



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 35-2006

**WINNIPEG WATER TREATMENT PROGRAM - DEACON BOOSTER PUMPING
STATION UPGRADE**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 WINNIPEG WATER TREATMENT PROGRAM - DEACON BOOSTER PUMPING STATION UPGRADE

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, August 8, 2007.

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:

B3.1.1 The Contract Administrator or an authorized representative will be available at the Site from 1:00 p.m. to 2:00 p.m. on July 17, 2007 to provide Bidders access to the Site.

B3.1.2 The Contract Administrator or an authorized representative will be available at the City Warehouse from 2:30 p.m. to 3:00 p.m. on July 17, 2007 to provide Bidders access to the City Warehouse.

B3.2 The Bidder is advised that the pickup and unloading of City Supplied Equipment shall be made at the City Warehouse, and limited unloading facilities exist at this location.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site 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 shall 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.

B7. BID COMPONENTS

B7.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;
- (c) 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 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.

B7.3 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.

B7.3.1 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.

B7.4 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.5 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.

B7.6 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.7 Bids shall be submitted to:

The City of Winnipeg
Corporate Finance Department
Materials Management Branch
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 shall be printed below such signatures.
- B8.4.2 All signatures should be witnessed, except where a corporate seal has been affixed.
- 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 Bidder shall state the price in Canadian funds for each item of the Work on Form B: Prices.
- B9.2 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. 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 Branch internet site at <http://www.winnipeg.ca/matmgt>).
- 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 three (3) 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 Branch internet site 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, and shall be witnessed or sealed as required.

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 Branch, or in such other office as may be designated by the Manager of Materials.

B12.1.1 Bidders or their representatives may attend.

B12.1.2 Bids determined by the Manager of Materials, or his designate, to not include the bid security specified in B11 will not be read out.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

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 (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 or the sum of the quantities multiplied by the unit prices for each item, sum of the quantities multiplied by the unit prices for each item shall take precedence.

B15.5 The Contract will be awarded as a whole.

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 Subject to B16.2, 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.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.
- 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 a mechanical and electrical system upgrade of the Deacon Booster Pumping Station.

D2.2 The major components of the Work are as shown in the Contract Documents, including, but not limited to:

D2.2.1 Part 1:

- (a) All demolition required for the installation of Materials and City Supplied Equipment.
- (b) Supply and install concrete supports, pads, anchor bolts and all other accessories required for the installation of Materials and City Supplied Equipment .
- (c) Electrical and I&C: Demolition of existing DBPS I&C and electrical distribution equipment and the supply and installation of a new I&C and electrical distribution as shown on the Contract Documents as summarized in Sections 16015 and 17015 and as follows:
 - (i) New electrical distribution including MCC, starters, relays and all other accessories as specified.
 - (ii) Supply, install and terminate all power and control wiring.
- (d) Mechanical work as shown on the Contract Documents including:
 - (i) Supply and installation of 1200mm butterfly valve, 900mm magnetic flow meter; cooling water pumps and piping for VSDs installed under this Contract;
 - (ii) Supply and installation of six new valve actuators on existing valves in the DBPS;
 - (iii) Supply and installation of two new valve actuators, gear boxes and supports for two existing yard piping valves;
 - (iv) Supply and installation of 200mm potable water piping to a point 1m outside the perimeter wall of the DBPS and,
- (e) For City Supplied Equipment:
 - (i) Shop drawing and other product information has been provided for City Supplied Equipment supplied by the City under Bid Opportunity 571-2005 (pumps, motors and VSDs) and 385-2003.(pump control valves).
 - (ii) The City Supplied Equipment supplied by the City under Bid Opportunity 571-2005 and 385-2003 will be delivered and unloaded by the City at the City Warehouse. The Contractor shall inspect and take custody of this equipment in accordance with Section 01210 and within 10 Business Days of the award of Contract.
 - (iii) The Contractor shall be responsible for the pickup of City Supplied Equipment at the City Warehouse and delivery to the Site.
- (f) Provide Performance Verification for all Materials and provide Performance Verification Assistance to Supply Contractors for City Supplied Equipment installed under this Contract, except as noted in D2.2.1(g) and D2.2.1(h).
- (g) New valve actuators supplied and installed pursuant to D2.2.1(d)(ii) will be programmed and integrated with the existing DBPS control system by the City prior to Substantial Performance. The Contractor shall support the Performance Verification of these actuators and sign Form 103 as the "installation contractor".

- (h) New valve actuators supplied and installed pursuant to D2.2.1(d)(iii) will be programmed and integrated with the WTP SCADA system by the Systems Integrator prior to Total Performance. The Contractor shall support the Performance Verification of these actuators and sign Form 103 as the "installation contractor".

D2.2.2 Part 2:

- (a) Following the completion of Form 103 for all equipment installed under this Contract, including City Supplied Equipment, provide commissioning assistance to the Contract Administrator during the Commissioning Period. This assistance shall be provided at the Contract Administrator's request.
- (b) Provide Supplemental Training to City personnel during the Warranty Period

D2.3 The System Integrator will:

- (a) Program modifications for existing station PLCs;
- (b) Program modifications for three existing pump PLCs;
- (c) Configure and program modifications for existing SCADA workstations;
- (d) Configure and program communication networks, including Modbus Plus systems and radio communications system; and
- (e) Assist the Contractor and Supply Contractor in the completion of Performance Verification.

D2.4 The City will apply and pay for the building permit. All other permits are the Contractor's responsibility.

D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

- (a) **Business Day** means any Calendar Day, other than a Saturday, Sunday, or a Statutory or Civic Holiday;
- (b) **Submission Deadline** and **Time and Date Set for the Final Receipt of Bids** mean the time and date set out in the Bidding Procedures for final receipt of Bids;
- (c) **Supply Contractor** means a contractor retained by the City, under a separate contract, to supply City Supplied Equipment which shall be installed by the Contractor;
- (d) **City Supplied Equipment** means equipment purchased by the City under a separate contract which is supplied into the care of the Contractor for installation under this Contract.
- (e) **ANSI** means American National Standards Institute
- (f) **ASME** means American Society of Mechanical Engineers
- (g) **ASTM** means American Society for Testing and Materials
- (h) **AWWA** means American Water Works Association
- (i) **CSA** means Canadian Standards Association
- (j) **DAF** means Dissolved Air Flotation
- (k) **IEC** means International Electrotechnical Commission
- (l) **ISO** means International Organization for Standardization
- (m) **NACE** means National Association of Corrosion Engineers
- (n) **NEMA** means National Electrical Manufacturers Association
- (o) **NSF** means National Sanitation Foundation
- (p) **SAE** means Society of Automotive Engineers

