



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 206-2011**

**UPGRADE FILTER SYSTEM AND CIRCULATION PUMP – WINDSOR OUTDOOR  
POOL, 333 SPEERS**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

- B1.1 UPGRADE FILTER SYSTEM AND CIRCULATION PUMP – WINDSOR OUTDOOR POOL, 333 SPEERS

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, April 28, 2011.
- B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.
- B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

### **B3. SITE INVESTIGATION**

- B3.1 Further to C3.1, the Contract Administrator or an authorized representative will be available at the Site from 10:30 a.m. to 11:30 a.m. on April 21, 2011 to provide Bidders access to the Site.
- B3.2 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 D3.1.
- B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.
- B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.
- B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.
- B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B5. ADDENDA**

- B5.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopplasp>

B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B6. SUBSTITUTES**

B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.

B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.

B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:

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

B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.

B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.

B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.

B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.

- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

**B7. BID COMPONENTS**

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices;
- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B7.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg, MB R3B 1J1
- B7.5.1 Samples or other components of the Bid Submission 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 Submission.
- B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B14.1(a).
- B7.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.
- B7.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.
- B7.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

**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 10 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;
- (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B8.4.2 All signatures shall be original.

B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

B9.1 The Bidder shall state the lump sum price in Canadian funds for the Work on Form B: Prices.

B9.2 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **B10. QUALIFICATION**

B10.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

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

B10.4 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.

B10.5 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. OPENING OF BIDS AND RELEASE OF INFORMATION**

B11.1 Bids will not be opened publicly.

B11.2 Following the Submission Deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>

B11.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>

B11.4 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.

### **B12. IRREVOCABLE BID**

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B12.2 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 for the time period specified in Paragraph 9 of Form A: Bid.

### **B13. WITHDRAWAL OF BIDS**

B13.1 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.

B13.1.1 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.

B13.1.2 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 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B13.1.3 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 10 of Form A: Bid; and



- (c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.

B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 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.

#### **B14. EVALUATION OF BIDS**

B14.1 Award of the Contract shall be based on the following bid evaluation criteria:

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

B14.2 Further to B14.1(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.

B14.3 Further to B14.1(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.

B14.4 Further to B14.1(c), the Total Bid Price shall be the lump sum price shown on Form B: Prices.

#### **B15. AWARD OF CONTRACT**

B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B15.2 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.

B15.2.1 Without limiting the generality of B15.2, 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.

B15.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B14.

B15.3.1 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.

B15.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

**B15.5** The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

## PART C - GENERAL CONDITIONS

### C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](http://www.winnipeg.ca/matmgt/gen_cond.stm)
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

## PART D - SUPPLEMENTAL CONDITIONS

### GENERAL

#### D1. GENERAL CONDITIONS

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

#### D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of upgrading the filter system and circulation pumps at Windsor Outdoor Pool, 333 Speers Road.

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

- (a) VACUUM SYSTEM: Supply one (1) portable vacuum system, complete with cart and cartridge filter. Standard of Acceptance: Hayward Tristar 1hp, with Harmsco BKP Portable Filter model#BF155BKPSC.
- (b) DEMOLITION
  - (i) Disconnect and remove chlorination system. Store and re-install.
  - (ii) Disconnect, remove and dispose of all remaining mechanical equipment in the east mechanical room.
  - (iii) Disconnect, remove and turnover to City float system and controls.
  - (iv) Disconnect, remove and dispose of existing electrical panel feeding pumps. Disconnect, remove and dispose of existing electrical feeds and wall outlets for the old pumps.
  - (v) Cut down concrete filter tank to 4" below grade. Break out existing concrete floor in east room and re-pour, ensuring correct slope for drain., and drill drain holes in the bottom of the tank.
- (c) NEW CONCRETE WORK
  - (i) Drill 1" drain holes in bottom of tank, backfill tank with gravel and compact.
  - (ii) Install new 4" 25MPa concrete slab, c/w 10mm rebar reinforcement. Dowel into tank walls at 18" o.c.
  - (iii) Provide vault clay water bar on cold joint between slab and existing tank.
- (c) NEW MECHANICAL WORK
  - (v) Equipment: Supply and install the following new equipment:

