



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 42-2013**

**SEWPCC VENTILATION AND MISCELLANEOUS UPGRADES**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 SEWPCC VENTILATION AND MISCELLANEOUS UPGRADES

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 pm Winnipeg time, May 8, 2013.

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, a Site meeting will be held at 9:30 AM on April 18, 2013 to provide Bidders access to the Site.

B3.2 Bidders must be at the front entrance of the SEWPCC facility promptly at the time specified to obtain access.

B3.3 Bidders attending the Site Investigation must wear CSA approved safety footwear, a hard hat, and safety glasses while in the process areas of the Site.

B3.4 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

### **B4. ENQUIRIES**

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

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B5. ADDENDA**

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

- B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B5.2.2 The Bidder is responsible for ensuring that he/she 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.
- B5.2.3 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/her sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- 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/she 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/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with 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/her own name, his/her name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- 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/her own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
  - (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- 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 a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B9.4 The Bidder shall state a labour rate for additional unforeseen labour for Form B, Items 21 and 22. The rate shall be inclusive of:
- (a) Any potential overtime or night-time work that may be required.
  - (b) Additional general requirements including safety, ventilation, etc.
  - (c) The maximum permissible labour rates for unforeseen work are shown on Form B. In the event that the labour rate indicated on Form B, is greater than the specified maximum rate, the maximum rate will be utilized for the purpose of bid evaluation and payment.

(d) Escalation shall not apply to the labour rates.

B9.5 Form B, Item 23 is an allowance for additional material that may be required due to unforeseen changes to the work. Prices for material shall be based upon mark-ups as defined in E8.7.

B9.6 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);
- (d) be normally engaged in and fully competent in mechanical, electrical, and automation works of a similar nature and employ qualified journeyman familiar with the equipment and devices being installed

B10.4 Further to B10.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractors has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/> .

B10.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B11. 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/bidopp.asp>
- 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/her 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/her Bid after the Submission Deadline but before his/her 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/her Bid or in other information required to be submitted, that he/she is responsible and qualified.

B14.4 Further to B14.1(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.

B14.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B14.4.2 Further to B14.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

## **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/her 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 electrical and mechanical upgrades to the SEWPCC facility

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

- (a) Re-insulation of ducts where asbestos insulation has been removed by others under Bid Opportunity 40-2013 and where required for the fire damper upgrades.
- (b) Install a new ventilation system along with an associated control system for the Wet Well.
- (c) Upgrade the ventilation system for the Electrical Room and Blower Room, and replace the associated control system.
- (d) Install a new sump and flood pump in the Boiler Room.
- (e) Provide modifications to the existing DCS program as specified.
- (f) Install fire dampers in various areas of the plant.
- (g) Supply and installation of structural supports.
- (h) Provision of temporary construction structures/scaffolding.

#### **D3. DEFINITIONS**

D3.1 When used in this Bid Opportunity:

- (a) "**SEWPCC**" means South End Water Pollution Control Centre;
- (b) "**PLC**" means Programmable Logic Controller;
- (c) "**VFD**" means Variable Frequency Drive.

#### **D4. CONTRACT ADMINISTRATOR**

D4.1 The Contract Administrator is SNC Lavalin Inc, represented by:

Tim Church  
Electrical Engineer  
tim.church@snclavalin.com

Telephone No. (204) 786-8080  
Facsimile No. (204) 786-7934

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

D4.3 Bids Submissions must be submitted to the address in B7.5.

#### **D5. CONTRACTOR'S SUPERVISOR**

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

**D6. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE**

- D6.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.
- D6.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.
- D6.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;
- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
  - (b) the Contract, all deliverables produced or developed; and
  - (c) any statement of fact or opinion regarding any aspect of the Contract.
- D6.4 A Contractor who violates any provision of D6 may be determined to be in breach of Contract Notices.

**D7. NOTICES**

- D7.1 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.
- D7.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D7.3, D7.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D4.1.
- D7.3 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
- D7.4 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 facsimile number:
- The City of Winnipeg  
Legal Services Department  
Attn: Director of Legal Services  
Facsimile No.: 204 947-9155

**D8. FURNISHING OF DOCUMENTS**

- D8.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him/her at cost.

## SUBMISSIONS

### D9. AUTHORITY TO CARRY ON BUSINESS

D9.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

### D10. SAFE WORK PLAN

D10.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D10.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

### D11. INSURANCE

D11.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
- (b) Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
- (c) all risks course of construction insurance, including testing and commissioning, in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, at all times during the performance of the Work and until the date of Total Performance.
- (d) The Contractor or sub-contractor that is providing the DCS (Distributed Control System) programming modifications, to provide evidence of :
  - (i) professional errors or omissions liability insurance for an amount of \$1,000,000 per claim and \$2,000,000 aggregate.
  - (ii) professional errors and omissions liability insurance to remain in place for the duration of the Project and for 12 months after total performance

D11.2 Deductibles shall be borne by the Contractor.

D11.3 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.

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

## **D12. PERFORMANCE SECURITY**

- D12.1 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.
- D12.1.1 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.
- D12.2 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.