- (q) **Manufacturer** means the person, partnership or corporation responsible for the manufacture and fabrication of equipment supplied by the Contractor for the completion of the Work.
- (r) **Manufacturer's Representative** means a trained serviceman empowered by the Manufacturer to provide installation, testing, and commissioning assistance to the Contractor in his performance of those functions.
- (s) **IEEE** means Institute of Electrical and Electronics Engineers
- (t) **NEMA** means National Electrical Manufacturer's Association
- (u) **Furnish** means supply
- (v) **ISA** means the Instrumentation Systems and Automation Society
- (w) **AGMA** means American Gear Manufacturer's Association.
- (x) **API** means American Petroleum Institute
- (y) **EEMAC** means Electrical and Electronic Manufacturer Association of Canada
- (z) **VFD** means variable frequency drive
- (aa) **VSD** means variable speed drive
- (bb) **TPSH** means twisted pair shielded cable
- (cc) **RTD** means resistance temperature detector
- (dd) **LOX** means liquid oxygen
- (ee) **GOX** means gaseous oxygen
- (ff) **Contract Work Schedule** means a Gantt Charter developed by the Contractor developed using the critical path method which shows the proposed progress of the major items of work which are to be performed under this Contract
- (gg) **Project Master Schedule** means a schedule developed by the Contract Administrator which includes and coordinates the Contract Work Schedules of several City contracts, including this Contract
- (hh) **Professional Engineer** means a professional engineer registered in the Province of Manitoba.
- (ii) **Performance Verification** means all factory and field tests, demonstrations and other activities required from the Contractor to complete all required Forms 103 – Certificate of Satisfactory Performance and to demonstrate to the Contract Administrator's satisfaction that the equipment installed under this Contract is performing as specified herein.
- (jj) **Acceptable Shop Drawings** means all required Shop Drawings have been reviewed by the Contract Administrator and have been annotated and stamped as "reviewed" or "reviewed as modified" in accordance with Section 01300 of this Bid Opportunity.
- (kk) **Process Unit** means a complete equipment package supplied either by the Contractor or as part of City Supplied Equipment and which includes individual process components, skid mounted equipment and any related appurtenances.
- (ll) **Control System Integrator** means a contractor retained by the City (under a different contract) to program and configure the water treatment plant SCADA system.
- (mm) **Systems Integrator** means Control System Integrator.
- (nn) **SCADA** means supervisory control and data acquisition.
- (oo) **TGS** means Manitoba Transportation and Government Service.
- (pp) **MV** means medium voltage.
- (qq) **WTP** means the Winnipeg Water Treatment Plant and includes the structure and all equipment and materials supplied and installed into the building, under multiple construction contracts, including portions of the Work provided under this Contract.

- (rr) **City Warehouse** means the enclosed and heated City owned warehouse located at 1500 Plessis Road, Winnipeg, Manitoba.
- (ss) **Commissioning Period** means the time between the completion of Performance Verification and Total Performance during which a system is operated under Commissioning Operations Agent's control to demonstrate to the City that it operates in conformance with the design intent
- (tt) **Commissioning Operations Agent** means a qualified operations team retained by the City, under a separate contract, that takes primary responsibility for operation of the WTP during the Commissioning Period
- (uu) **Record Drawings** means a minimum of one (1) complete set of Contract Documents and Certified Shop Drawings maintained at the Contractor's Site office on which the Contractor clearly shall clearly record in red pencil all Addenda, Change Orders, Field Instructions, and other revisions or as-built conditions which deviate from the original Contract Documents or Certified Shop Drawings.
- (vv) **O&M** means operation and maintenance
- (ww) **I&C** means instrumentation and control
- (xx) **AASHTO** means American Association of State Highway and Transportation Officials
- (yy) **UV** means ultraviolet
- (zz) **PVC** means polyvinyl chloride
- (aaa) **ULC** means Underwriter's Laboratories of Canada
- (bbb) **ASHRAE** means American Society of Heating, Refrigerating, and Air Conditioning Engineers
- (ccc) **AWS** means American Welding Society
- (ddd) **NFPA** means National Fire Protection Association
- (eee) **OSHA** means Occupational Safety and Health Act
- (fff) **FS** means Federal Specifications
- (ggg) **AFBMA** means Anti-Friction Bearing Manufacturer's Association
- (hhh) **NACE** means National Association of Corrosion Engineers
- (iii) **PLC** means programmable logic controller
- (jjj) **I/O** means input/output
- (kkk) **UHMWPE** means ultra high molecular weight polyethylene
- (lll) **NPSH** means net positive suction head
- (mmm) **NPSHR** means net positive suction head required
- (nnn) **TEFC** means totally enclosed fan-cooled
- (ooo) **ABMA** means American Bearing Manufacturer's Association
- (ppp) **BEP** means best efficiency point
- (qqq) **PTC** means positive thermal protection
- (rrr) **ODP** means open drip proof
- (sss) **CEMA** means Canadian Electrical Manufacturer's Association
- (ttt) **TDH** means total dynamic head
- (uuu) **SSPC** means Steel Structures Painting Council
- (vvv) **P&ID** means process and instrumentation diagram
- (www) **ILD** means instrument loop diagram
- (xxx) **HMI** means human machine interface
- (yyy) **UPS** means uninterruptible power supply

- (zzz) **MCC** means motor control centre
 - (aaaa) **BMS** or **BAS** means the building automation system supplied and installed pursuant to Sections 15900, 15901 and 15902.
 - (bbbb) **Vendor Package** means a manufactured equipment package supplied and installed by the Contractor.
 - (cccc) **Supplemental Training** means training provided by qualified Manufacturers' Representatives during the Warranty Period.
- D3.1.1 The definitions of technical terms, abbreviations, and symbols will be those of the American Society for Testing and Materials, Canadian Standards Association and the applicable Codes and Standards. In the event of a dispute, the Contract Administrator's decision will be final.
- D3.1.2 Specialized terms relating to pumps and pump performance and which are not explicitly defined in Part D or in Section 11300 shall be as defined by the Hydraulics Institute.
- D3.1.3 The Manufacturer and Manufacturer's Representative are not parties to this Contract. All work required from the Manufacturer and Manufacturer's Representative shall be provided and coordinated by the Contractor.
- D3.1.4 Specialized terms relating to instrumentation and control and which are not explicitly defined herein shall be as defined in The Instrumentation Systems and Automation Society (ISA) S51.1, National Electrical Manufacturer's Association (NEMA) Industrial Control and Systems (ICS) 1, American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) Std 100, and the Communications Standard Dictionary, by Martin H. Weik.