QTY	ITEM
2	5-1/2 hp circulation pumps. Standard of Acceptance: Hayward
4	36" top mount sand filters, c/w sand. Standard of Acceptance: Hayward
1	6" saddle type flow meter. Standard of Acceptance: Blue & White
9	1 1/2" vinyl liner return fittings. Standard of Acceptance: Hayward LDP150. To be mounted with Easy Inlet adapters.
1	Auto Pump Shut-Off System, complete with remote horn. Standard of Acceptance: Emotron

- (vi) Mechanical Drawings: Provide preliminary mechanical drawings for review.
- (vii) Drains:

- (i) Extend existing vertical drain pipe to be 3'-0" above new finished floor level.
  - (ii) Existing 4" PVC drain at north end of room to be used as floor drain. Cut off below new finished floor level, modify as required, and install SS floor drain cover. **Ensure new slab slopes to this floor drain.**
  - (viii) New Return Fittings
    - (i) Cut and excavate 100' x 1' trench in pool deck, parallel to building, and into doorway to mechanical room for new return piping lines
    - (ii) Core 9 3" holes evenly spaced along east pool wall for additional inlet return fittings.
    - (iii) Install and plumb inlet fittings back to mechanical room with 4" main
    - (iv) Backfill trench with gravel and compact. Top with 4" 25MPa concrete, c/w 10mm rebar reinforcement. Broom finish to match existing. Dowel into cold joints every 18" o.c.
  - (ix) Install 6" suction manifold and 6" discharge manifold. Plumb pumps and filters in parallel to manifolds
  - (d) NEW ELECTRICAL WORK
    - (i) Supply and install new 120/230V 3 phase panel c/w bolt-on breakers.. Standard of Acceptance: Square D.
    - (ii) Relocate 2 circuits for the chlorine system from the adjacent panel to the new panel.
    - (iii) Supply and install electrical feeds to all new equipment. Supply and install lockable disconnects for pumps. Re-connect existing equipment as required.
- D2.3 The Work shall include all labour, material, equipment and services required for a complete and functional system.
- D2.4 Provide equipment start-up, commissioning and training.
- D2.5 Provide engineered as-built drawings of the pool system, as required by Manitoba Safety and Health. Drawings shall show electrical systems as well.
- D2.6 Contractor shall arrange and pay for all necessary permits and inspections, and obtain all necessary approvals of the installation and operation. On completion of Work, submit Certificates of Acceptance from Authority Having Jurisdiction to Contract Administrator.

### D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Kathy Roberts  
Project Officer  
185 King Street, 4<sup>th</sup> Floor, Winnipeg MB R3B 1J1  
Telephone No. (204) 470-7380  
Facsimile No. (204) 986-7311

D3.2 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.

### D4. CONTRACTOR'S SUPERVISOR

D4.1 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.

## **D5. NOTICES**

- D5.1 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.
- D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.
- D5.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg  
Chief Financial Officer  
Facsimile No.: (204) 949-1174
- D5.4 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  
Legal Services Department  
Attn: Director of Legal Services  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1  
Facsimile No.: (204) 947-9155

## **SUBMISSIONS**

### **D6. AUTHORITY TO CARRY ON BUSINESS**

- D6.1 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.

### **D7. SAFE WORK PLAN**

- D7.1 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.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/safety/default.stm>

### **D8. INSURANCE**

- D8.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed

operations, to remain in place at all times during the performance of the Work and throughout the warranty period;

- (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;

D8.2 Deductibles shall be borne by the Contractor.

D8.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than seven (7) Calendar Days from notification of the award of Contract by Purchase Order.

D8.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

## **D9. PERFORMANCE SECURITY**

D9.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), 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.