## **D13. DETAILED WORK SCHEDULE**

- D13.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D13.2 The detailed work schedule shall consist of the following:
- (a) a critical path method (C.P.M.) schedule for the Work;
  - (b) a Gantt chart for the Work based on the C.P.M. schedule;
- all acceptable to the Contract Administrator.
- D13.3 Further to D13.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:
- (a) the Commencement date
  - (b) Substantial Performance date
  - (c) Total Performance date
  - (d) milestone dates for critical stages of the Work
  - (e) commencement and completion dates for work as identified in the Detailed Scope of Work in E4
- D13.4 Further to D13.2(b), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each work task. The time shall be on the horizontal axis, and the task shall be on the vertical axis.
- D13.5 The Contractor shall provide regular schedule updates to the Contract Administrator, at intervals no longer than one month.
- D13.6 Upon acceptance by the Contract Administrator, the Contractor shall distribute copies of the Detailed Work Schedule (original and any subsequent revisions) to Subcontractors and other concerned parties.

- D13.7 The Work Schedule shall be updated by the Contractor as the work requires and submitted to the Contract Administrator.
- D13.8 The Contractor shall instruct recipients to report to the Contractor immediately any problems anticipated by the timetable shown in the Work Schedule.
- D13.9 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, the work shall be undertaken.
- D13.10 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.

## **SCHEDULE OF WORK**

### **D14. COMMENCEMENT**

- D14.1 The Contractor shall not commence any Work until he/she is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.
- D14.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D9;
    - (ii) evidence of the workers compensation coverage specified in C6.15;
    - (iii) the Safe Work Plan specified in D10;
    - (iv) evidence of the insurance specified in D11;
    - (v) the performance security specified in D12; and
    - (vi) the detailed work schedule specified in D13.
  - (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.
- D14.3 The City intends to award this Contract by June 14, 2013
- D14.3.1 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.

### **D15. CRITICAL STAGES**

- D15.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) The re-insulation of ductwork in E4.2 is required to be completed before substantial heating is required. Therefore, the Contractor shall complete this work by October 31, 2013. This work will have to be coordinated with the Asbestos Abatement project (Bid Opp. 40-2013)
  - (b) Expedite the replacement of the Wet Well exhaust fans as they are nearing the end of their service life. Expedited shop drawing review process will be coordinated by the Contract Administrator prior to formal award of the bid. The Contractor shall complete this work by November 29, 2013.

### **D16. SUBSTANTIAL PERFORMANCE**

- D16.1 The Contractor shall achieve Substantial Performance by **April 30, 2014**.

D16.2 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.

D16.3 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.

#### **D17. TOTAL PERFORMANCE**

D17.1 The Contractor shall achieve Total Performance by **May 30, 2014**.

D17.2 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.

D17.3 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.

#### **D18. LIQUIDATED DAMAGES**

D18.1 If the Contractor fails to achieve Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:

- (a) Substantial Performance – five hundred dollars (\$500);
- (b) Total Performance – one hundred dollars (\$100).

D18.2 The amounts specified for liquidated damages in D18.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Substantial Performance or Total Performance by the days fixed herein for same.

D18.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

#### **CONTROL OF WORK**

##### **D19. JOB MEETINGS**

D19.1 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.

D19.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

**D20. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D20.1 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).

**D21. COOPERATION WITH OTHERS**

D21.1 The Contractor shall note that several other construction projects will be underway at the SEWPPCC facility, including, but not limited to:

(a) SEWPPCC Asbestos Abatement (Bid Opportunity 40-2013)

D21.2 Bid Opportunities for the above are available at the City of Winnipeg Materials Management website at <http://www.winnipeg.ca/matmgt/bidopp.asp>.

D21.3 The Contractor will not have exclusive use of the Site. The Contractor shall coordinate activities with others and minimize disruptions to others, where possible.

**MEASUREMENT AND PAYMENT**

**D22. PAYMENT**

D22.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**D23. PAYMENT SCHEDULE**

D23.1 Further to C12, payment shall be in accordance with the following payment schedule:

- (a) A maximum of 25% of Form B, Item 1 or 2.5% of the Total Bid Price, whichever is less, may be submitted for progress payment upon mobilization as per E4.1. In the event that 2.5% of the Total Bid Price is less than 25% of Form B, Item 1, the remaining amount will be paid out upon Substantial Performance.
- (b) A maximum of 15% of Form B, Item 1 or 1.5% of the Total Bid Price, whichever is less, may be submitted for progress payment upon provision of a detailed work schedule. In the event that 1.5% of the Total Bid Price is less than 15% of Form B, Item 1, the remaining amount will be paid out upon Substantial Performance.
- (c) A maximum of 15% of Form B, Item 1 or 1.5% of the Total Bid Price, whichever is less, may be submitted for progress payment upon provision of a detailed work schedule updates. In the event that 1.5% of the Total Bid Price is less than 15% of Form B, Item 1, the remaining amount will be paid out upon Substantial Performance.
- (d) A maximum of 95% of Form B, Item 1 will be paid out upon Substantial Performance. The remaining 5% will be paid out upon Total Performance.
- (e) A maximum of 95% of Form B, Item 2 through Item 19 may be submitted for progress payments prior to the total completion of the associated services. The remaining 5% will be paid out upon total completion all of the associated work, including the required O&M Manual or other associated documentation.

**WARRANTY**

**D24. WARRANTY**

D24.1 Notwithstanding C13.2, the warranty period 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.

- D24.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.
- D24.2 Notwithstanding C13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.
- D24.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

**FORM H1: PERFORMANCE BOND**  
(See D12)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

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

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

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

BID OPPORTUNITY NO. 42-2013

SEWPCC VENTILATION AND MISCELLANEOUS UPGRADES

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

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

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

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

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

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

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

SIGNED AND SEALED  
in the presence of:

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

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

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

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

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

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

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)**  
(See D12)

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

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 42-2013  
SEWPCC VENTILATION AND MISCELLANEOUS UPGRADES

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

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

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

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

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

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

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

Partial drawings are permitted.