D4. CONTRACT ADMINISTRATOR

- D4.1 The Contract Administrator is UMA Projects (CM) Ltd., represented by:

Bill Richert, P. Eng.
1479 Buffalo Place
Winnipeg, MB
R3T 1L7

e-mail: bill.richert@uma.aecom.com

Telephone No. (204) 986-6053

Facsimile No. (204) 986-8393

- D4.2 At the pre-construction meeting, the Contract Administrator 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 All notices of appeal to the Chief Administrative Officer shall be sent to the following address or facsimile number:

The City of Winnipeg
Chief Administrative Officer Secretariat
Attn: Chief Administrative 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
Corporate 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

D10. INSURANCE

D10.1 The City will provide and maintain the following Project Insurance Coverages:

- (a) Builder's Risk Insurance in the amount of one hundred percent (100%) of the total project cost.
 - (i) The Contractor shall be responsible for deductibles up to \$25,000.00 maximum of any one loss.
 - (b) Wrap-Up Liability Insurance in an amount of no less than 10 million dollars (\$10,000,000.00)
 - (i) The Contractor shall be responsible for deductibles up to \$25,000.00 maximum of any one loss.
 - (c) The City of Winnipeg will carry such insurance to cover all parties engaged in the Work in this Contract. Provision of this insurance by the City of Winnipeg is not intended in any way to relieve the Contractor from his obligations under the terms of the Contract. Specifically, losses relating to deductibles for insurance, as well as losses in excess of limits of coverage and any risk of loss that is not covered under the terms of the insurance provided by the City of Winnipeg remains with the Contractor.
- D10.2 The Contractor shall provide and maintain the following insurance coverage at all times during the performance of the Work:
- (a) Automobile liability insurance for owned and non-owned automobiles used for or in connection with the work in the amount of at least two million dollars (\$2,000,000.00).
 - (i) Deductibles shall be borne by the Contractor;
 - (ii) The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator;
 - (iii) The Contractor shall provide the Contract Administrator with evidence of insurance of the policy at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.
- D10.3 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) 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 If the bid security provided in his Bid was not a certified cheque or draft pursuant to B11.1(c), 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. DETAILED PRICES

D12.1 The Contractor shall provide the Contract Administrator with a detailed price breakdown in a format acceptable to the Contract Administrator 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. 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.

D14. DETAILED WORK SCHEDULE

D14.1 The Contract Administrator has developed a Project Master Schedule for the Work. This schedule will be available in the offices of the Contract Administrator and will be updated as required as the Work progresses.

D14.2 The Contractor shall, within 5 Business Days of award of Contract, prepare a detailed Contract Work Schedule for his work based on a critical path method (CPM) approach.

D14.3 The Contract Work Schedule shall conform to the Project Master Schedule and show, in a clear graphical manner, through the use of Gantt charts, in a maximum of weekly stages, the proposed progress of the main items, structures and subtrades of the contract and indicate the labour, construction crews, plant and equipment to be employed. Indicate the delivery date of major pieces of equipment to be supplied. The schedule shall be predicated on the completion of all work on or before the date of Substantial Performance.

D14.4 The Contract Work Schedule shall be updated as the Work requires and submitted to the Contract Administrator.

D14.5 Upon acceptance by the Contract Administrator, distribute copies of the revised schedule to Subcontractors and other concerned parties.

D14.6 The Contractor shall instruct recipients to report to the Contractor immediately any problems anticipated by the timetable shown in the Contract Work Schedule.

D14.7 While it is intended that the Contractor shall be allowed, in general, to carry on the Contract in accordance with such general plans as may appear to him to be most desirable, the Contract Administrator, at his discretion, may direct the order in which, and points at which, parts of the Work shall be undertaken.

D14.8 This control shall be exercised in the interests of the City so that the work or other Contractors who may be working on the Site may be coordinated with the work on this Contract. A program of work will be drawn up and agreed to before the commencement of the Contract.

D14.9 The Contract Administrator shall be notified immediately when the work under the Contract Work Schedule will adversely affect the work of other Contractors and the critical path of the Project Master Schedule as the work under the Contractor's Contract Work Schedule is an integral part of the Project Master Schedule.

D14.10 The Contractor shall be familiar with all other Contract Work Schedules as contracted by the City with other Contractors and the critical path of the Project Master Schedule.

D15. SECURITY CLEARANCE

- D15.1 Each individual proposed to perform Work under the Contract shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence.
- D15.2 Prior to the commencement of any Work, 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 the Work.
- D15.3 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.
- D15.4 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.
- D15.5 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.

SCHEDULE OF WORK

D16. COMMENCEMENT

- D16.1 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.
- D16.2 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 detailed prices specified in D12;
 - (vii) the Subcontractor list specified in D13;
 - (viii) the detailed work schedule specified in D14; and
 - (ix) the security clearances specified in D15.
- D16.2.1 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.

D17. SCHEDULE RESTRICTIONS

- D17.1 Performance of the Work will require periodic shutdown of the Branch I and Branch II aqueducts (by the City). These shutdowns will be limited to five (5) Calendar Days not be possible between the fourth Monday of May and the first Monday of September. Concurrent shutdowns of Branch I and Branch II will not be allowed.
- D17.2 In order to modify the DBPS switchgear, the City will have to provide two (2) shutdowns of the DBPS electrical service. These shutdowns will be limited to eight (8) hours each.
- (a) During the first shutdown of the DBPS electrical service, the Contractor shall complete Operation #1 as shown on WD-E0411. During this shutdown the Contractor shall

temporarily operate the switchgear as noted on item 5 of Operation #1 (as shown on WD-E0411) for a period of not less than two (2) hours. The temporary re-energizing of the switchgear pursuant to item 5 of Operation #1 shall not be considered part of the eighty (8) hour shutdown time allowed under D17.2.

- (b) During the second shutdown of the DBPS electrical service, the Contractor shall complete Operation #4 as shown on WD-E0413.

D17.2.1 Once the electrical distribution modifications shown on drawings WD-E0411, WD-E0412, WD-E0413 and WD-E0414 has commenced, the Contractor shall be prepared to reinstate the operation of two of the existing Branch II pumps (each at half speed) within 48 hours of a request by the Contract Administrator. This emergency reinstatement, if required, shall be performed as a change in the Work in accordance with C7.

D17.2.2 The electrical distribution modifications specified in D17.2 shall be completed within 21 Calendar Days from the day that any of the existing equipment is removed from the DBPS switchgear line-up or from the day that any portion of the existing bus is removed (whichever comes first).