D9.1.1 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.

D9.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of Purchase Order and prior to the commencement of any Work on the Site.

## **D10. SUBCONTRACTOR LIST**

D10.1 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 seven (7) Calendar Days from notification of the award of Contract.

## **D11. SECURITY CLEARANCE**

D11.1 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.

D11.2 The Criminal Record Search shall include a Vulnerable Sector Search. This can be obtained by completing and providing the following in person to the Winnipeg Police Service Bureau of Police Records, 4<sup>th</sup> Floor, 151 Princess Street:

- (a) Form P-612 Check the following boxes: Vulnerable Sector; and Other by inputting the Bid Opportunity Number in the space provided. This form can be found on the website at:

[www.winnipeg.ca/police/BPR/forms/Criminal\\_Record\\_Check\\_P612.doc](http://www.winnipeg.ca/police/BPR/forms/Criminal_Record_Check_P612.doc)

- (i) Individuals will need to state in Section 2 of the form, that they may be working in City of Winnipeg pools, libraries and community centres;
  - (ii) Individuals will need to sign and date Section 3 of the form.
- (b) Two (2) pieces of identification as stated in Bureau of Police Records on the website at: [www.winnipeg.ca/police/BPR/id.stm](http://www.winnipeg.ca/police/BPR/id.stm)
- (c) Fee for each individual applying for a Criminal Record Search. Fee schedule can be found on the website at: [www.winnipeg.ca/police/BPR/fees.stm](http://www.winnipeg.ca/police/BPR/fees.stm)
- D11.2.1 The original Criminal Record Search Certificate (Form P-253) will be provided by the Winnipeg Police Service to the individual applicant. The original has a validation sticker from the Winnipeg Police Service in the top right hand corner. The applicant shall:
- (a) Provide the original Criminal Record Search Certificate (Form P-253) to the Contract Administrator.
- D11.3 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 Work.
- D11.4 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.
- D11.5 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.
- D11.6 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**

### **D12. COMMENCEMENT**

- D12.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.
- D12.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence that the Contractor is 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;
    - (ii) evidence of the workers compensation coverage specified in C6.15;
    - (iii) the Safe Work Plan specified in D7;
    - (iv) evidence of the insurance specified in D8;
    - (v) the performance security specified in D9;
    - (vi) the Subcontractor list specified in D10; and
    - (vii) the security clearances specified in D11.
  - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.



D12.3 The Contractor shall not commence the Work on the Site before September 6, 2011.

D12.4 The City intends to award this Contract by May 16, 2011

D12.4.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

### **D13. CRITICAL STAGES**

D13.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

(a) **June 17, 2011**: Deliver portable vacuum system to Site.

### **D14. SUBSTANTIAL PERFORMANCE**

D14.1 The Contractor shall achieve Substantial Performance by **October 28, 2011**.

D14.2 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.

D14.3 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.

### **D15. TOTAL PERFORMANCE**

D15.1 The Contractor shall achieve Total Performance by **June 22, 2012**.

D15.2 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.

D15.3 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.

### **D16. LIQUIDATED DAMAGES**

D16.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Calendar Day for each and every Calendar Day following the days fixed herein for same during which such failure continues:

- (a) Deliver portable vacuum system – five hundred dollars (\$500);
- (b) Substantial Performance – two hundred dollars (\$200);
- (c) Total Performance – two hundred dollars (\$200).

D16.2 The amounts specified for liquidated damages in D16.1 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.