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

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

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

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

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

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

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

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

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

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

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

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

## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Specification No.</u>	<u>Specification Title</u>
01 33 00	Submittal Procedures
01 42 00	References
01 45 00	Quality Control
01 51 00	Temporary Utilities
01 52 00	Construction Facilities
01 56 00	Temporary Barriers and Enclosures
01 61 00	Common Product Requirements
01 73 03	Execution Requirements
01 74 11	Cleaning
01 78 00	Closeout Submittals
01 79 00	Demonstration and Training
01 91 00	Commissioning
05 12 23	Structural Steel For Buildings
05 50 00	Metal Fabrications
07 84 00	Fire Stopping
09 91 23	Painting
22 10 10	Plumbing Pumps
22 13 18	Drainage Waste and Vent Piping - Plastic
23 05 00	Common Work Results for HVAC
23 05 05	Piping and Fittings
23 05 13	Common Motor Requirements for HVAC Equipment
23 05 22	Valves – Bronze
23 05 54	Mechanical Identification
23 05 93	Testing, Adjusting and Balancing for HVAC
23 07 13	Duct Insulation
23 07 20	Thermal Insulation for Piping
23 08 02	Water Treatment
23 09 33	Electric and Electronic Control System for HVAC
23 31 14	Metal Ducts – Low Pressure to 500 Pa
23 33 00	Air Duct Accessories
23 33 14	Dampers – Balancing
23 33 15	Dampers – Operating
23 33 16	Dampers – Fire and Smoke
23 34 00	HVAC Fans
23 37 13	Diffusers, Registers and Grilles
23 41 00	Particulate Air Filtration
23 82 00	Liquid Heat Transfer

26 05 01	Common Work Results – Electrical
26 05 21	Wire and Cables (0-1000V)
26 05 29	Hangers and Supports for Electrical Systems
26 05 31	Splitters, Junction, Pull Boxes and Cabinets
26 05 32	Outlet Boxes, Conduit Boxes And Fittings
26 05 34	Conduits, Conduit Fastenings, and Conduit Fittings
26 05 36	Cable Trays for Electrical Systems
26 08 05	Acceptance Testing
26 27 26	Wiring Devices
26 28 21	Moulded Case Breakers
26 29 10	Motor Starters to 600 V
26 29 23	Variable Frequency Drives
40 05 01	Common Work Results - Automation
40 80 08	Factory Acceptance Test
40 80 11	Automation Commissioning
40 91 00	Automation – Process Measurement Devices
40 94 43	Programmable Logic Controllers
40 95 13	Control Panels
40 95 20	Human Machine Interface
40 95 74	Junction Boxes – Automation
40 99 01	Training
40 99 90	Maintenance and Support

Drawing No.                      Drawing Name/Title

	Cover Sheet
1-0102A-D0002	Drawing Index
1-0102A-A0001-001	P&ID, Legend And Details
1-0102A-A0001-002	P&ID, Legend And Details
1-0102A-A0001-003	P&ID, Legend And Details
1-0102A-B0001	Facility Floor Plan, Lower Level
1-0102A-B0002	Facility Floor Plan, Main Level
1-0102A-E0008	Installation Detail, Typical Floor Penetration Requirements
1-0102A-M0008	Plan View, Fire Damper Upgrades, Key Plan
1-0102A-S0001	Plan and Sections, Typical Housekeeping Pad
1-0102B-A0013	P&ID, Instrument Air Header
1-0102B-A0024	P&ID, Miscellaneous
1-0102B-A0030	Instrument Loop Diagram, Boiler Room Flood Level, B580-LT
1-0102B-A0031	Panel Layout, Junction Boxes, JBA-B580, JBP-B580
1-0102B-E0006	Plan Layout, Service Building Electrical And Generator Room
1-0102B-E0012	Plan Layout, Boiler Room
1-0102B-E0013	Motor Schematic, B580-SMP Flood Pump
1-0102B-M0001	Plan View, Fire Damper Upgrades, Service Building Mechanical Room
1-0102B-M0002	Plan View, Fire Damper Upgrades, Workshop
1-0102B-M0003	Plan View, Fire Damper Upgrades, Boiler Room
1-0102B-M0004	Plan View, Boiler Room Sump Pumps, Flood Upgrades
1-0102B-S0001	General Notes
1-0102B-S0002	Plan, Section And Detail, Boiler Room Backup Sump Pit
1-0102B-S0003	Plan, Elevations And Details, Pipe Rack Over Sump Pits
1-0102G-A0021	P&ID, Hot Water Booster Pumps, G671-HWP and G672-HWP
1-0102G-A0022	P&ID, Glycol Heat Recovery, G670-GP
1-0102G-A0026-D01	P&ID, Electrical Room And Blower Room Cooling Unit, G682-AHU - Demolition
1-0102G-A0026-001	P&ID, Electrical Room And Blower Room Cooling Unit, G682-AHU
1-0102G-A0051	Junction Box Layout, JBA-GDC-G1
1-0102G-A0058	Instrument Loop Diagram, G501 Wet Well Gas Alarm & G607 Vent. Failure
1-0102G-A0065	Instrument Loop Diagram, Ventilation Interlock, Loop G500
1-0102G-A0071	P&ID, Gas Detection
1-0102G-A0085-002	Panel Layout, FDP-G Front View
1-0102G-A0086-002	Panel Layout, FDP-G Rear View