D17.3 For City Supplied Equipment, the performance tests specified in clause 3.8 in Section 01210 cannot begin until November 1, 2008 when the WTP is completed and water is being fed to the DBPS from the Clearwell.

D18. CRITICAL STAGES

D18.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Within 30 Calendar Days of the notice of award, supply and install the 200mm potable water line through the below grade exterior wall to a point 1m outside the foundation and supply and install a termination inside the DBPS that is suitable for the performance of a hydrostatic pressure test on this pipe segment.
- (b) Provide Performance Verification and training for all switchgear equipment installed under this Contract, except as specified in D18.1(c) by February 28, 2008. Performance Verification and training will be considered complete upon completion of Form 103 and Form T1 for all this equipment.
- (c) City Supplied Equipment supplied pursuant to Bid Opportunity 571-2005 (branch I pumps) and of the new yard piping valve actuators: complete the satisfactory equipment installation and the running test specified in clause 3.7.2 of Section 01210, by February 28, 2008. Satisfactory installation of this equipment will be considered complete upon the completion of Form 102 for the installation of this equipment.
- (d) The completion of Performance Verification for the City Supplied Equipment shall be completed by December 31, 2008. Performance Verification will be considered complete upon the satisfactory completion of Form 103 for this equipment.

D19. SUBSTANTIAL PERFORMANCE

D19.1 The Contractor shall achieve Substantial Performance by February 28, 2008.

D19.2 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.

D19.3 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.

D19.4 Substantial Performance cannot be achieved without achieving the completion of the forms specified in D18.1(b) and D18.1(c).

D20. TOTAL PERFORMANCE

D20.1 The Contractor shall achieve Total Performance by December 31, 2008.

D20.2 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.

D20.3 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.

D20.4 Total Performance cannot be achieved without completion of the Forms 103 associated with the critical stage specified in D18.1(d) and Form 104 as specified in Section 01670.

D21. LIQUIDATED DAMAGES

D21.1 If the Contractor fails to adhere to the schedule restrictions or 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) Critical Stages specified in D18.1(a) – two thousand, six hundred dollars (\$2,600.00);
- (b) Schedule restriction specified in D17.2.1 - two thousand, six hundred dollars (\$2,600.00);
- (c) Substantial Performance – two thousand, six hundred dollars (\$2,600.00);
- (d) Total Performance – six hundred dollars (\$600).

D21.2 The amounts specified for liquidated damages in D21.1 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.

D21.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D22. SCHEDULED MAINTENANCE

D22.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) Prior to Total Performance, all monthly maintenance for all Materials and City Supplied Equipment installed by the Contractor shall be provided in accordance with the Supply Contractor's and Manufacturer's written instructions.

D22.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein.

CONTROL OF WORK

D23. JOB MEETINGS

D23.1 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.

D23.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

D24.1 Further to C6.24, UMA Projects (CM) Ltd. 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).

D24.2 As Prime Contractor, UMA Projects (CM) Ltd. will administer a Safety and Health Management Plan. Compliance with this Plan will be mandatory for all personnel on the construction site and orientation of all staff by the Prime Contractor's Safety Officer will be required. Further to C:6.24, 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).

D24.3 The Water Treatment Program Project Safety and Health Management Plan is available on the City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt/projects>.

D25. COOPERATION WITH OTHERS

D25.1 The Contractor shall note that several other construction contracts will be underway at the time of construction, including, but not limited to;

- (a) Bid Opportunity 94-2007 Winnipeg Water Treatment Program – Construction of Site Utilities.
- (b) Bid Opportunity 498-2006 Water Treatment Program – Construction of Generator Building and Ancillary Buildings;
- (c) Bid Opportunity 742-2005 Winnipeg Water Treatment Program – The Supply and Installation of Water Treatment Plant Process Mechanical and Electrical; and
- (d) Bid Opportunity 571-2005 Winnipeg Water Treatment Program – Supply of Deacon Booster Pumps.
- (e) Bid Opportunity 37-2006 Winnipeg Water Treatment Program - Surge Tower Construction.
- (f) Bid Opportunity 791-2006 Winnipeg Water Treatment Program – Construction of Water Treatment Plant Overflow and Supernatant Lines.
- (g) Bid Opportunity 36-2006 . Winnipeg Water Treatment Program – Construction of Surge Tower Overflow Piping.

D25.2 Bid Opportunities for the above are available at the City of Winnipeg Materials Management website at <http://www.winnipeg.ca/matmgt/bidopp.asp>.

D25.3 The Contractor will not have exclusive use of the Site. The Contractor shall coordinate activities with others and minimize disruptions to others, where possible.

D25.4 The Contractor shall note that the Deacon Booster Pumping Station and surrounding compound will be in use during the construction period. The Contractor shall maintain reasonable access to all existing plant, valve chambers, rail, mechanical and electrical facilities at all times. The Contractor shall provide all reasonable assistance to City operations personnel to provide safe, secure access to operational facilities.

D26. PARTNERING

- D26.1 In order to effectively and efficiently accomplish the Work of this Contract, The City of Winnipeg, Water and Waste Department is encouraging the formation of a cohesive, mutually beneficial working relationship with the Contractor and his Subcontractors as well as other contractors on site. This working relationship will endeavour to draw on individual and corporate and community strengths, skills and knowledge to achieve a quality project to the benefit of all participants. The objective of Partnering is to build co-operative relationships, avoid or minimize disputes and actively pursue the attainment of common goals. Success will depend upon teamwork with open and effective communication while adhering to the highest professional standards. Participation in Partnering will not in any way affect the application or legal obligation of the Contract. The Partnering Initiation Workshop is typically a one (1) day session for a project of this magnitude. The Partnering Initiation Workshop will be scheduled following award of this contract for a date in August 2007.
- D26.2 Participation in the Partnering Initiation Workshop shall be carried out at no cost to the Contractor nor shall any payment be made for time and travel expenses incurred by the Contractor associated with participation in the Partnering Initiation Workshop. It shall be considered incidental to the Work included in this project.

