



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 16-2010

**BRANCH I AQUEDUCT VALVE CHAMBER AT MCPHILLIPS STREET PUMPING
STATION**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 BRANCH I AQUEDUCT VALVE CHAMBER AT MCPHILLIPS STREET PUMPING STATION

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, March 4, 2010.

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

B2.3 The 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 from 9:00 AM to 11:00 AM on February 23, 2010 to provide Bidders access to the Site. The site is located at the intersection of Logan Avenue and Yeomans Street.

B3.2 The Bidder is advised that portions of the Works are in secured compounds and locked structures not generally accessible to the public.

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.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D4.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, 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 Bid Opportunity 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 Bid Opportunity 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.

B5. ADDENDA

B5.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.

B5.2 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.

- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.
- B6. SUBSTITUTES**
- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 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.
- B6.4 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.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his 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.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his 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 B15.

- B6.9 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.
- B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.6 deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B15.1(a).

B7. BID COMPONENTS

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
 - (c) Bid Security
 - (i) Form G1: Bid Bond and Agreement to Bond, or Form G2: Irrevocable Standby Letter of Credit and Undertaking, or a certified cheque or draft;
- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the 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, to constitute a responsive Bid.
- B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B15.1(a).
- B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.8 Bids shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B8. BID

- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, his 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 own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his 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 and the corporate seal, if the corporation has one, should be affixed;
 - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B8.5 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.

B9. PRICES

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10. QUALIFICATION

- B10.1 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.
- B10.2 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 at <http://www.winnipeg.ca/matmgt/debar.stm>
- B10.3 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);

B10.4 Further to B10.3(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) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment 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>)

B10.5 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.

B10.6 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.

B11. BID SECURITY

B11.1 The Bidder shall provide bid security in the form of:

- (a) a 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 the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
- (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
- (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B11.1.1 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.

B11.1.2 All signatures on bid securities shall be original.

B11.1.3 The Bidder shall sign the Bid Bond.

B11.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B11.2 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 executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B11.3 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 Bid Opportunity.

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

B12.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.

B12.1.1 Bidders or their representatives may attend.

B12.2 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 Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/default.stm>

B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/default.stm>

B12.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B13. IRREVOCABLE BID

B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.

B13.2 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 executed and the performance security 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.

B14. WITHDRAWAL OF BIDS

B14.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B14.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are

imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B15. EVALUATION OF BIDS

B15.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation there from (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B15.2 Further to B15.1(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.

B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.

B15.4 Further to B15.1(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.

B15.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B15.4.2 Further to B15.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B16. AWARD OF CONTRACT

B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B16.2 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 responsible and qualified, and the Bids are determined to be responsive.

B16.2.1 Without limiting the generality of B16.2, 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.

B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B15.

B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) 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 Bid Opportunity 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. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of construction of a new valve chamber on the Branch I Aqueduct, installation of owner supplied equipment, reconnection of pipelines, site work and restoration.

D2.2 The major components of the Work are as follows:

- (a) Excavation and shoring
- (b) Demolition of portions of abandon reservoir structure
- (c) Construction of cast-in-place concrete valve chamber substructure
- (d) Installation of piping and equipment
- (e) Installation of owner supplied butterfly valves and flow meter
- (f) Construction of superstructure
- (g) Supply and installation of electrical, mechanical and control equipment
- (h) Relocation and reconnection of 1220 millimetre Aqueduct pipelines
- (i) Site grading, landscaping and restoration
- (j) Abandonment of existing pipe and structures
- (k) Concrete and asphalt pavement restoration

D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

- (a) "AWWA" means American Waterworks Association
- (b) "CSA" means Canadian standard Association
- (c) "NSF" means National Sanitation Foundation
- (d) "ASTM" means American Society for Testing and Materials; and
- (e) "CSA" means Canadian Standards Association

D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is AECOM Canada Ltd., represented by:

Marvin McDonald, C.E.T.
Project Manager
99 Commerce Drive, Winnipeg Manitoba
Telephone No. (204) 928-7422
Facsimile No. (204) 284-2040