1-0102G-A0087	Network Block Diagram, Grit Building Process Network,
1-0102G-A0090	Instrument Loop Diagram, G606-HS, G606-YL-1, G606-YL-2
1-0102G-A0093	P&ID, Wet Well Ventilation
1-0102G-A0094	P&ID, Wet Well Upper Level AHU, G601-SF
1-0102G-A0095	P&ID, Wet Well Supply And Exhaust Fans, G602-SF, G686-EF, G687-EF
1-0102G-A0096	P&ID, Electrical Room Exhaust Fan, G692-EF
1-0102G-A0097	Instrument Plan, Wet Well Mechanical Room - G129
1-0102G-A0098	Instrument Plan, Wet Well And Foyer
1-0102G-A0099	Instrument Plan, Dry Well Mechanical Room - G130, West Side
1-0102G-A0100	Panel Layout, LCP-G1
1-0102G-A0101-001	Power Distribution Schematic, LCP-G1
1-0102G-A0101-002	Power Distribution Schematic, LCP-G1
1-0102G-A0102-001	Wiring Diagram, LCP-G1 Discrete Inputs
1-0102G-A0102-002	Wiring Diagram, LCP-G1 Discrete Inputs
1-0102G-A0103	Wiring Diagram, LCP-G1 Discrete Outputs
1-0102G-A0104	Wiring Diagram, LCP-G1 Analog Inputs
1-0102G-A0105	Wiring Diagram, LCP-G1 Analog Outputs
1-0102G-A0106	Terminal Layout, LCP-G1 Miscellaneous
1-0102G-A0107	Panel Layout, LCP-G2
1-0102G-A0108-001	Power Distribution Schematic, LCP-G2
1-0102G-A0108-002	Power Distribution Schematic, LCP-G2
1-0102G-A0109	Wiring Diagram, LCP-G2 Discrete Inputs
1-0102G-A0110	Wiring Diagram, LCP-G2 Discrete Outputs
1-0102G-A0111	Wiring Diagram, LCP-G2 Analog Inputs
1-0102G-A0112	Wiring Diagram, LCP-G2 Analog Outputs
1-0102G-A0113	Terminal Layout, LCP-G2 Miscellaneous
1-0102G-A0114	Instrument Loop Diagram, G601-FT, Wet Well Upper Level Supply Air Flow
1-0102G-A0115	Instrument Loop Diagram, G602-FT, Wet Well Lower Level Air Flow
1-0102G-A0116	Instrument Loop Diagram, G603-TT-1, G603-TT-2, G603-TV, Flushing Water Heat Recovery
1-0102G-A0117	Instrument Loop Diagram, G604-TV, Hot Water Heat
1-0102G-A0118	Instrument Loop Diagram, G601-PDS, G603-FSL, G604-FSL
1-0102G-A0119	Instrument Loop Diagram, G608-PDT, Wet Well Differential Pressure
1-0102G-A0120	Instrument Loop Diagram, G682-TT-1, G682-TT-2, G682-TT-3
1-0102G-A0121	Instrument Loop Diagram, G682-FV-1, G682-FV-2, G682-PV-3, G682-AHU Intake, Return, And Relief Dampers
1-0102G-A0122	Instrument Loop Diagram, G682-TV-1, G682-AHU Heating Control
1-0102G-A0123	Instrument Loop Diagram, G682-TV-2, G682-AHU Cooling Control
1-0102G-A0124	Instrument Loop Diagram, G682-PDT
1-0102G-A0125	Instrument Loop Diagram, G682-FSL
1-0102G-A0126	Instrument Loop Diagram, G692-TT
1-0102G-A0127	Panel Layout, Junction Boxes
1-0102G-A0128	Installation Details
1-0102G-E0007	Plan Layout, Grit Building Electrical Room
1-0102G-E0011	Panel Schedules, Grit Building Electrical Room,
1-0102G-E0013	Electrical Classification Plan, Grit Building Lower Level
1-0102G-E0014	Electrical Classification Plan, Grit Building Main Level And Standby Gen Building
1-0102G-E0015	Electrical Classification Plan, Wet Well And Foyer
1-0102G-E0016	Electrical Classification Plan, Grit Building Upper Level
1-0102G-E0036-001	Motor Schematic, G601-SF Fan
1-0102G-E0036-002	Motor Schematic, G601-SF Fan
1-0102G-E0037-001	Motor Schematic, G602-FN Fan
1-0102G-E0037-002	Motor Schematic, G602-FN Fan
1-0102G-E0038-001	Motor Schematic, G687-EF Fan
1-0102G-E0038-002	Motor Schematic, G687-EF Fan
1-0102G-E0039	Motor Schematic, G686-EF Fan
1-0102G-E0040	Motor Schematic, G603-GP Glycol Pump

