building and the emergency generator enclosure.
- E18.6.9 Install new prefinished siding on the gable ends in a colour and profile approved by the Contract Administrator.
- E18.6.10 Install new prefinished fascia and soffits.
- E18.6.11 Install eavestroughs incorporating combined drainage requirements (including but not limited to downspouts, splash pads) for the existing building and the new emergency generator addition.
- E18.6.12 Install new stud framing and plywood sheathing. Prime and paint ANSI 70 grey.
- E18.6.13 Install new batt insulation, vapour barrier and plywood ceiling. Prime and paint ANSI 70 grey.
- E18.6.14 Clean the masonry of paints and impurities and apply anti-graffiti coating in accordance with the Manufacturer's written instructions.
- E18.6.15 Install new door and louver framing in accordance with the drawings. Install to provide a weather-tight assembly.
- E18.6.16 Install new louvers (refer to Mechanical).
- E18.6.17 Install gravel pad on east side of building addition outside the genset exhaust louvre.
- E18.6.18 Install sidewalk on south side of building addition between exit door and existing parking area.

E18.7 Measurement and Payment:

E18.7.1 Payment will be based on Form B, "Structural and Architectural Work", as accepted and measured by the Contract Administrator.

- (a) A maximum of 95% may be submitted for progress payments prior to the total completion of the associated services, including the provision of as-built drawing mark-ups and O&M manuals.

E19. PROCESS MECHANICAL WORK

E19.1 Description

E19.1.1 This Specification covers the process pumps and associated motors and seal water system.

E19.1.2 The Contractor shall remove and salvage the existing pumping units, motors, equipment and materials as required and install new pumping units, piping, equipment and materials as shown on the drawings or as indicated by the Contract Administrator.

- (a) Only one pump may be removed/replaced at a time, leaving the other pump operational.

E19.1.3 Mechanical drawings and specifications indicate general layout only. The Contractor is responsible for confirming all dimensions prior to manufacture.

E19.2 Materials

E19.2.1 Pumping Units

- (a) Two (2) pumps and motors in accordance with specification 33 41 01.

E19.2.2 Miscellaneous Metal Fabrications in accordance with specification 05 50 00.

E19.2.3 Fasteners

- (a) Nuts and bolts shall be ASTM A276, Type 316 stainless steel. Thread-on bolts to extend past nut a minimum of 6 millimetres.
- (b) Anchors shall be Kwik-bolt or Rawl Stud ASTM A276, Type 316 stainless steel. Embedment depth and size, where not shown on the Drawings, to be as required for load being carried or resisted.

E19.2.4 Gaskets

- (a) Flange gaskets shall be full faced rubberized cloth gaskets, 3mm in thickness.
- (b) Rubber gaskets shall conform to AWWA C111, Standard for Rubber-gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

E19.2.5 Provide PVC-DWV drainage piping system from pump seal water leakage connections and backflow preventer drain to the wet well as shown on the drawings.

E19.2.6 Paint

- (a) As per Section 09 91 23.

E19.2.7 PVC Piping and Fittings:

- (a) Schedule 80 PVC piping and fittings to ASTM D1785 - Standards for PVC Plastic Pipe.
- (b) PVC Ball Valves (for use with PVC pipe only): shall have a PVC body conforming to the current ASTM Standard D1784, Standard for PVC Rigid PVC compound; ASTM D1785, Standard for PVC Plastic Pipe; ASTM D2467, Standard for PVC Pipe Fittings (Schedule 80); and shall have an EPDM or Teflon seat, a hand operating lever and integral threaded union joints.
- (c) PVC Sight Glass Pipe: Transparent PVC pipe, 50mm (2") diameter.
- (d) Solvent welded joints: Primer and solvent cement shall conform to the current ASTM

E19.3 Construction Methods

E19.3.1 General

- (a) Install the new station pumping equipment as indicated in this specification and shown on the Drawings. Make no changes, revisions or substitutions to the layout without obtaining written approval from the Contractor Administrator.

E19.3.2 Existing Pump Level Controls and Alarms

- (a) Maintain and protect existing pump controls and float type alarms, located in the wet well or in the other areas of the Station, during the execution of the work until all the new equipment is ready for installation.

E19.3.3 Cleanup

- (a) Cleanup construction debris and materials inside the Station, including the wet-well at the end of each day and before pumping station operation is restored.

E19.4 Measurement and Payment:

E19.4.1 Payment will be based on Form B, "Process Mechanical Work", as accepted and measured by the Contract Administrator.