D4.2 At the pre-construction meeting, Mr. McDonald will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D5. CONTRACTOR'S SUPERVISOR

- D5.1 At the pre-construction meeting, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D6. NOTICES

- D6.1 Except as provided for in C23.2.2, 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.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D4.1.
- D6.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg
Chief Financial Officer
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: (204) 949-1174

- D6.4 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 address or facsimile number:

The City of Winnipeg
Internal Services Department
Legal Services Division
Attn: City Solicitor
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1
Facsimile No.: (204) 947-9155

D7. FURNISHING OF DOCUMENTS

- D7.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

SUBMISSIONS

D8. AUTHORITY TO CARRY ON BUSINESS

- D8.1 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.

D9. SAFE WORK PLAN

- D9.1 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.
- D9.2 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/matmgmt/Safety/default.stm>

D10. INSURANCE

- D10.1 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 and AECOM Canada Ltd. 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) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
 - (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.
- D10.2 Deductibles shall be borne by the Contractor.
- D10.3 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.
- D10.4 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.

D11. PERFORMANCE SECURITY

- D11.1 The Contractor shall provide and maintain performance security 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; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D11.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D11.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent 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.

D12. SUBCONTRACTOR LIST

D12.1 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.

D13. DETAILED WORK SCHEDULE

D13.1 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.

D13.2 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;
- all acceptable to the Contract Administrator.

D13.3 Further to D13.2(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) Commencement
- (b) Site Preparation, demolition and excavation
- (c) Construction of Substructure
- (d) Installation of chamber piping
- (e) Installation of Owner Supplied Equipment (Delivery Date May 10, 2010, Bid Opportunity 831-2010)
- (f) Construction of Building Superstructure
- (g) Electrical Equipment
- (h) Mechanical Equipment
- (i) Construction of Aqueduct external piping
- (j) Testing and disinfection
- (k) Connection to existing Aqueducts (Maximum Duration 5 Calendar Days)
- (l) Abandonment and demolition of existing structures
- (m) Site Grading, landscaping and restoration
- (n) Pavement Restoration
- (o) Substantial Performance
- (p) Total Performance

D13.4 Further to D13.2(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. SECURITY CLEARANCE

D14.1 Each individual proposed to perform the following portions of the Work:

- (a) any Work on private property;
- (b) any Work within City facilities other than:
 - (i) an underground structure such as a manhole;
 - (ii) in areas and at times normally open to the public;
- (c) communicating with residents and homeowners in person or by telephone;
- (d) Work within pumping stations;

shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence.

- D14.2 Prior to the commencement of any Work specified in D14.1, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform such Work.
- D14.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person, will not be permitted to perform any Work specified in D14.1.
- D14.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.
- D14.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work specified in D14.1.

SCHEDULE OF WORK

D15. COMMENCEMENT

- D15.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent 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 D8;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D9;
 - (iv) evidence of the insurance specified in D10;
 - (v) the performance security specified in D11;
 - (vi) the Subcontractor list specified in D12;
 - (vii) the detailed work schedule specified in D13; and
 - (viii) the security clearances 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.
- D15.2.1 Further to D15.2(a)(viii), subject to all other requirements being met, the Contractor may commence Work not requiring access to City facilities prior to submitting the security clearances.
- D15.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D15.4 The City intends to award this Contract by April 5, 2010

D15.4.1 If the actual date of award is later than the intended date, the dates specified for commencement, Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D16. SCHEDULE RESTRICTIONS