MEASUREMENT AND PAYMENT

D27. PAYMENT

- D27.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

D28. PAYMENT SCHEDULE

- D28.1 Further to C12, payment shall be in accordance with the following payment schedule:
- (a) The unit price for items 1 listed in Form B: Prices will be paid on the basis of monthly progress estimates in accordance with C:12 and the detailed price breakdown prepared pursuant to D12.
 - (b) Twenty-five thousand dollars (\$25,000) of the unit price for item 1 in Form B: Prices will be paid upon satisfactory completion of Record Drawings.
 - (c) Twenty-five thousand dollars (\$25,000) of the unit price for item 1 in Form B: Prices will be paid upon satisfactory completion of all required O&M manuals.
 - (d) Twelve thousand dollars (\$12,000) of the unit price for item 1 in Form B: Prices will be paid in twelve monthly payments of \$1,000 each upon completion of each monthly scheduled maintenance required by D22. Payments for scheduled maintenance shall be inclusive of all overhead (including small tool costs) and profit. No additional mark-up shall be applied to any labour performed by any Subcontractor who performs a portion of the scheduled maintenance.
 - (e) The unit price for item 2 in Form B: Prices will be paid on the basis of time spent on Site. Timesheets shall be submitted by the Contractor and approved by the Contract Administrator. The unit prices in Form B: Prices shall be inclusive of all overhead (including small tool costs) and profit. No additional mark-up shall be applied to any labour performed by any Subcontractor during the Commissioning Period.
 - (f) Materials supplied by the Contractor, at the request of the Contract Administrator, during the Commissioning Period shall be valued in accordance with C7.4(d).
 - (g) Ten thousand dollars (\$10,000) of the unit price for item 1 in Form B: Prices will be paid upon satisfactory completion of all required Forms 103s for equipment installed under this Contract
 - (h) The unit price for item 3 in Form B: Prices will be paid upon the completion of Form T1: Certificate of Satisfactory Training for all equipment installed under this Contract.

D28.2 Supplemental Training is included in the unit price for item 4 in Form B: Prices, and will be paid on the basis of time spent on Site. Timesheets shall be submitted by the Contractor and approved by the Contract Administrator. The hourly rate shall be inclusive of all overhead and profit. No additional mark-up shall be applied to any labour performed by any Subcontractor, Manufacturer or Manufacturer's Representative during the provision of Supplemental Training.

WARRANTY

D29. WARRANTY

D29.1 Further to C10.01, if a defect or deficiency prevents the full and normal use or operation of the Work or any portion thereof, for purposes of calculating the warranty period, time shall be deemed to cease to elapse for the defective or deficient portion, and for any portion of the Work whose use or operation is prevented by such defect or deficiency, as of the date on which the defect or deficiency is observed or the use or operation is prevented and shall begin to run again when the defect or deficiency has been corrected or the Work may be used or operated to the satisfaction of the Contract Administrator.

D29.2 Notwithstanding C10.01, C10.02 and D29.1, if any law of Manitoba or of the jurisdiction in which the Work was manufactured requires, or if the manufacturer provides, a longer warranty period or a warranty which is more extensive in its nature, then the provisions of such law or manufacturer's warranty shall apply.

D29.3 Notwithstanding C13.2:

D29.3.1 The warranty period for equipment for which Forms 103 and T1 have been completed prior to Substantial Performance shall begin on the date of Substantial Performance and shall expire two (2) years thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D29.3.2 The warranty period for equipment for which Forms 103 and T1 have been completed after Substantial Performance shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder

D29.3.3 For the purpose of Performance Security, the warranty period shall be one (1) year from Total Performance.

D29.4 Warranty for the installation of City Supplied Equipment is the responsibility of the Contractor. Warranty for the proper operation of properly installed City Supplied Equipment is the responsibility of the Supply Contractor.

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 dated the

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 35-2006

WINNIPEG WATER TREATMENT PROGRAM - DEACON BOOSTER PUMPING STATION UPGRADE

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)

(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
Corporate Services Department
Legal Services Division
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 35-2006

WINNIPEG WATER TREATMENT PROGRAM - DEACON BOOSTER PUMPING STATION
UPGRADE

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

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>Division 1</u>
Section No.	Description
01210	City Supplied Equipment
01300	Submittals
01400	Quality Control
01600	Material and Equipment
01650	Equipment Installation
01664	Training
01670	Commissioning
01730	Operation and Maintenance Manuals
	<u>Division 2</u>
Section No.	Description
02070	Demolition and Removal
	<u>Division 3</u>
Section No.	Description
03100	Concrete Formwork
03200	Concrete Reinforcement
03250	Concrete Accessories
03300	Cast-In-Place Concrete
03600	Epoxy Grout
	<u>Division 5</u>
Section No.	Description
05120	Steel Fabrications
	<u>Division 7</u>
Section No.	Description
07212	Rigid Insulation
	<u>Division 9</u>
Section No.	Description
09870	Coating Systems for Steel Tanks and Pipes
09900	Painting – Concrete and Steel Fabrications
	<u>Division 11</u>

Section No.	Description
11000	Equipment General Provisions
11001	Deacon Booster Pump Installation
11300	Process Pump General Requirements
11301	Process Motors
11650	Disinfection of Piping and Equipment
11901	Factory Applied Protective Coatings
11910	Identification
<u>Division 15</u>	
Section No.	Description
15010	General Mechanical Provisions
15060	Piping Support Systems
15200-000	Process Piping
15200-00L	Piping Service Legend
15200-00S	Piping Schedule
15200-03	Data Sheet – Carbon Steel Pipe and Fittings – General Service
15200-04	Data Sheet – Carbon Steel Pipe and Fittings – Large Diameter
15200-08	Data Sheet – Stainless Steel Pipe and Fittings – General Service
15200-10	Data Sheet – Polyvinyl Chloride (PVC) Pipe and Fittings
15200-13	Data Sheet – Copper and Copper Alloy Pipe, Tubing and Fittings
15202	Process Valves and Operators
15202-01	Automated Valve Schedule (all sizes)
15202-02	Manual Valve Schedule (all sizes)
15205	Piping Specialties
15440	Process Centrifugal Pumps
<u>Division 16</u>	
Section No.	Description
16010	Electrical General Requirements
16015	Scope of Work
16111	Conduits, Conduit Fastenings and Conduit Fittings
16114	Cable Trays
16120	HV Power Cables & 8 Kv Shielded Cable Terminations
16122	Wires and Cable 0-1000V
16131	Splitters, Junction Boxes, Pull Boxes and Cabinets
16132	Outlet Boxes, Conduit Boxes and Fittings
16151	Wire and Box Connectors
16153	Connectors and Terminations
16160	Grounding
16191	Fastenings and Supports
16350	Circuit Breakers
16359	Interlocking System
16432	Instrument Transformers
16440	Disconnect Switches Fused and Non-Fused Up to 600V-Primary
16471	Panelboards – Breaker Type
16477	Moulded Case Circuit Breakers
16480	Power Surge Protectors
16811	Motor Starters to 600 V
16813	Medium Voltage Soft Starters 4160 V
16825	Control Devices
16920	Motor Power Factor Correction
16960	Starting of Electrical Equipment and Systems
16980	Testing, Adjusting and Balancing of Electrical Equipment and Systems
16990	Electrical Equipment and Systems Demonstrations and Instruction