1-0102G-E0041	Motor Schematic, G604-GP Glycol Pump
1-0102G-E0042	Motor Schematic, G692-FN Fan
1-0102G-E0043	Motor Schematic, G682-AHU Air Handling Unit
1-0102G-E0044	Cable Tray Routing, Grit Building, Motor Room
1-0102G-E0045	Cable Tray Routing, Grit Building, Mechanical Rooms
1-0102G-E0046	Panel Layout, VFD-G601
1-0102G-E0047	Panel Layout, VFD-G602
1-0102G-E0048	Panel Layout, VFD-G687
1-0102G-M0007	Plan View, Fire Damper Upgrades, Drywell Mechanical Room
1-0102G-M0008	HVAC Plan And Sections, Wet Well Ventilation
1-0102G-M0009	HVAC Ducting Plan, Wet Well Ventilation
1-0102G-M0010	HVAC Ducting Section, Wet Well Ventilation
1-0102G-M0011	Schedule And Details, Wet Well Ventilation
1-0102G-M0012	HVAC Plan Layout, Grit Building Blower And Electrical Rooms
1-0102G-M0013	HVAC Details And Sections, Wet Well Ventilation
1-0102G-M0014	HVAC Demolition Plan, Wet Well Ventilation
1-0102G-M0015	Plan and Sections, Wet Well Exhaust Stack
1-0102G-M0028	Sections and Details, Wet Well Ventilation
1-0102G-S0017	Mechanical Opening and Details, Grit Building Motor Room
1-0102G-S0018	Mechanical Opening and Details, Wet Well Mechanical Room
1-0102G-S0019	Plan and Details, Grit Tank Room Fall Restraints
1-0102G-S0020-001	Plan and Details, Grit Ventilation Penthouse, G686-EF Roof Stack Supports
1-0102G-S0020-002	Plan and Details, Grit Ventilation Penthouse, G686-EF Roof Stack Supports
1-0102S-M0001	Plan View, Fire Damper Upgrades, Ventilation and Electrical Room
SEP-829	MCC Section, MCC-1G
SEP-830	MCC Section, MCC-2G
SEP-908	MCC Section, MCC-2B
SEP-2117	Instrument Loop Diagram, G682-AHU
SEP-2118	Instrument Loop Diagram, G682-AHU
SEP-2124	Instrument Loop Diagram, G686-EF Fan
SEP-2125	Instrument Loop Diagram, G687-EF Fan

<u>Filename.</u>	<u>Document Code</u>	<u>Document Name/Title</u>
42-2013_Cable_Schedule.pdf	112577-0116-47EL-0001	Cable Schedule
42-2013_Electrical_Forms	112577-0116-47RA-0001	Electrical Forms
42-2013_FRS_DCS.pdf	112577-0116-48ER-0002	Functional Requirements Specification – DCS
42-2013_FRS_PLC.pdf	112577-0116-48ER-0001	Functional Requirements Specification – PLC
42-2013_Instrument_Datasheets.pdf	112577-0116-48ED-0001	Instrument Datasheets
42-2013_Instrument_List.pdf	112577-0116-48EL-0003	Instrument List
42-2013_Instrumentation_Forms.pdf	112577-0116-48RA-0001	Instrumentation Forms
42-2013_PLC-G10_IO_List.pdf	112577-0116-48EL-0001	PLC-G1 I/O List
42-2013_PLC-G11_IO_List.pdf	112577-0116-48EL-0002	PLC-G2 I/O List
42-2013_VFD_Settings.pdf	112577-0116-47ED-0001	VFD Settings Sheets

## E2. HAZARDOUS MATERIALS

E2.1 Asbestos has been identified in the following areas that are related to the work, but will be removed under the Asbestos Abatement project (Bid Opp. 40-2013) :

- (a) Dry Well Mechanical Room
  - (i) Fresh Air Intake Duct Insulation
  - (ii) Supply Air Duct Insulation
- (b) Wet Well Mechanical Room

- (i) Fresh Air Intake Duct Insulation
- (c) Service Building Mechanical Room
  - (i) Grit Tank Room Exhaust Duct Insulation
  - (ii) Fresh Air Intake Duct Insulation
  - (iii) Supply Air Duct Insulation
  - (iv) Hot Water Supply and Return Piping Insulation
- (d) Service Building Workshop
  - (i) Supply Air Duct Insulation
- (e) Secondary Clarifier Ventilation Room
  - (i) Supply Air Duct Insulation
- (f) Secondary Clarifier Electrical Room
  - (i) Supply Air Duct Insulation

E2.2 Asbestos has been identified in the following areas that are related to the work, and will remain after the Asbestos Abatement project (Bid Opp. 40-2013) is completed. It is not within the scope of this project to remove asbestos from these areas.

- (a) Grit Control Room
  - (i) Non-friable Asbestos in the drywall
- (b) Grit Blower Room
  - (i) Supply Air Duct Insulation
- (c) Service Building Storage Room
  - (i) Hot Water Supply and Return Piping Insulation
- (d) Service Building Electrical Room
  - (i) Supply Air Duct Insulation

E2.3 Ensure any applicable precautions are taken when working in areas containing asbestos.

E2.4 Other than the asbestos in the identified spaces, 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.

### **E3. EXPEDITED SHOP DRAWINGS**

E3.1 In order to expedite Shop Drawings with critical timelines, the Lowest Responsive Bidder, as outlined in B14, will be permitted, after receiving written approval from the Contract Administrator, to arrange for the preparation of Shop Drawings for the following items with critical timelines:

- (a) Exhaust Fans G686-EF and G687-EF.

E3.2 If Award is made to the Lowest Responsive Bidder, then no specific payment for the preparation of Shop Drawings will be made.

E3.3 If no contract is awarded, then the City of Winnipeg will pay the requested Bidder up to a maximum of one thousand dollars (\$1000.00) for the complete set of requested submissions noted above, for the preparation and delivery of Shop Drawings. Delivery of the Shop Drawings to the City and payment of the above amounts will constitute full and final consideration of each party to the other, and neither party will have any further liability to the other with respect to this Bid Opportunity.