D16.1 Aqueduct Shutdowns

- (a) Aqueduct shutdown periods are scheduled based on a number of factors including routine maintenance and repair work along the Aqueduct, water demand, weather, reservoir operation and other factors. The City shall endeavour to make the specified time periods available to the Contractor to schedule his work requiring removal of the Aqueduct from service, without limiting the City's control over the operation of the Aqueduct to complete other work, maintain adequate water supply and storage of water and maintain the integrity of the infrastructure. The City shall reserve the right to cancel and/or delay these schedule dates at any time, due to any circumstances that could adversely affect the Aqueducts or water supply, including but not limited to high water demand, abnormal weather, failures of related water system components and/or security concerns.
- (b) The Bidder shall note that portions of the Work involving removal and replacement of the Branch I Aqueduct can only be carried out during the time periods prior to May 21, 2010 or after September 17, 2010, unless amended as specified in D16.1(a). The Contractor shall note the following restrictions applicable during this period:
 - (i) The Branch I Aqueduct will not be taken out of service unless all precast pipe, valves, connectors, fittings and miscellaneous components required to complete the Branch I installation are on site, tested, and pre-fitted, to ensure that the Branch I pipe can be restored to service within the timeframe noted in D16.2.
 - (ii) The Contractor shall employ 24 hour per day, 7 days per week scheduling during this period.
- (c) The Contractor shall provide a minimum of ten (10) Working Days notice to the Contract Administrator, in writing, of requiring an Aqueduct shutdown. The City will endeavour to schedule the shutdown as requested, pursuant to D16.1(a).
- (d) Further to D16.1(a), the Aqueduct shutdown is limited to a maximum of five (5) Calendar Days, measured from the completion of draining the existing pipelines by City forces to turn over of the system back to the City of Winnipeg for restoration of Aqueduct operation. The Contractor shall endeavour to minimize the required shutdown period and complete the reconnection work as expeditiously as possible.

D16.2 Reinstatement of Aqueduct Flow

- (a) At any time during construction, the Contractor must be prepared to reinstate the Branch I Aqueduct to a serviceable condition within 48 hours of receiving written notification. Reconnection of severed sections of the Branch I Aqueduct can be made by utilizing precast pipe components, valves and other appurtenances intended for permanent installation.
- (b) At the completion of the replacement, testing and commissioning the Branch I Aqueduct, flow will be restored to the Aqueduct and it will remain in use for the duration of the project.

D17. WORKING DAYS

D17.1 Further to C1.1(gg), 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.

- D17.2 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.
- D17.3 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.
- D17.4 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.

D18. SUBSTANTIAL PERFORMANCE

- D18.1 The Contractor shall achieve Substantial Performance by October 15, 2010.
- 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 October 29, 2010.
- 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 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) Substantial Performance – one thousand dollars (\$1,500);
 - (b) 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 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.

CONTROL OF WORK

D21. JOB MEETINGS

- D21.1 Regular bi-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.
- D21.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D22. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D22.1 Further to C6.24, 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).

MEASUREMENT AND PAYMENT

D23. PAYMENT

- D23.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D24. WARRANTY

- D24.1 Notwithstanding C13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:
- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use; or
- D24.1.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.
- D24.2 Notwithstanding C13.2 and D24.1, Manufacturer Warrantees as identified in the Specifications shall commence on the date of Total Performance and expire at the end of the periods identified in the specifications.

FORM H1: PERFORMANCE BOND
(See D11)

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

BID OPPORTUNITY NO. 16-2010

BRANCH I AQUEDUCT VALVE CHAMBER AT MCPHILLIPS STREET PUMPING STATION

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: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D11)

(Date)

The City of Winnipeg
Internal Services Department
Legal Services Division
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 16-2010

BRANCH I AQUEDUCT VALVE CHAMBER AT MCPHILLIPS STREET PUMPING STATION

Pursuant to the request of and for the account of our customer,

(Name of Contractor)

(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (1993 Revision), International Chamber of Commerce Publication Number 500.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

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 Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Specification No.</u>	<u>Specification Title</u>
DIVISION 01	GENERAL REQUIREMENTS
01 11 00	Summary of Work
01 29 00	Payment Procedures
01 61 00	Common Product Requirements
01 78 00	Closeout Submittals
01 91 13	General Commissioning (Cx) Requirements
01 91 41	Commissioning Training
DIVISION 03	CONCRETE
03 10 00	Concrete Formwork
03 20 00	Concrete Reinforcement
03 25 00	Concrete Accessories
03 30 00	Cast-in-Place Concrete
DIVISION 04	MASONRY
04 05 00	Masonry Procedures
04 05 12	Mortar and Masonry Grout
04 05 19	Masonry Anchorage and Reinforcing
04 22 00	Concrete Unit Masonry
DIVISION 05	METALS
05 50 00	Metal Fabrications
DIVISION 06	WOOD, PLASTICS AND COMPOSITES
06 10 00	Rough Carpentry
06 17 53	Shop Fabricated Wood Trusses
DIVISION 07	THERMAL AND MOISTURE PROTECTION
07 10 00	Waterproofing
07 21 20	Rigid Insulation
07 21 30	Batt Insulation and Vapour Barrier
07 61 00	Sheet Metal Roofing
07 62 00	Sheet Metal Flashing
07 90 00	Sealants and Caulking