D16.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **CONTROL OF WORK**

### **D17. JOB MEETINGS**

- D17.1 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.
- D17.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

### **D18. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

- D18.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

## **MEASUREMENT AND PAYMENT**

### **D19. INVOICES**

- D19.1 Further to C12, the Contractor shall submit an invoice for each order delivered to:  
The City of Winnipeg  
Corporate Finance - Accounts Payable  
4th Floor, Administration Building, 510 Main Street  
Winnipeg MB R3B 1B9  
Facsimile No.: (204) 949-0864  
Email: [CityWpgAP@winnipeg.ca](mailto:CityWpgAP@winnipeg.ca)
- D19.2 Invoices must clearly indicate, as a minimum:
- (a) the City's purchase order number;
  - (b) date of delivery;
  - (c) delivery address;
  - (d) type and quantity of goods delivered;
  - (e) the amount payable with GST shown as a separate amount; and
  - (f) the Contractor's GST registration number.
- D19.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.
- D19.4 Bids Submissions must be submitted to the address in B7.5.

### **D20. PAYMENT**

- D20.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

### **D21. PAYMENT SCHEDULE**

- D21.1 Further to C12, payment shall be in accordance with the following payment schedule:
- (a) Progress #1: Delivery of portable vacuum system to site

- (b) Progress #2: Substantial Performance (to 95% of Contract)
- (c) Progress #3: Total Performance

## **WARRANTY**

### **D22. WARRANTY**

- D22.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter unless extended pursuant to C13.2.1 or C13.2.2.
- D22.2 Notwithstanding C13.2 or D22.1, the warranty period for the portable vacuum systems shall commence on the date of Substantial Performance, and shall expire (1) year thereafter, unless extended pursuant to C13.2.1 or C13.2.2.

**FORM H1: PERFORMANCE BOND**  
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

\_\_\_\_\_ ,  
(hereinafter called the "Principal"), and

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

\_\_\_\_\_ dollars (\$\_\_\_\_\_)

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

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

BID OPPORTUNITY NO. 206-2011

UPGRADE FILTER SYSTEM AND CIRCULATION PUMP – WINDSOR OUTDOOR POOL, 333 SPEERS

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

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

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

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

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

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

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ .

**SIGNED AND SEALED**  
in the presence of:

\_\_\_\_\_  
(Witness as to Principal if no seal)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)**  
(See D9)

\_\_\_\_\_  
(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 206-2011

UPGRADE FILTER SYSTEM AND CIRCULATION PUMP – WINDSOR OUTDOOR POOL, 333  
SPEERS

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

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

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

\_\_\_\_\_ Canadian dollars.

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

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

Partial drawings are permitted.

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

\_\_\_\_\_  
(Address)

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

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

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

\_\_\_\_\_  
(Date)

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

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

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

\_\_\_\_\_  
(Name of bank or financial institution)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

Per: \_\_\_\_\_  
(Authorized Signing Officer)





## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
1	WINDSOR PARK POOL – WATER SLIDES – 287 SPEERS ROAD SITE PLAN & NOTES
M-1	WINDSOR PARK POOL – 287 SPEERS ROAD CRAWLSPACE DRAINAGE & PLUMBING – PLANS, SECTIONS

- E1.4 Execute Work in accordance with the latest editions and supplements of the applicable regulations and standards listed below and as stated in the specifications.
- (a) Manitoba Building Code
  - (b) Manitoba Fire Code
  - (c) Canadian Electrical Code
  - (d) Canadian Standards Association
  - (e) Manitoba Workplace Safety and Health Act
  - (f) Federal, Provincial and Municipal government laws, rules, ordinances and codes, where applicable.
- E1.5 Where specified standards are not dated, conform to the latest issue of specified standard, amended and revised as of the date for receipt of bids.
- E1.6 Work shall meet or exceed requirements of specified standards, codes, and referenced documents. Even if permitted by preceding regulations and standards, grade of Work shall in no case be lower than specified in project specifications.
- E1.7 Contractor shall examine all plans and specifications. Any discrepancy noted in the drawings and/or specifications and/or actual site conditions shall be identified to the Contract Administrator prior to close of bidding, in as timely a fashion as possible.
- E1.8 Plans do not indicate all construction details. Any installation involving accurate measurements of the building shall be co-ordinated with construction plans and/or actual on site measurements.