### **E4. DETAILED SCOPE OF WORK**

The detailed scope of work includes, but is not limited to the following:

#### E4.1 General Requirements

- (a) Include the following items in the unit price bid for General Requirements:
  - (i) Mobilization;
  - (ii) Demobilization;
  - (iii) Insurance; and
  - (iv) Bonding.
  - (v) Provision of a schedule and corresponding schedule updates as per D13.
- (b) The Contractor is eligible for payment of mobilization services (as per D23.1) when the Contract Administrator is satisfied that:
  - (i) The Contractor has met all the Commencement requirements specified in D14.
  - (ii) The Contractor has mobilized equipment and substantially initiated work on Site.

#### E4.2 Re-insulation

- (a) Following the installation of fire dampers outlined in Section E4.15, re-insulate ductwork where insulation has been removed in Bid Opportunity 40-2013.

#### E4.3 Wet Well Ventilation Upgrades – Structural

- (a) Supply and install structural support on underside of Wet Well Mechanical Room Floor.
- (b) Supply and install structural supports for exhaust fan roof stack.

#### E4.4 Wet Well Ventilation Upgrades – Temporary Structures

- (a) Install temporary structures in the wet well to support the required construction work.
  - (i) See E12 for further details.

#### E4.5 Wet Well Ventilation Upgrades – Ductwork in Wet Well

- (a) Supply and install ductwork as shown on the drawings. Ductwork to be supported from the wet well concrete.

#### E4.6 Wet Well Ventilation Upgrades – Exhaust Fan Roof Stack

- (a) Supply and install exhaust fan roof stack as shown on the drawings.

#### E4.7 Wet Well Ventilation Upgrades - Mechanical

- (a) Remove two existing exhaust fans, dampers, and ductwork.
- (b) Provide new floor penetrations into the Wet Well for the supply ductwork.
- (c) Supply and install two supply fans and ductwork for the Wet Well ventilation.
- (d) Supply and install equipment and associated piping for a heat recovery system and hot water heating system.
- (e) Supply and install two exhaust fans, dampers, and ductwork for Wet Well ventilation.
- (f) Completely test and commission the new system.

#### E4.8 Wet Well Ventilation Upgrades – Electrical

- (a) Supply, install and test the following:
  - (i) Wet Well Ventilation VFD Cabinets
  - (ii) Motor starters and breakers in existing MCC-1G and MCC-2G for Wet Well Ventilation Upgrades
  - (iii) Cabling between MCCs, VFDs, and motors.
- (b) Provide grounding conductors as required to ground all components of fans G686-EF and G687-EF.
- (c) Provide cable tray for cables from Grit Electrical Room to Wet Well Mechanical Room.

- (d) Install arc flash labels as supplied by the Contract Administrator.

E4.9 Wet Well Ventilation Upgrades – Automation

- (a) Supply, install, test, and commission the complete automation system as per drawings and specifications.
- (b) Supply, install, connect, wire, setup, calibrate, and commission all new instrumentation.
- (c) Supply and install control panel LCP-G1.
- (d) Perform PLC and HMI programming.
- (e) Supply and install automation field junction boxes as indicated in the drawings.
- (f) Install automation wiring to the VFDs. Test and commission.
- (g) Install automation wiring to the motor starters. Test and commission.
- (h) Connect LCP-G1 to the existing Plant Modbus TCP network.

E4.10 Electrical Room and Blower Room Ventilation Upgrades - Mechanical

- (a) Remove existing face and bypass equipment from existing air handling unit G682-AHU.
- (b) Supply and install a new heating coil for existing air handling unit G682-AHU.
- (c) Supply and install new valves for the heating and cooling coils.
- (d) Supply and install new ducting and grilles for Electrical Room and Blower Room return air.
- (e) Supply and install new exhaust fan, ducting, and exhaust outlet for Electrical Room.
- (f) Completely test, rebalance, and commission the new system.

E4.11 Electrical Room and Blower Room Ventilation Upgrades – Electrical

- (a) Supply, install and test the following:
  - (i) Motor starters in existing MCC-2G for G682-AHU and G692-EF.
  - (ii) Cabling between MCC-2G and the motor for G692-EF.
- (b) Provide cable tray in the Dry Well Mechanical Room for G682-AHU and G692-EF control cables.

E4.12 Electrical Room and Blower Room Ventilation Upgrades – Automation

- (a) Supply, install, test, and commission the complete automation system as per drawings and specifications. Work shall include, but not be limited to the following items.
- (b) Supply, install, connect, wire, setup, calibrate, and commission all new instrumentation.
- (c) Supply and install control panel LCP-G2.
- (d) Perform PLC and HMI programming.
- (e) Supply and install automation field junction boxes as indicated in the drawings.
- (f) Install automation wiring to the motor starters. Test and commission.
- (g) Connect LCP-G2 to the existing Plant Modbus TCP network.
- (h) Provide services of a qualified networking technician to set up Ethernet switches in NP-M1 and NP-G1 with correct Layer-2 switch protocols to connect in a ring topology.

E4.13 Boiler Room Flood Pumping Upgrades – Structural

- (a) Construct a new sump pit in the Boiler Room.
- (b) Construct a Unistrut support for piping and conduit.

E4.14 Boiler Room Flood Pumping Upgrades – Mechanical and Electrical Work

- (a) Supply and install a new pump B580-SMP in the new sump pit.
- (b) Supply and install piping from B580-SMP to the Grit Effluent Channel.