DIVISION 08	OPENINGS
08 11 00	Steel Doors and Frames
08 70 00	Door Hardware
DIVISION 09	FINISHES
09 90 00	Finish Painting - Buildings
DIVISION 23	HEATING, VENTILATING AND AIR CONDITIONING
23 05 00	Common Work Results for HVAC
23 05 13	Common Motor Requirements for HVAC Equipment
23 05 53.01	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 31 13.01	Metal Ducts – Low Pressure to 500 PA
23 33 00	Air Duct Accessories
23 33 15	Dampers – Operating
23 34 25	Packaged Roof and Wall Exhausters
23 37 20	Louvres, Intakes and Vents
23 82 39.01	Unit Heaters – Electric
DIVISION 26	ELECTRICAL
26 05 00	Common Work Results for Electrical
26 05 20	Wire and Box Connectors 0-1000 V
26 05 21	Wires and Cables (0 -1000 V)
26 05 28	Grounding – Secondary
26 05 29	Hangers and Supports for Electrical Systems
26 05 32	Outlet Boxes, Conduit Boxes and Fittings
26 05 34	Conduits, Conduit Fastenings and Conduit Fittings
26 24 17	Panelboards Breaker Type
26 27 26	Wiring Devices
26 28 21	Moulded Case Circuit Breakers
26 28 23	Disconnect Switches – Fused and Non-Fused
26 53 00	Exit Lights
DIVISION 29	INSRUMENTATION AND CONTROLS
29 05 00	Common Work – Instrumentation and Controls
29 10 01	Enclosures
29 15 01	Instrumentation Cable
29 25 01	Transmitters and Indicators
29 30 01	Switches and Relays
29 30 11	Miscellaneous Panel Devices
29 30 21	Power Supplies
29 40 11	PLC I/O Index
29 40 21	Instrumentation Index
29 40 51	Programmable Logic Controllers
29 50 01	Instrumentation Specification Sheets
DIVISION 31	EARTHWORK
31 22 13	Rough Grading
31 23 11	Excavating and Backfilling for Structures
31 23 33.01	Excavating, Trenching and Backfilling
DIVISION 32	EXTERIOR IMPROVEMENTS
32 93 10	Trees, Shrubs and Ground Cover Planting
DIVISION 33	UTILITIES
33 11 16	Supply and Installation of Feedermain

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
	Cover Sheet and List of Project Drawings
D-11912	Landscaping – Site Layout and Landscaping
D-11913	Civil – Abandonments, Demolition & Temporary Works
D-11914	Civil – Detailed Site Plan
D-11915	Civil – Valve Chamber – Sections & Details 1
D-11916	Civil – Valve Chamber – Sections & Details 2
D-11917	Civil – Miscellaneous Details
D-11918	Architectural – General Notes
D-11919	Architectural – Upper Level & Roof Plans
D-11920	Architectural – Elevations
D-11921	Architectural – Building Sections, Stairs & Wall Section
D-11922	Structural – General Notes
D-11923	Structural – Lower Level & Platform Framing Plans
D-11924	Structural – Upper Level Slabs, Curbs & Upper Level Walls
D-11925	Structural – Roof Framing Plan
D-11926	Structural – Elevations
D-11927	Structural – Building Sections
D-11928	Structural – Building Section & Details
D-11929	Structural – Details
D-11930	Structural – Details
D-11931	Structural – Lower Level Platform & Framing Plan
D-11932	Structural – Standard Details
D-11933	Electrical – General Site Plan
D-11934	Electrical – Lower & Upper Level Floor Plan
D-11935	Electrical – Single Line Diagram & Panel Schedules
D-11936	Electrical – Control Schematics & Loop Diagram
D-11937	Electrical – Control Schematics & Loop Diagram
D-11938	Mechanical – Upper Level

E1.4 The following historic drawings are provided for information only.