#### E2. HAZARDOUS MATERIALS

- E2.1 If asbestos or other hazardous materials are encountered during the Work of the Contract, the Contractor shall stop all work and notify the Contract Administrator immediately. Removal of

hazardous materials shall be dealt with by the City and the Contractor shall await further instruction by the Contract Administrator.

### **E3. MATERIAL AND EQUIPMENT**

- E3.1 Contractor shall be responsible for all transportation, handling, protection, storage and disposal of materials and equipment.
- E3.2 Products, materials and equipment incorporated in the Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of Products provided.
- E3.3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is a precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

### **E4. MATERIAL SAFETY DATA SHEETS**

- E4.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials and regarding labelling and provision of material safety data sheets acceptable to Labour Canada.
- E4.2 Contractor shall provide the Contract Administrator with one (1) copy of Material Safety Data Sheets (MSDS's) for all products to be used in the performance of the Work at least two (2) Business Days prior to bringing such materials to Site.
- E4.3 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.

### **E5. SHOP DRAWINGS**

- E5.1 Within two (2) weeks after award of Contract, submit shop drawings for review by Contract Administrator.
- E5.2 Include equipment supplier, manufacturer, trade name and model number. Also include sufficient technical data to check that equipment meets requirements of drawings and specifications, including details of construction, dimensions, capacities, weights, electrical performance characteristics of equipment or material. Where applicable, include wiring, single line and schematic diagrams. Include diagrams or plans, showing interconnection with other sections.
- E5.3 Include dimensional data for roughing in and installation, technical data sufficient to check that equipment meets requirements of drawings and specifications. Include wiring, piping and service connection data, and motor sizes complete with voltage ratings and schedules.
- E5.4 Contractor shall be responsible for securing and verifying field dimensions. In cases where fabrication must proceed prior to field dimensions being available, check all shop drawings and approve for dimensions only. In this case, guarantee that dimensions will be worked to, and ensure that other trades are aware of these dimensions and shall comply to them.
- E5.5 Maintenance and operating manuals are not suitable submittal.
- E5.6 Review by Contract Administrator shall be mutually understood to refer to general design only. If errors in detailed dimensions or interference with Work are noticed, attention of Contractor will be called to such errors or interferences, but Contract Administrator's review of drawings will not in any way relieve Contract from responsibility for said errors or interferences or from necessity of furnishing such Work and materials as may be required for completion of the Work.

## **E6. QUALITY OF WORK**

- E6.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Contract Administrator if required Work is such as to make it impractical to produce required results.
- E6.2 Do not employ anyone unskilled in his or her required duties. Contract Administrator reserves right to require dismissal from site, workers deemed incompetent or careless.
- E6.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Contract Administrator, whose decision is final.

## **E7. USE OF SITE AND PREMISES**

- E7.1 Contractor shall allow for continued access to the building and office throughout the construction period and shall ensure that both the building and office's entering and exiting is maintained to the approval of the Local Authorities having Jurisdiction, local by-laws, and Work Place Safety and Health Policies. This will also be applicable to street accesses.
- E7.2 No Work shall occur outside designated Work areas during normal working hours when the office is open.
- E7.3 Construction personnel must use only designated entrances for access to Work areas, delivery of materials and/or equipment and removal of construction debris.
- E7.4 Restrict equipment, Work, workers and storage of construction materials, tools, equipment, etc. to designated areas and established routes to and from Work areas. Confirm designated areas and routes with Contract Administrator.
- E7.5 Any deliveries or movement that must occur through the main reception area shall be scheduled and arranged with the Contract Administrator prior to commencement of such delivery or activity, and the Contractor shall submit a Safety Access Plan.
- E7.6 Keep all fire lanes, egress, and access routes clear at all times.