Section No.	Division 17 Description
17010	Instrumentation and Control General Requirements
17015	Scope of Instrumentation and Control Work
17110	Enclosures
17124	Instrumentation Cable
17130	Power Supplies
17140	Instrument Air Supply and Transmission
17211	Process Taps and Primary Elements
17212	Transmitters and Indicators
17216	Switches and Relays
17275	Miscellaneous Panel Devices
17500	Programmable Logic Controllers
17501	Operator Interface Requirements
17600	PLC I/O Index
17600-A	PLC I/O Index
17700	Instrument Index
17700-A	Instrument Index
17701	Instrument Specification Sheets
17701-A	Instrument Specification Sheets
17702	Instrument Loop Drawings
17704	Instrument Standard Details

CONSULTANT DWG NO.	CITY DWG NO.	TITLE
WB-A0402	1-0601B-D-A0402-001-05B	AUTOMATION / I&C - LOOP POWERED REMOTE INDICATING TRANSMITTER - INSTALLATION DETAILS
WB-A0403	1-0601B-D-A0403-001-04B	AUTOMATION / I&C - HAND SWITCH MOUNTING - INSTALLATION DETAILS
WB-A0404	1-0601B-D-A0404-001-05B	AUTOMATION / I&C - PRESSURE GUAGE - INSTALLATION DETAILS
WB-A0407	1-0601B-D-A0407-001-05B	AUTOMATION / I&C - THERMOWELL MOUNTED RTD - INSTALLATION DETAILS
WB-A0451	1-0601B-H-A0451-001-02B	AUTOMATION / I&C - TYPICAL MOTORIZED VALVE OPEN / CLOSE - INSTRUMENTATION LOOP DIAGRAM
WB-A0453	1-0601B-H-A0453-001-02B	AUTOMATION / I&C - TYPICAL MAGNETIC FLOWMETER - INSTRUMENTATION LOOP DIAGRAM
WB-A0461	1-0601B-H-A0461-001-03B	AUTOMATION / I&C - TYPICAL MCC STARTER - INSTRUMENTATION LOOP DIAGRAM
WB-A0463	1-0601B-H-A0463-001-03B	AUTOMATION / I&C - TYPICAL DISCRETE INPUT - INSTRUMENTATION LOOP DIAGRAM
WB-A0464	1-0601B-H-A0464-001-03B	AUTOMATION / I&C - TYPICAL VALVE LIMIT SWITCH - INSTRUMENTATION LOOP DIAGRAM
WB-A0465	1-0601B-H-A0465-001-03B	AUTOMATION / I&C - TYPICAL LOOP POWERED ANALOGUE INPUT - INSTRUMENTATION LOOP DIAGRAM
WB-A0466	1-0601B-H-A0466-001-03B	AUTOMATION / I&C - TYPICAL 3 WIRE RTD - INSTRUMENTATION LOOP DIAGRAM
WD-C0100	1-0601D-A-C0100-001-00D	CIVIL - SITE LOCATION PLAN
WD-E0001	1-0601D-A-E0001-001-00D	ELECTRICAL - SITE PLAN - SCHEDULES AND DETAILS
WD-E0102	1-0601D-A-E0102-001-00D	ELECTRICAL - LOWER LEVEL PLAN - LAYOUT ABOVE 227.000m
WD-E0113	1-0601D-A-E0113-001-00D	ELECTRICAL - UPPER LEVEL PLAN - LAYOUT ABOVE 230.8m
WD-E0401	1-0601D-F-E0401-001-00D	ELECTRICAL - SINGLE LINE DIAGRAM
WD-E0411	1-0601D-G-E0411-001-00D	ELECTRICAL - SWITCHGEAR REPLACEMENT AND UPGRADE - SEQUENCE OF OPERATIONS
WD-E0412	1-0601D-G-E0412-001-00D	ELECTRICAL - SWITCHGEAR REPLACEMENT AND UPGRADE - SEQUENCE OF OPERATIONS

<u>CONSULTANT DWG NO.</u>	<u>CITY DWG NO.</u>	<u>TITLE</u>
WD-E0413	1-0601D-G-E0413-001-00D	ELECTRICAL - SWITCHGEAR REPLACEMENT AND UPGRADE - SEQUENCE OF OPERATIONS
WD-E0414	1-0601D-G-E0414-001-00D	ELECTRICAL - SWITCHGEAR REPLACEMENT AND UPGRADE - FINAL SWITCHGEAR ARRANGEMENT
WD-E0501	1-0601D-G-E0501-001-00D	ELECTRICAL - SCHEDULE AND SCHEMATIC
WD-E0502	1-0601D-H-E0502-001-00D	ELECTRICAL - CONTROL DIAGRAM
WD-M0101	1-0601D-A-M0101-001-00D	PROCESS MECHANICAL - LOWER LEVEL PLAN - LAYOUT ABOVE 227.000m
WD-M0102	1-0601D-A-M0102-001-00D	PROCESS MECHANICAL - VALVE CHAMBER DRV 305 - PLAN AND SECTION
WD-M0103	1-0601D-A-M0103-001-00D	PROCESS MECHANICAL - VALVE CHAMBER VC 6 - PLAN AND SECTION
WD-M0170	1-0601D-A-M0170-001-00D	PROCESS MECHANICAL - DEMOLITION PLAN - LAYOUT ABOVE 227.000m
WD-M0201	1-0601D-A-M0201-001-00D	PROCESS MECHANICAL - BRANCH I - SECTION
WD-M0202	1-0601D-A-M0202-001-00D	PROCESS MECHANICAL - BRANCH I - SECTION
WD-M0203	1-0601D-A-M0203-001-00D	PROCESS MECHANICAL - BRANCH I - SECTION
WD-M0204	1-0601D-A-M0204-001-00D	PROCESS MECHANICAL - BRANCH I - SECTION
WD-M0205	1-0601D-A-M0205-001-00D	PROCESS MECHANICAL - BRANCH II - SECTION
WD-M0270	1-0601D-A-M0270-001-00D	PROCESS MECHANICAL - BRANCH I DEMOLITION - SECTION
WD-M0271	1-0601D-A-M0271-001-00D	PROCESS MECHANICAL - BRANCH I DEMOLITION - SECTION
WD-M0272	1-0601D-A-M0272-001-00D	PROCESS MECHANICAL - BRANCH I DEMOLITION SECTION
WD-M0273	1-0601D-A-M0273-001-00D	PROCESS MECHANICAL - BRANCH I DEMOLITION SECTION
WD-M0401	1-0601D-A-M0401-001-00D	PROCESS MECHANICAL - MISCELLANEOUS DETAILS - SHEET 1
WD-P0001	1-0601D-G-P0001-001-00D	PROCESS - PROCESS FLOW DIAGRAM - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0003	1-0601D-G-P0003-001-00D	PROCESS - BRANCH I BOOSTER PUMPS - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0004	1-0601D-G-P0004-001-00D	PROCESS - BRANCH I BOOSTER PUMPS - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0005	1-0601D-G-P0005-001-00D	PROCESS - BRANCH II - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0006	1-0601D-G-P0006-001-00D	PROCESS - BRANCH II - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0007	1-0601D-G-P0007-001-00D	PROCESS - BRANCH I - UV REACTOR 1100 - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0008	1-0601D-G-P0008-001-00D	PROCESS - BRANCH I - UV REACTOR 1200 - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0009	1-0601D-G-P0009-001-00D	PROCESS - BRANCH II - UV REACTOR 2100 - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0010	1-0601D-G-P0010-001-00D	PROCESS - BRANCH II - UV REACTOR 2200 - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0011	1-0601D-G-P0011-001-00D	PROCESS - BRANCH II - UV REACTOR 2300 - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0012	1-0601D-G-P0012-001-00D	PROCESS - BRANCH II - UV REACTOR 2400 - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0013	1-0601D-G-P0013-001-00D	PROCESS - BRANCH I DISCHARGE - PROCESS AND INSTRUMENTATION DIAGRAM
WD-P0014	1-0601D-G-P0014-001-00D	PROCESS - BRANCH I AND BRANCH II VALVE CHAMBERS - PROCESS AND INSTRUMENTATION DIAGRAM
WD-S0100	1-0601D-A-S0100-001-00D	STRUCTURAL - LOWER LEVEL PLAN - LAYOUT ABOVE 227.000m
WD-S0101	1-0601D-A-S0101-001-00D	STRUCTURAL - LOWER LEVEL PLAN - PLANS AND SECTIONS
WD-S0102	1-0601D-A-S0102-001-00D	STRUCTURAL - SECTIONS AND DETAILS
WD-S0103	1-0601D-A-S0103-001-00D	STRUCTURAL - MEZZANINE FLOOR PLAN - LAYOUT ABOVE 230.800
WD-S0104	1-0601D-A-S0104-001-00D	STRUCTURAL - VC 6 VALVE CHAMBER - MODIFICATIONS