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
B-560	Electrical Equipment Building – McPhillips Pumping Sta.
D-509	Arrangement Venturi Meter
D-567	Details of Valve Chamber – McPhillips St. Reservoir
D-568	Reinforcing Steel for Valve Chamber – McPhillips St. Reservoir
5296	Details of Apron East & West Sides

E2. SOILS INVESTIGATION REPORT

E2.1 Further to C3.1, the Geotechnical Memorandum included in Appendix A, is provided to supplement the Bidder's evaluation of the Site conditions within the work areas. The information is considered accurate at the locations indicated and at the time of the investigation. However, variations in soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities or variations in flow level inside the Aqueduct.

E2.2 Any test holes or test pits made by the bidder shall be done in accordance with the requirements of the Water and Waste Department. Bidders shall notify the Contract Administrator prior to proceeding with any subsurface investigations.

GENERAL REQUIREMENTS

E3. OFFICE FACILITIES

E3.1 The Contractor shall supply office facilities meeting the following requirements:
(a) The field office shall be conveniently located near the Site of the Work.

- (b) The building shall have a minimum floor area of 20 square metres, with window area of 3 square metres and a door entrance with suitable lock satisfactory to the Contract Administrator.
- (c) The building shall be suitable for all-weather use. It shall be capable of maintaining a temperature range between 16°C and 25°C.
- (d) The building shall be supplied with adequate lighting and 120 Volt power supply.
- (e) The building shall be furnished with one desk, one meeting table, one drafting table, one filing cabinet and six chairs, all satisfactory to the Contract Administrator.
- (f) A separate toilet with door lock shall be supplied for the Contract Administrator.
- (g) The field office shall be cleaned weekly immediately prior to the Job Site Meetings to the satisfaction of the Contract Administrator.
- (h) The provision of the field office with the aforementioned furnishings and equipment shall also include maintenance and removal of the field office, operating costs and any service installation costs.

E4. TRAFFIC CONTROL

- E4.1 Supply, erect and maintain temporary traffic control as per CW 1130.
- E4.2 Notify Contract Administrator of required parking restrictions as per CW 1130.
- E4.3 Submit traffic control plan to contract Administrator a minimum of 5 Business Days prior to construction.
- E4.4 Pay all cost associated with temporary traffic control.

E5. SITE SECURITY AND SAFETY

E5.1 Security

- E5.1.1 The Contractor shall be responsible for site security and safety, as stated below:
 - (a) Provide 24 hour site security personnel during all periods when the Aqueduct is exposed and contractor staff are not present on site.
 - (b) Report all site trespassing or suspicious activity immediately to McPhillips Control Centre at 986-4781.
 - (c) Refrain from providing statements with respect to water supply, site security or emergency situations to the media. All media inquiries in this regard shall be directed to the City of Winnipeg Customer Services.
 - (d) Provide secure temporary site storage compound for all specialized components such as valves, PCCP pipe and supplies, from the time they are delivered to the Site until they are incorporated into the Works. Compound shall consist of a minimum 1.8 metre chain link fence with lockable access gate. Permitted locations for on-site storage compounds shall be as generally located on the drawings.

E5.2 Safety

- E5.2.1 Be fully responsible for all aspects of site and public safety, in compliance to D22.
- E5.2.2 Arrange for all required safety watches in the vicinity of buried and overhead hydro utilities, and pay all required safety watch fees.
- E5.2.3 Install Contractor's locks on City installed lock-out devices, on Aqueduct valves at the following locations:
 - (a) McPhillips Reservoir and Pumping Station
 - (b) Tache Pumping Station

E5.2.4 The City of Winnipeg will provide access to valve locations. The Contractor shall name a primary contact and backup personnel, available on a 24 hour per day basis, with access to lockout keys, in the event on an emergency.