- (c) Supply and install a level transmitter with associated wiring and conduit.
- (d) Modify existing spare starter in MCC-2B and provide wiring for B580-SMP.
- (e) Completely test and commission the new sump pump and controls.

E4.15 Fire Damper Upgrades

- (a) Supply and install fire dampers as shown on the drawings.

E4.16 Grit Tank Room Wall Anchors

- (a) Supply and install wall anchors in Grit Tank room as shown on the drawings.

E4.17 Rolling Stairway

- (a) Provide a rolling stairway as per the drawings and specifications. See Section E15 for details.

E4.18 DCS Programming

- (a) Provide DCS Programming Services associated with the upgrades in this Bid Opportunity. The required DCS programming modifications are described in the Functional Requirements Specification (112577-0116-48ER-0002). The software modifications are to include the BRC (Bridge Controller), HPG 800 (Harmony Gateway), and HMI (PCV 5.4) modifications.
  - (i) The City will supply the existing software configuration to the Subcontractor responsible for the programming.
- (b) Provide all required software licences to perform the work.
- (c) Submit PDF printouts of the completed programming logic for review. Make all changes as requested by the Contract Administrator.
- (d) Simulate and test the logic changes prior to loading at site. This shall be part of a comprehensive Factory Acceptance Test.
- (e) The following companies are approved to perform the DCS Programming:
  - (i) ABB
  - (ii) Or approved equal in accordance with B6.

E4.19 DCS Commissioning – On Site

- (a) Provide on-site DCS commissioning services.
- (b) Make changes beyond those included in the original contract documents as requested by the Contract Administrator.
- (c) Include costs of all travel to site for commissioning.
- (d) The City reserves the right to only pay for hours actually expended on commissioning. The Contractor is responsible for costs associated with:
  - (i) On-site programming that is to be performed as part of E4.18.
  - (ii) Time utilized on-site by the DCS programmer / commissioning person due to the Contractor's error in scheduling or significant installation issues that prohibit the commissioning process from proceeding.
- (e) The following companies are approved to perform the DCS Commissioning:
  - (i) ABB
  - (ii) Or approved equal in accordance with B6.

**E5. DANGEROUS WORK CONDITIONS**

- E5.1 Further to clause C 6.26 of the General Conditions, the Contractor shall be aware that the Wet Well level below the upper platform is considered a confined space and shall follow the

"Guidelines for confined Entry Work" as published by the Manitoba Workplace Safety and Health Division.

- E5.2 The Contractor shall be aware of the potential hazards that can be encountered in the Wet Well such as explosive gases, toxic gases and oxygen deficiency. The Contractor's Safe Work Plan should address these issues.
- E5.3 The air in a confined space must be tested before entry and continuously during the time that personnel are inside the space. Equipment for continuous monitoring of gases must be explosion-proof and equipped with a visible and audible alarm. The principal tests are for oxygen deficiency, explosion range and toxic gases. Testing equipment must be calibrated in accordance with manufacturer's specifications.
- (a) The Contractor is responsible for all testing requirements.
- E5.4 The Contractor shall ventilate all confined spaces as required and approved by the Manitoba Workplace Safety and Health Act (the "Act"). If no ventilation is supplied, a worker must wear a respirator or supplied air to enter the confined space.
- E5.5 Workers must wear a respirator or supplied air at all times when entering the wet well, when appropriate ventilation is not present.
- E5.6 The Contractor shall provide a photo-ionization detector (PID) and toxic gas detector on site at all times to monitor potential hydrocarbon vapours and hydrogen sulphide in the confined spaces. The gas detector and safety equipment conforming to the Act shall be made available to the Contract Administrator for his use during inspections.
- E5.7 Prior to the disruption of ventilation system to allow for the installation of fire dampers, review the associated implications with the Contract Administrator and the City, and provide required procedures to ensure a safe working environment for the Contractor and City personnel. It is expected that the following will commonly be required during ventilation interruptions.
- (a) Use of personal portable gas detectors by all Contractor's personnel.
- (b) Temporary measures including operating alternate fans and/or opening of doors.
- (c) Limiting the work to short duration sections, and allow the ventilation to be intermittently restored to ventilate the space.
- E5.8 Extended shutdown of ventilation systems will not be permitted. Ventilation must be completely restored at the end of each working day, unless temporary ventilation is in place, and/or as approved by the Contract Administrator.
- E5.9 The Contract Administrator may issue a stop work order to the Contractor if the above guidelines are not being followed. The Contractor shall not resume operations until the Contract Administrator is satisfied the Contractor is following the appropriate procedures. The Contractor shall have no claim for extra time or costs due to the stop work order for not following these safety guidelines.

## **E6. HAZARDOUS LOCATION REQUIREMENTS**

- E6.1 Work in areas defined as electrical hazardous locations is subject to the following requirements.
- E6.2 All work must be performed in accordance with Manitoba Department of Labour requirements.
- E6.3 All tools must be appropriately rated for the hazardous location, unless a Gas Free Work Permit (GFWP) system is utilized in accordance with ISA TR12.13.03-2009. Specific requirements include, but are not limited to:
- (a) A signed Gas Free Work Permit (GFWP) is required to be completed each day.
- (b) A portable gas detection system is to be provided and utilized adjacent to each unrated tool or work that could potentially produce an ignition source.