## **E8. SITE SAFETY AND TRAFFIC CONTROL**

- E8.1 Contractor shall observe and enforce all construction safety measures required by the Manitoba Building Code, Worker's Compensation Board, Municipal Statute or By-Laws. In the event of a conflict between any provisions of the above authorities, the most restrictive provision shall apply.
- E8.2 All Work performed shall meet Workplace Safety and Health Act standards. Contractor shall ensure that all workers follow safe working practises, including but not limited to CSA Z462-08 and NFPA 70E.
- E8.3 Contractor shall be responsible for taking steps to protect building staff and the public from any hazards related o the Work.
- E8.4 Contractor shall maintain traffic flow around the building. Contractor's operations shall in no way interfere with the safe movement of vehicle and pedestrian traffic.

## **E9. HOUSEKEEPING**

- E9.1 All interior areas, sidewalks, streets, approaches, driveways and properties near the Work Site shall be kept clean of debris and materials related to the Work at all times by the Contractor.
- E9.2 Contractor shall maintain a clean and safe Work area.

## **E10. AS BUILT DRAWINGS**

E10.1 Contractor will create and provide 1 AutoCAD drawing file on CD, and three (3) full-size hard copy prints of the AutoCAD file. Hard copy drawings must be marked "As-Built", and must be signed and dated by Contractor to signify their accuracy.

## **E11. OPERATING AND MAINTENANCE MANUALS**

E11.1 To satisfy Total Performance, Contractor shall provide three (3) of Operating and Maintenance Manuals in binders, as follows:

- (a) Organize data into 2" D-ring vinyl hard covered binders
- (b) Cover: Identify each binder (typed or printed) with: date, Bid Opportunity number, title of the Project, and Project address
- (c) Arrange content by tabbed systems identified in a Table of Contents.
- (d) Table of Contents
  - (i) List full names, addresses and telephone numbers of applicable sub-trades and suppliers, including local source of supplies and replacement parts.
  - (ii) Occupancy Permit and Inspection Certificates from the Authority Having Jurisdiction.
  - (iii) Warranties under separate tabs - list subcontractor, supplier, and manufacturer, with name, address and telephone number of responsible principal.
  - (iv) Equipment: For each item of equipment and each system: include model number and description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
  - (v) Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control stopping, shut-down and emergency instruction. Include summer, winter, and any special operating instructions.
  - (vi) Maintenance Requirements:
    - ◆ Include routine procedures and guide for trouble-shooting disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
    - ◆ Include manufacturer's printed operation and maintenance instructions.
    - ◆ Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams
    - ◆ Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
  - (vii) Include test and balancing reports. Pool chemical balancing shall be done by the City.
- (e) Verify that documents are in proper form, contain full information, and are notarized where applicable.

## **E12. TRAINING**

E12.1 Contractor shall provide a minimum of 8 hours of instruction in operation and maintenance of all equipment and systems, to the satisfaction of the Contract Administrator. Training shall occur after system installation, when systems are properly working, and before final payment is made. Training instruction shall be given using the Operating and Maintenance Manuals (see E11).

E12.2 Training instructions shall include:

- (a) General description of each system.

- (b) Step by step procedure to follow in putting each piece of equipment into operation, as well as seasonal and/or maintenance shutdown.
- (c) Provide schematic control diagrams for each separate system. Each diagram shall show locations of start-stop switches, sensors, thermostats, gauges and valves. Mark correct operating settings for each control instrument on these diagrams.
- (d) Provide diagram for electrical control system showing wiring of related electrical control items such as firestats, fuses, interlocked switches and relays.
- (e) Provide a drawing of each temperature control panel identifying components on the panels and their function.

E12.3 Maintenance instructions shall include:

- (a) Manufacturer's maintenance instruction for each piece of equipment installed in the Project. Instructions shall include name of vendors, installation instructions, part numbers and lists, operation of equipment, maintenance and lubrication, instruction and safety device setting within acceptable operating ranges.

### **E13. MECHANICAL**

E13.1 All pipe, fittings and valving to be manufactured in North America. Mechanical clamp T fitting may be used as part of a low point drain only. Press fit is not approved for use on any system.