E6. CONDITION, PROTECTION OF AND ACCESS TO THE AQUEDUCT

E6.1 Condition of the Aqueduct

- E6.1.1 The Branch I Aqueduct east of the existing valve chamber is constructed of reinforced concrete pressure pipe (non cylinder pipe) circa 1918. The pipeline repair work on the Aqueduct or working in the vicinity of it shall ensure that:
- (a) Equipment shall only be permitted to cross the Aqueducts at existing roadways and designated locations.
 - (b) Granular material, construction material, soil or other material shall not be stockpiled on the Aqueduct or within 5 metres of the Aqueduct centerline.
 - (c) Construction practices shall not subject the Aqueduct to asymmetrical loading at any time.
 - (d) Construction practices or procedures at or near the Aqueduct shall not impart excessive vibration loads on the Aqueduct and/or cause settlement of the subgrade below the Aqueduct.
 - (e) Asymmetrical water pressures shall not be permitted to build up on one side of the Aqueduct.
 - (f) Further to CW 2030-R6, only smooth edged excavation buckets, soft excavation or hand excavation shall be used for excavation adjacent to and over the Aqueduct.
 - (g) Install watertight bulkheads at all locations where the Aqueducts are exposed, or pipe is removed.
- E6.1.2 It is the Contractors' responsibility to ensure that all work crew members understand and observe the requirements of E6.1. Prior to commencement of on-site work, the Contractor's superintendent, foreman and heavy equipment operators shall attend an orientation meeting that will outline restrictions for working on and around the Aqueduct. Failure to comply with these restrictions will be grounds for removing the offending personnel from the Site.

E7. ENVIRONMENTAL PROTECTION

- E7.1 The Contractor shall be aware that the Shoal Lake Aqueduct is for potable water supply and no contamination by fuel, chemicals, etc. shall be permitted at any time. Fuels or chemicals shall not be stored within 30 metres of the Aqueduct.
- E7.2 The Contractor shall plan and implement the Work of this Contract strictly in accordance with the requirements of the environmental protection measures as herein specified.
- E7.3 The Contractor is advised that at least the following Acts, Regulations, and By-laws apply to the Work:
- E7.3.1 Federal
- (a) Canadian Environmental Protection Act (CEPA) c.16
 - (b) Transportation of Dangerous Goods Act and Regulations c.34
- E7.3.2 Provincial
- (a) The Dangerous Goods Handling and Transportation Act D12
 - (b) The Endangered Species Act E111
 - (c) The Environment Act c.E125
 - (d) The Fire Prevention Act F80

- (e) The Manitoba Nuisance Act N120
- (f) The Public Health Act c.P210
- (g) The Workplace Safety and Health Act W120
- (h) And current applicable associated regulations.

E7.4 The Contractor is advised that the following environmental protection measures apply to the Work.

E7.4.1 Materials Handling and Storage

- (a) Construction materials shall not be stored within five (5) metres of the Aqueduct centerline.

E7.4.2 Fuel Handling and Storage

- (a) The Contractor shall abide by the requirements of Manitoba Environment for handling and storage of fuel products.
- (b) All fuel handling and storage facilities shall comply with The Dangerous Goods and Transportation Act Storage and Handling of Petroleum Products Regulation and any local land use permits.
- (c) Fuels, lubricants, and other potentially hazardous materials as defined in The Dangerous Goods and Transportation Act shall be stored and handled within the approved storage areas.
- (d) The Contractor shall ensure that all fuel storage containers are inspected daily for leaks and spillage.
- (e) Products transferred from the fuel storage area(s) to specific work sites shall not exceed the daily usage requirement.
- (f) When servicing requires the drainage or pumping of fuels, lubricating oils or other fluids from equipment, a groundsheet of suitable material (such as HDPE) and size shall be spread on the ground to catch the fluid in the event of a leak or spill.
- (g) Refuelling of mobile equipment and vehicles shall take place at least 100 metres from a water course.
- (h) The area around storage sites and fuel lines shall be distinctly marked and kept clear of snow and debris to allow for routine inspection and leak detection.
- (i) A sufficient supply of materials, such as absorbent material and plastic oil booms, to clean up minor spills shall be stored nearby on-site. The Contractor shall ensure that additional material can be made available on short notice.