CONSULTANT DWG NO.	CITY DWG NO.	TITLE
WD-S0105	1-0601D-A-S0105-001-00D	STRUCTURAL - DRV 305 VALVE CHAMBER - MODIFICATIONS
WD-S0106	1-0601D-A-S0106-001-00D	STRUCTURAL - NOTES AND ABBREVIATIONS
WH-A0106	1-0601H-E-A0106-001-04D	AUTOMATION / I&C - PLANT COMMUNICATION NETWORK - BLOCK CABLE DIAGRAM
WH-A0508	1-0601H-J-A0508-001-04B	AUTOMATION / I&C - PLANT COMMUNICATION CABLE - TERMINATION DIAGRAMS
WH-A0710	1-0601H-K-A0710-001-09B	AUTOMATION / I&C - PLANT COMMUNICATION CABLES - CABLE LIST
WH-A0711	1-0601H-K-A0711-001-09B	AUTOMATION / I&C - PLANT COMMUNICATION CABLES - CABLE LIST
WY-A0451	1-0601Y-H-A0451-001-02B	AUTOMATION / I&C - VALVE ACTUATOR FV-Y011A - LOOP DIAGRAM
CM G001		CIVIL – SITE LAYOUT
056840A-R5		FOR INFORMATION ONLY - STREAMSEAL BUTTERFLY VALVES - DIMENSIONS
059640A-R1		FOR INFORMATION ONLY - ASSY SECT 024-096
D-1232-R0		FOR INFORMATION ONLY - STAGE I OUTLET CONTROL - VALVE CHAMBER
DBP-26-R1		FOR INFORMATION ONLY - STRUCTURAL PLANS AND DETAILS - SURGE TANK BRANCH II
DBP-37-R2		FOR INFORMATION ONLY – MECHANICAL - SURGE TANK - PLAN & SECTIONS
L-35001		FOR INFORMATION ONLY - GENERAL ARRANGEMENT - MANUALLY OPERATED MODEL R1A RUBBER SEAT BUTTERFLY VALVE
L-35002		FOR INFORMATION ONLY - GENERAL ARRANGEMENT OF R1A1 BUTTERFLY VALVE WITH VICTAULIC FLANGE
Shop_Drawing_Pump_Control_Valves-R0		FOR INFORMATION ONLY - Shop Drawing Pump Control Valves O & M Manual

E2. OFFICE AND SITE FACILITIES

- E2.1 The Contractor shall supply office facilities for his own use. The facilities shall be situated within the DBPS compound.
- E2.2 With reference to drawing CM G001, the City will provide to the Contractor without cost:
 - (a) Space for a 30A single pole breaker from the City's existing trailer in the DBPS compound. This service shall serve office lighting, receptacles and convenience power (electric space heating equipment is not allowed), the Contractor shall supply and install the breaker and cabling;
 - (b) Existing DBPS electrical receptacles may be used for construction power;
 - (c) Communications connections for one telephone and internet. The Contractor shall supply and install the telephone service from the City's existing telephone service pedestal that is located east of the DBPS compound entrance;
 - (d) Onsite washroom and toilet facilities with non-potable water supply;
- E2.3 The Contractor may arrange for additional facilities with the approval of the Contract Administrator and at the Contractor's expense.

E3. USE OF EXISTING CRANES

- E3.1 The Contractor may use either of the City's two existing cranes in the DBPS in the performance of the Work.
- E3.2 The Contractor shall be fully responsible for the use of the DBPS cranes including providing any maintenance required to perform the Work. No additional compensation will be considered because of delays caused by any problems arising from the use of the DBPS cranes.

E3.3 Cranes in the DBPS shall only be operated by individuals specifically trained as crane operators, regularly employed in this capacity and with demonstrable expertise in rigging and crane operation.

E4. SITE ROADS AND WORK SITE ACCESS

E4.1 The Contractor shall have access to the Site on Business Days between 07:00 and 18:00 unless otherwise approved by the Contract Administrator.

E4.2 Access to the work site is restricted and cooperation with other contractors on site is necessary in the best interest of all parties.

E4.3 The Site is located on Provincial Road 207, 3.2 km north of Highway 1 in Dugald, Manitoba.