E13.2 Pipe penetrations through walls shall be made watertight.

E13.3 Drawings:

- (a) Provide preliminary mechanical drawings for review by Contract Administrator prior to installation.
- (b) Provide engineered as-built drawings of the pool system, as required by Manitoba Safety and Health. As-built drawing set shall show electrical systems and distribution.

E13.4 Piping:

- (a) Interior: PVC schedule 40
- (b) Exterior: 75 psi CSA-approved polypipe
- (c) Underground: PVC schedule 80, or 75 psi CSA-approved polypipe

E13.5 Valves:

- (a) Valves 2" and smaller shall be full-port ball type, 2-1/2" and larger shall be ball or butterfly type. Generally, valves shall be full-port ball type where possible, confirm valve selection with Contract Administrator.
- (b) Drain Valves 2" and smaller shall be gate or ball valves, 2-1/2" and larger shall be gate valves
- (c) Check Valves shall be spring-loaded silent type

E13.6 Insulation:

- (a) All pipe insulation shall have a flame spread rating of not greater than 25, and maximum smoke developed rating of 50, in accordance with CAN4-S102. All canvas shall bear ULC label. Flame proofing treatment subject to deterioration due to effects of high humidity are not acceptable.
- (b) Work shall be performed by licensed journeyman.
- (c) Apply insulation, materials, accessories and finishes in accordance with manufacturer's recommendations. (joints to be on top)

- (d) Pack solid around all pipes where they pass through sleeves in walls, floor slabs, etc. for full thickness of floor and/or wall with fibreglass insulation. Insulated pipes having vapour barrier jacket to pass through walls, floors, etc. to accommodation full insulation thickness. Protect insulation of exposed pipes passing through floors with 1.2mm (18 ga.) galvanized iron 150mm (6") from finished floor.
- (e) Vapour barriers and insulation to be complete over the full length of pipe without penetration for hangers, standing duct seams and without interruption at sleeves.
- (f) Fibreglass Piping Insulation
  - (i) Fasten longitudinal laps with staples and seal with Swift Adhesive #3218.
  - (ii) Butt joints wrapped with a 100mm strip of ASJ. Stagger joints multiple layers.
  - (iii) Refinish exposed piping with brush coat Flintguard No. 120 white fire retardance lagging adhesive.
  - (iv) All fittings 12mm (1/2") to 55mm (2") shall be insulated by wrapping with 25mm (1") thick layers of 13kg/M3 density flexible fibreglass attached with jute twine, fittings 65mm (2-1/2") and over with preformed fittings. Surface shall be wrapped with Friction Tape and sealed with an asphaltic sealing compound. Over this to be applied a smooth coating of insulating cement. Recover fittings with ASJ vapour seal jacket and brush coat with fire retardant white lagging adhesive.
- (g) Standard of Acceptance: Mason, Fibreglass, Atlas, Knauf

**E13.7 Housekeeping Pads:**

E13.8 Provide four inch (4") high concrete housekeeping pads and equipment bases for the new pumps. Housekeeping pads shall extend a minimum 6 inches beyond the equipment or supported member in all directions. Provide pads with half-inch chamfer on all exposed edges, placed and finished smooth and level to ensure proper and continuous support for the bearing surfaces of equipment

**E13.9 Vibration Isolation:**

- (a) Provide vibration isolation on all motor driven equipment with electric motors of 0.37 kW (0.5 HP) and greater power output and on piping and ductwork as specified herein. For equipment less than 0.37 kW (0.5 HP), provide neoprene grommets at the support points.
- (b) Pumps: Provide rubber floor isolators: Rubber-neoprene-in-shear isolators designed to meet specified seismic requirements. Select isolators for a 6 mm (0.25") minimum static deflection, and bolt to structure. Provide protection of the rubber element to prevent oil coming in contact.
- (c) Neoprene isolation shall be tested to ASTM specification stating "No." minimum and maximum Tensile strength, minimum and maximum Elongation at break.