E7.4.3 Waste Handling and Disposal

- (a) The construction area shall be kept clean and orderly at all times during and at completion of construction.
- (b) At no time during construction shall personal or construction waste be permitted to accumulate for more than one day at any location on the construction site, other than at a dedicated storage area as may be approved by the Contract Administrator.
- (c) Indiscriminate dumping, littering, or abandonment shall not take place.
- (d) No on-site burning of waste is permitted.
- (e) Equipment shall not be cleaned near watercourses; contaminated water from onshore cleaning operations shall not be permitted to enter watercourses.

E7.4.4 Dangerous Goods/Hazardous Waste Handling and Disposal

- (a) Dangerous goods/hazardous waste are identified by, and shall be handled according to, The Dangerous Goods Handling and Transportation Act and Regulations.
- (b) The Contractor shall be familiar with The Dangerous Goods Handling and Transportation Act and Regulations.

E7.4.5 Emergency Spill Response

- (a) The Contractor shall ensure that due care and caution is taken to prevent spills.
- (b) The Contractor shall report all major spills of petroleum products or other hazardous substances with the potential for impacting the environment and threat to human health and safety to the Contract Administrator and Manitoba Environment, immediately after occurrence of the environmental accident, by calling the 24-hour emergency telephone phone number (204) 945-4888.
- (c) The Contractor shall designate a qualified supervisor as the on-site emergency response coordinator for the project. The emergency response coordinator shall have the authority to redirect manpower in order to respond in the event of a spill.
- (d) The following actions shall be taken by the person in charge of the spilled material or the first person(s) arriving at the scene of a hazardous material accident or the on-site emergency response coordinator:
 - (i) Notify emergency-response coordinator of the accident:
 - identify exact location and time of accident
 - indicate injuries, if any
 - request assistance as required by magnitude of accident (Manitoba Environment 24-hour Spill Response Line (204) 945-4888, Police, Fire Department, Ambulance, company backup)
 - (ii) Assess situation and gather information on the status of the situation, noting:
 - personnel on site
 - cause and effect of spill
 - estimated extent of damage
 - amount and type of material involved
 - proximity to waterways and the Aqueduct
 - (iii) If safe to do so, try to stop the dispersion or flow of spill material:
 - approach from upwind
 - stop or reduce leak if safe to do so
 - dyke spill material with dry, inert sorbent material or dry clay soil or sand
 - prevent spill material from entering waterways and utilities by diking
 - prevent spill material from entering Aqueduct manholes and other openings by covering with rubber spill mats or diking
 - (iv) Resume any effective action to contain, clean up, or stop the flow of the spilled product.
- (e) The emergency response coordinator shall ensure that all environmental accidents involving contaminants shall be documented and reported to the Manitoba Environment according to The Dangerous Goods Handling and Transportation Act Environmental Accident Report Regulation 439/87.

E7.4.6 Controlled Products

- (a) Materials classified as “Controlled Products” under Regulation 52/88, “Workplace Hazardous Materials Information System”, including amendments, are prohibited inside the Aqueduct, unless the material will be directly employed in the Work.
- (b) Notwithstanding the aforementioned requirement, materials have been tested by an ANSI accredited laboratory and meet the requirements of ANSI/NSF 60, “Standard for Drinking Water Treatment and Chemicals – Health Effects”, and ANSI/NSF 61, “Standard for Drinking Water System Components – Health Effects”, as specified in the Specifications, shall be permitted inside the Aqueduct.

E8. CONSTRUCTION SEQUENCING AND AQUEDUCT OPERATION

E8.1 Description

E8.1.1 This specification shall generally outline construction sequencing, Aqueduct operation, Aqueduct shutdown and regional water supply criteria.