- (a) A maximum of 95% may be submitted for progress payments prior to the total completion of the associated services, including the provision of as-built drawing mark-ups and O&M manuals.

E20. BUILDING MECHANICAL WORK

E20.1 Provide new ventilation, and heating system in accordance with the drawings and specifications, including but not limited to the following:

- (a) Supply and installation of new outdoor air and exhaust openings complete with new louvers.
- (b) Supply and installation of ductwork, and dampers.
- (c) Supply and installation of new fans and filter sections, and electric duct heating coils.
- (d) Supply and installation of new electric unit heaters.

E20.2 Supply and installation of a fire extinguisher(s) as shown on the drawings.

E20.3 Coordinate with Manitoba Hydro for the modification of the existing gas service to a 34.5 kPa Natural gas service.

- (a) All costs from Manitoba Hydro will be billed directly to the City, not the Contractor.

E20.4 Provide natural gas piping and required appurtenances from new Manitoba Hydro meter outside building to the new generator.

E20.5 The Contractor is responsible for paying all permit and inspection fees, including those for "Special Inspections" required by the Office of the Fire Commissioner.

E20.6 Relocation of Water Service

- (a) The existing water service shall be demolished, and a new service installed to provide clearance for the new generator building. The City will provide a new water meter to be installed by the Contractor. The Contractor is responsible to supply and install a reduced pressure backflow preventer to Section 224201 and as shown on the drawings

E20.7 Provide and install new domestic water piping for hose bibs and pump seal water system.

E20.8 Measurement and Payment:

E20.8.1 Payment will be based on Form B, "Building Mechanical Work", as accepted and measured by the Contract Administrator.

- (a) A maximum of 95% may be submitted for progress payments prior to the total completion of the associated services, including the provision of as-built drawing mark-ups and O&M manuals.

E21. ELECTRICAL WORK

- E21.1 Provide demolition of the existing electrical service equipment including metering enclosure, cabling, and conduit. In-fill existing electrical service exterior wall penetration(s).
- E21.2 Demolish existing station electrical distribution including the 600V distribution panel, pump motor starters, 120/240V transformer, and lighting panel along with associated cabling, conduit, pull boxes, and junction boxes.
- E21.3 Provide demolition of existing lighting, light switches, receptacles, cabling, conduit, pull boxes, junction boxes, and all other items as indicated on the drawings and specifications.
- E21.4 Provide demolition of existing motor starter(s), cabling, and controls associated with the HVAC system.
- E21.5 Provide demolition of the existing cabling, conduit, and electrical components associated with the natural gas engine and controls.
- E21.6 Disconnect and demolish existing telephone service cabling and interior telephone cabling. Coordinate with Bell/MTS for installation of new telephone service to the building. Provide new telephone cabling within the station to the new PLC panel. Refer to drawing 1-0304U-E0017-001 for telephone service cabling routing and requirements.
 - (a) All costs from Bell/MTS will be billed directly to the City, not the Contractor.
- E21.7 Coordinate with Manitoba Hydro to facilitate a modification to the existing electrical service. The modification is required to provide additional vertical clearance near the hatches on the north side of the building. Refer to drawing 1-0304U-E0017-001.
 - (a) The new service pole is to be supplied and installed by the Contractor, as this will be a customer-owned pole.
 - (b) All costs from Manitoba Hydro will be billed directly to the City, not the Contractor.
- E21.8 Provide and install new 600V CSTE, CSTE fibreglass pad, and service cabling. Provide man-lift or scaffolding as required to access portion of cable on the pole. Once the new cables are installed in the trench, and prior to backfilling, advise the Contract Administrator to allow for inspection of the trenches and cables.
- E21.9 Provide and install new primary and secondary grounding and bonding, including but not limited to four (4) new ground rods around the CSTE.
- E21.10 Provide and install new bollards around the CSTE. Bond the bollards to the grounding system.
- E21.11 Provide new 600V MCCs, 120/240V transformer, 120/240V panelboard, lighting, light switches, emergency lighting system, receptacles, conduit, pull boxes, junction boxes, telephone cabling, grounding and bonding cabling, 600V standby natural gas generator, automatic transfer switch, carbon monoxide detector, and all other items as indicated on the drawings and specifications.
 - (a) The Contractor is responsible for coordinating with the generator supplier to determine circuit requirements for shore power. The Contractor is responsible for providing the required circuit breaker(s) in lighting panel PNL-U73E for these circuits. No additional payment will be made for installation of additional required power circuits that are not already shown on the drawings.
- E21.12 Provide temporary power and lighting to facilitate construction activities.
 - (a) Use of the existing electrical distribution equipment (transformer and panelboard, etc.) for temporary power is permitted.