E4.3.1 The Site address is PR 207, Lot 57082, Dugald, Manitoba.

E4.4 Provincial Road 207 north of the GWWD rail crossing is a Class B1 road and is subject to load restrictions which will affect the maximum weight of individual deliveries. The approximately 3.2 km of PR 207 between the entrance to the Site and Highway 1 is a TAC Route.

E4.5 Access to the Site is generally limited to access through the main gate of the DBPS.

E4.6 Access to the Site will be interrupted approximately once a month for a duration of approximately four hours due to deliveries of chemical via the railway.

E4.7 Maintenance and upkeep of the noted roads is the shared responsibility of all contractors who use the roads, including the Contractor.

E4.8 Construction and removal, if necessary, of any additional access roads is the responsibility of this Contractor.

E5. SANITATION FACILITY

E5.1 Portable toilets may be provided by the Contractor. Any portable toilet shall be cleaned on a weekly basis and provided with regular maintenance as required to ensure proper operation.

E5.2 Portable toilets shall be located in an area acceptable to the Contract Administrator.

E6. WASTE CONTAINER

E6.1 A waste container to dispose of garbage produced from the site shall be provided by the Contractor. It shall be located in a safe, convenient location, and be emptied as necessary by the Contractor. The provision, maintenance and removal of a waste container shall be considered a subsidiary obligation of the Contractor

E7. CONDITION, PROTECTION OF, AND ACCESS TO THE AQUEDUCT

E7.1 Condition of the Aqueduct

E7.1.1 The Aqueduct is constructed of reinforced concrete and in some areas, contains numerous cracks. The Aqueduct, therefore, shall be considered as a fragile structure. All work procedures conducted by the Contractor on and/or near the Aqueduct shall be well planned and executed to ensure that the Aqueduct is not subjected to construction related loads, including excessive vibrations and concentrated or asymmetrical lateral loads.

E7.2 Protection of the Aqueduct

E7.2.1 Contractors working in the vicinity of the aqueduct shall ensure that:

- (a) Equipment shall only be permitted to cross the Aqueduct at designated bridge crossing locations and shall come to a complete stop before crossing.
- (b) Granular material, construction material, soil or other material shall not be stockpiled on the Aqueduct or within 10 metres of the Aqueduct centreline.
- (c) Construction practices shall not subject the Aqueduct arch 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.

E7.2.2 It is the Contractors' responsibility to ensure that all work crew members understand, observe, and work to the requirements of Specifications.

E7.3 Equipment Restrictions

E7.3.1 Equipment must cross the Aqueduct in a responsible and careful manner (i.e. slowly).

E7.3.2 Loads for Highway No. 207 shall be limited to the weight restrictions in place for the road unless otherwise permitted.

E8. ENVIRONMENTAL PROTECTION

E8.1 The Contractor shall be aware that the 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 thirty (30) metres of the Aqueduct.

E8.2 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.

E8.3 The Contractor is advised that at least the following Acts, Regulations, and By-laws apply to the Work:

E8.3.1 Federal

- (a) Canadian Environmental Protection Act (CEPA) c.16
- (b) Transportation of Dangerous Goods Act and Regulations c.34

E8.3.2 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) Current applicable associated regulations.
- (i) The Fisheries Act
- (j) The Migratory Birds Act
- (k) The Historic Resources Act
- (l) Drinking Water Safety Act

E8.3.3 The Contractor is advised that the following environmental protection measures apply to the Work.

E8.3.4 Materials Handling and Storage

- (a) Construction materials shall not be stored within ten (10) metres of the Aqueduct centerline without the approval of the Contract Administrator.

E8.3.5 Fuel Handling and Storage

- (a) The Contractor shall abide by the requirements of Manitoba Conservation storage and handling of Petroleum Products and Allied Products Regulations 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. No repairs within 30 m of aqueduct or watercourse will be permitted.
- (g) Refuelling of mobile equipment and vehicles shall take place at least 30 m from a watercourse.
- (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. All refuelling vehicles shall be equipped with a spill response kit.

E8.3.6 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 within thirty (30) m of watercourses; contaminated water from onshore cleaning operations shall not be permitted to enter watercourses.

E8.3.7 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 and meet training requirements for these Regulations.

E8.3.8 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 Conservation, 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. (Should include reference to a site-specific Emergency Response Plan and Environmental Protection Plan.)
- (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 Conservation 24-hour Spill Response Line (204) 945-4888, RCMP (Oakbank Detachment) (911), City of Winnipeg Fire Department (911), Springfield Ambulance (911), company backup, contact Contract Administrator.
 - (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 dyking
 - prevent spill material from entering Aqueduct manholes and other openings by covering with rubber spill mats or dyking
 - (iv) Resume any effective action to contain, clean up, or stop the flow of the spilled product.

E8.4 The emergency response coordinator shall ensure that all environmental accidents involving contaminants shall be documented and reported to the Manitoba Conservation according to The Dangerous Goods Handling and Transportation Act Environmental Accident Report Regulation 439/87.

E9. SITE RESTORATION

E9.1 The Contractor shall remove the temporary Site office and storage facilities prior to Total Performance.

E9.2 The Contractor will be responsible for grounds restoration, as determined necessary by the Contract Administrator.

E9.3 The Contractor will be responsible for any damage caused by his forces on roadways or accesses.

E10. RECORD DRAWINGS

- E10.1 The Contractor shall keep one (1) complete set of white prints at their Site office, including all Addenda, Change Orders, Field Instructions, and other revisions for the purposes of Record Drawings. As the Work proceeds, the Contractor shall clearly record in red pencil all as-built conditions which deviate from the original Contract documents.
- E10.2 The Record Drawings shall be available for review by the Contract Administrator upon request at any time during the performance of the Work.
- E10.3 Prior to achieving Substantial Performance, the Contractor shall submit the Record Drawings prepared to the Contract Administrator for his review and use. If, in the opinion of the Contract Administrator, the Record Drawings are incomplete or inaccurate, the Record Drawings will be returned to the Contractor and the Contractor shall revise and resubmit the Record Drawings at his cost.
- E10.4 Substantial Performance cannot be achieved without the submission of Record Drawings that are acceptable to the Contract Administrator.

E11. MATERIAL SAFETY DATA SHEETS

- E11.1 The Contractor shall provide the Contract Administrator with one (1) copy of Material Safety Data Sheets (MSDS's) for all products to used in the performance of the Work at least two (2) Business Days prior to bringing such materials to Site or as otherwise specified in the Contract Documents.
- E11.2 Throughout the term of the Contract, the Contractor shall provide the Contract Administrator with revisions or updates of the MSDS's as soon as may be reasonably possible