E13.10 Manufacturer's Nameplates: Provide on each piece of equipment. Do not obscure. Locate nameplates so that they are easily read.

E13.11 Piping Identification: Identify piping by painting, direction of flow by arrows. Paint shall be commercial grade, suitable for environment. Contract Administrator to select colours.

**E14. ELECTRICAL**

E14.1 Electrical equipment and material shall be new and CSA and/or CAN/ULC certified. Electrical components and equipment which are not CSA approved shall be approved by the Authority Having Jurisdiction prior to installation. Pay for all costs associated with obtaining the necessary approval.

E14.2 System grounding and bonding shall be as per the current edition of the Canadian Electrical Code, the current edition of the CSA, and all local codes and bylaws.

- E14.3 At no time will the Contractor leave any energized electrical equipment or devices open or exposed without having qualified electrical personnel working on or guarding the exposed electrical components.
- E14.4 In general and where practical, all conductors should be continuous (no splices) from their point of origin to their point of termination.
- E14.5 All fasteners and hangers shall be corrosion resistant stainless steel. Plated or galvanized fasteners/hangers are not acceptable.
- E14.6 All electrical work shall be carried out by qualified, licensed electricians or apprentices. Employees registered in a provincial apprenticeship program shall be permitted, under the direct supervision of a qualified licensed electrician, to perform specific tasks – activities permitted shall be determined based on the level of training attained and the demonstration of ability to perform specific duties.
- E14.7 Conduit:
- (a) Branch circuit shall be in rigid PVC conduit with watertight fittings (minimum size 21mm /  $\frac{3}{4}$ ").
  - (b) Conduit fill shall not exceed 40 percent of interior cross sectional area where three or more cables are contained within a single conduit.
  - (c) Run conduit and/or TECK cable parallel or perpendicular to building lines.
- E14.8 Conductors in Conduit:
- (a) Type: RW90
  - (b) Conductors: solid copper #10 AWG and smaller, minimum wire size #12 AWG
  - (c) Insulation: cross link polyethylene (RW90), (RWU90), 90 deg C
  - (d) Configuration: single conductor
  - (e) Voltage Rating: minimum 600V
  - (f) Certification: CSA C22.22 No. 38 or latest revision
- E14.9 Armoured Cable: Electrical drops to mechanical equipment shall be TECK cable with watertight fittings.
- (a) Type: TECK
  - (b) Conductors: solid copper #10 AWG and smaller, minimum wire size #12 AWG
  - (c) Insulation: cross link polyethylene (RW90), (RWU90), 90 deg C
  - (d) Configuration: multi-conductor as required, c/w a separate bare copper ground wire
  - (e) Voltage Rating: minimum 600V
  - (f) Inner Jacket: black polyvinyl chloride (PVC), low flame spread (LFS), low gas emission (LGE)
  - (g) Armour: inter-locked aluminum
  - (h) Outer Jacket: black polyvinyl chloride (PVC), -40 deg C, low flame spread (LFS), low gas emission (LGE)
  - (i) Flame Rating: FT4
  - (j) Certification: CSA C22.22 No. 131 or latest revision
- E14.10 Megger circuits, feeders and equipment up to 350V with a 500V instrument.
- E14.11 Check resistance to ground before energizing.
- E14.12 Manufacturer's Nameplates: Provide on each piece of equipment. Do not obscure. Locate nameplates so that they are easily read.

- E14.13 Equipment Identification: Identify electrical equipment with lamacoid nameplates. Nameplates shall be 1/8" thick plastic engraving sheet, black face with white core, mechanically attached (screwed or riveted). Contract Administrator to approve sizes and wording prior to manufacture. Submit schedule of nameplates and wording for approval.
- E14.14 Panelboard Directories: Provide a typewritten panelboard directory for each panel where Work has been done. Where there is an existing panelboard directory, the new directory shall be placed in front of the existing one.