- E21.13 Setup, test, and commission all new electrical equipment, including power meters, circuit breakers, and motor starters.
- E21.14 The Contract Administrator will perform the electrical coordination and arc flash studies. The Contractor will be responsible for setting the circuit breaker trip settings as directed by the Contract Administrator.
- (a) The Contractor is not responsible for performing an arc flash or coordination study.
- E21.15 The Contractor is responsible for paying all permit and inspection fees, including those for "Special Inspections" required by the Office of the Fire Commissioner.
- E21.16 Measurement and Payment:
- E21.16.1 Payment will be based on Form B, "Electrical Work", as accepted and measured by the Contract Administrator.
- (a) A maximum of 95% may be submitted for progress payments prior to the total completion of the associated services, including the provision of as-built drawing mark-ups and O&M manuals.

E22. AUTOMATION WORK

- E22.1 Demolish the existing relay-based automation control panel, Remote Terminal Unit (RTU) panel, wetwell level switches, conductive level probe, and other items as per the drawings and specifications.
- (a) The existing annunciator panel and RTU panel shall remain in service until the new control panel (CP-U81) is commissioned such that the City is able to monitor critical station alarms (eg. high wetwell level). The annunciator panel and RTU panel may be relocated to a temporary location to facilitate construction activities. The Contractor is responsible for providing power to the annunciator panel and RTU panel during construction.
- E22.2 Supply and install the new control panel, CP-U81. Note that the cellular modem and antenna is to be supplied by the City.
- E22.3 Program and configure the PLC and HMI as per the included Functional Requirements Specification.
- E22.4 Conduct a Factory Acceptance Test (FAT) in accordance with the specifications. The Contract Administrator will be present for the FAT. Coordinate with the Contract Administrator to establish the date and time of the FAT.
- E22.5 Provide and install new high-high level float switch in the wetwell.
- E22.6 Supply and install one (1) ultrasonic based level transmitter and sensor. Transmitter to be door-mounted on control panel CP-U81. Sensor is ceiling-mounted in the wetwell.
- E22.7 Supply and install a methane (natural gas) detector, interlocked with the standby generator to shutdown the generator upon a gas alarm.
- E22.8 Supply and install other instrumentation as shown on the drawings and specifications.
- E22.9 Verification of status and alarm signals from all equipment including but not limited to the pump starters, instrumentation, damper actuators, generator, and transfer switch.
- E22.10 Supply and install the ventilation controls, including damper actuators, temperature controllers, sensors, transmitters, fan filter differential pressure switch, Ventilation Panel (JBA-U86), and associated junction boxes and cabling.
- E22.11 Supply and install all miscellaneous automation equipment, cabling, and conduit as indicated on the drawings.

- E22.12 Configure and test all instruments, pump controllers (soft-starters), and HVAC controllers. Make adjustments as directed by the Contract Administration. Record all instrument and controller parameters on test forms, and include the geodetic elevation of all level sensors (i.e. float switches and ultrasonic level sensor). Provide markups on the Piping & Instrumentation Diagrams (P&IDs) with all level sensor elevations.
- E22.13 Configure and test all PLC inputs and outputs by operating field devices. The Contractor is responsible for testing alarm and status signals back to the SCADA system at the City's Wastewater Collections Control Centre. This SCADA system monitors the Station PLC via the cellular and dial-up connections. Coordinate a date and time with the Contract Administrator for testing of I/O signals back to the City's SCADA system, with a minimum of 48 hours notice.
- E22.14 Test all equipment operation and interlocks. This includes, but is not limited to, operation of the HVAC controls, generator controls, and pump controls.
- E22.15 The Contractor is responsible for submitting a detailed Commissioning Plan to the Contract Administrator for review and approval prior to commissioning. The Commissioning Plan shall contain an itemized list of all equipment, and the specific steps and tasks that will be undertaken to demonstrate proper operation and interlocking of each piece of equipment. The Contractor is required to prepare test sheets and checklists, which are filled out during commissioning.
- E22.16 Measurement and Payment:
- E22.16.1 Payment will be based on Form B, "Automation Work", as accepted and measured by the Contract Administrator.
- (a) A maximum of 95% may be submitted for progress payments prior to the total completion of the associated services, including the provision of as-built drawing mark-ups and O&M manuals.