E8.2 Pipeline Location Surveys

- (a) Immediately upon award of Contract, the Contractor shall arrange for, excavate and expose existing pipelines at proposed re-connection points, as indicated on the Drawings, to confirm the locations, alignment and elevations of the existing pipes. All work shall be performed in accordance to E6.
- (b) The Contract Administrator will locate pipelines in reference to project coordinates, and provide adjustment to proposed pipeline alignments, lengths and / or bend angles to accommodate deviations from design coordinates.
- (c) The Contractor shall report any alignment revisions to his suppliers and subcontractors, for incorporation into project layout drawings and pipe laying schedules.
- (d) The Contractor shall satisfy himself that design revisions and pipe laying schedule revisions are consistent with field verified conditions.
- (e) Where required, the Contractor shall provide temporary pavement restorations over excavations and maintain until permanent pipeline tie-ins are completed, and permanent pavement restoration completed. Temporary pavement restoration shall consist of hard wearing surface of a minimum of 50 millimetres of asphaltic concrete, sacrificial Portland cement concrete, or other surface as approved by the Contract Administrator.

E8.3 General Construction Sequencing for Valve Chamber Construction

- (a) Without limiting the Contractor's ability to plan, stage and execute the Works, the following general construction sequences and events shall be planned and incorporated in the project schedule;

E8.3.1 Site Preparation

- (a) Excavate existing reservoir berms to expose existing reservoir walls to limits shown on Drawings. All excavated material shall be stockpiled on site for re-use in landscaping berms. The existing reservoir site is available for use in stockpiling materials
- (b) Demolish existing reservoir walls and floor slab to the general limits shown on the Drawings. Concrete debris from demolition shall be removed from site.
- (c) Complete excavation for proposed Valve Chamber. Install temporary bracing and shoring as required to protect existing structures, cables and pipelines which are to remain in service during construction.
 - (i) Access to existing valve chamber on Logan Avenue shall be maintained at all times.
 - (ii) The existing 900 millimetre pipeline traversing the Site shall be protected during construction. The City will isolate this section of pipeline for construction, but the integrity of the isolation valves on the pipeline cannot be guaranteed. This section of pipeline may also be required to be pressurized to supply the McPhillips Pumping Station. The Contract Administrator will notify the Contractor in advance of the City pressurizing the pipe.

E8.3.2 Construction of Valve Chamber Substructure and Piping

- (a) Construct chamber base slab
- (b) Install large diameter piping wall penetrations
- (c) Construct valve chamber substructure walls and roof slab
- (d) Install owner supplied valves and equipment

- (e) Install external Aqueduct piping to temporary construction limits shown on Drawings
- (f) Backfill chamber and pipelines
- (g) Test and disinfect pipelines and equipment
- (h) Upon successful testing and written approval by the Contract Administrator and Manager of Water Services, complete reconnections to existing Aqueduct and pipelines in accordance to specifications.

E8.3.3 Abandonment and Demolition of Existing Pipelines and Structure

- (a) Upon successful reconnection of pipelines, demolish existing structures, salvage equipment and abandon pipelines as indicated on the Drawings. All structures shall be demolished to a minimum of 1.5 metres below finish grade. Concrete debris from demolition shall be removed from site.
- (b) Backfill all chambers below grade and under pavements to City of Winnipeg CW 2030 Class 3 standards.
- (c) Restore existing pavements as indicated on the Drawings.

DIVISION 01 – GENERAL REQUIREMENTS

DIVISION 03 – CONCRETE

DIVISION 04 – MASONRY

DIVISION 05 – METALS

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

DIVISION 07 – THERMAL & MOISTURE PROTECTION

DIVISION 08 – OPENINGS

DIVISION 09 – FINISHES

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING

DIVISION 26 – ELECTRICAL

DIVISION 29 – INSTRUMENTATION AND CONTROLS

DIVISION 31 – EARTHWORK

DIVISION 32 – EXTERIOR IMPROVEMENTS

DIVISION 33 – UTILITIES

APPENDIX A
GEOTECHNICAL MEMORANDUM

APPENDIX B
EQUIPMENT SPECIFICATIONS

APPENDIX C

FORMS