- (i) Check each portable detection systems for functionality with a known concentration of combustible gas daily.
  - (ii) Take initial measurements to confirm the absence of a combustible concentration of gas throughout the work area.
  - (iii) Provide continuous gas detection monitoring adjacent to the work.
  - (iv) Monitoring of gas detection equipment to be provided by properly trained personnel.
  - (v) Provide and maintain contingency plans for emergencies. Train all personnel in appropriate response to emergencies.
- (c) Monitor the existing ventilation systems, and provide appropriate response in the event of ventilation failure.

E6.4 Gas detectors must be approved to detect both combustible gasses and H<sub>2</sub>S.

## **E7. SPECIFIC REQUIREMENTS**

- E7.1 The Contractor shall provide all materials, fabrications, finishes, temporary installation, documentation, shop drawings, means and methods necessary to fully install all of the new works identified on the contract drawings in a safe manner, fit-for-purpose intended. The description of work provided herein is intended to be a general description of work activities, and is not intended to be an exhaustive listing of all tasks necessary to complete the scope of installations given on the drawings or specifications.
- E7.2 Exercise care where cutting holes in existing concrete elements so as not to damage existing reinforcing.
- (a) Follow the requirements outlined on drawing 1-0102A-E0008.
  - (b) For reinforced concrete floors, locate existing reinforcing utilizing a reinforcing bar locator and mark out on the surface of the concrete prior to cutting.
    - (i) Mark the location of the proposed hole and all adjacent rebar.
    - (ii) Obtain approval from the Contract Administrator prior to cutting.
- E7.3 The Contractor shall exercise care where installing anchors into existing concrete elements so as not to damage existing reinforcing. All anchors shall be installed utilizing carbide tip drill bits. The existing reinforcing shall be located utilizing a reinforcing bar locator and marked out on the surface of the concrete. The drill holes shall be advanced to the required depth for installation of the anchors. Should reinforcement be encountered while drilling, terminate the hole and reposition to clear the reinforcement. Do not use core bits that can easily intercept and damage/cut the reinforcing during drilling.
- E7.4 The Contractor shall abide by the Arc Flash PPE requirements of CSA-Z462, Workplace Electrical Safety, and the arc flash labels on existing facility equipment.
- E7.5 Wire nuts
- (a) Wire nuts are not permitted in conduit bodies.
  - (b) Wire nuts are permitted in junction boxes for lighting and receptacle wiring only.
- E7.6 The fire dampers in Detail 1 and 2 on drawing 1-0102G-M0007 are specified as “out-of-wall/floor” type and are listed for this type of installation. No additional drywall is needed to achieve the fire rating.
- E7.7 The fire dampers shown within the floor on drawing 1-0102G-M0008 have been specified to be in-floor because of ductwork issues. They are multi-blade dampers that must be in the floor and the opening will have to be an appropriate size to accommodate them.

## **E8. ADDITIONAL WORK**

- E8.1 Additional work may be necessitated due to unforeseen circumstances that may arise during the course of the project due to:
- (a) Additions to the scope of Work by the Contract Administrator, beyond that defined herein.
  - (b) Other issues that occur on site, which require significant Contractor time to address.
- E8.2 Additional services will not be initiated for:
- (a) Reasons of lack of performance or errors in execution.
  - (b) Scheduling changes initiated by the City, where at least 24 hours notice is given prior to the Contractor's scheduled time to be on site.
- E8.3 Should it be determined that additional material or services are required, the Contract Administrator shall approve the work, prior to commencement of the additional work.
- E8.4 Additional labour for DCS Programming and Commissioning will be reimbursed at the rate specified on Form B: Item 20. The rate will not be adjusted for Subcontractors or individuals with specialized skills, without specific approval of the Contract Administrator.
- E8.5 Additional labour for Mechanical work will be reimbursed at the rate specified on Form B: Item 21. The rate will not be adjusted for Subcontractors or individuals with specialized skills, without specific approval of the Contract Administrator.
- E8.6 Additional labour for Electrical and Automation work will be reimbursed at the rate specified on Form B: Item 22. The rate will not be adjusted for Subcontractors or individuals with specialized skills, without specific approval of the Contract Administrator.
- E8.7 Material Mark-up Factors
- (a) The base cost is to be the wholesale cost of the material, regardless of the Contractor or Subcontractor supplying the material.
  - (b) In general, the party (Contractor or Subcontractor) supplying the material is the party that purchases the material from a supplier who does not perform any work on site, unless otherwise determined by the Contract Administrator.
- E8.7.1 Where the Contractor is supplying the material, the mark-up on the material is limited to fifteen percent (15%).
- E8.7.2 Where a Subcontractor is supplying the material, the total mark-up on the material, including all Subcontractors and the Contractor is limited to twenty-five percent (25%), including the Contractor and all Subcontractors' mark-ups.
- E8.7.3 Where the Contractor's immediate Subcontractor is supplying the material:
- (a) The Subcontractor's mark-up on the material is limited to fifteen percent (15%).
  - (b) The Contractor's mark-up on the material is limited to ten percent (10%).
- E8.7.4 A Third-Level Subcontractor is a Subcontractor of a Subcontractor of the Contractor.
- (a) No Third-Level Subcontractors on this project are approved for additional mark-up.
  - (b) In the event that a Third-Level Subcontractor is utilized, that is not approved for additional mark-up, the Contractor is responsible for coordinating the split of the maximum approved mark-up between the Contractor and Subcontractors.
- E8.8 The Contract Administrator may also request a written quotation for the additional work. For any work, where a written quotation is provided, and subsequently authorized, the valuation of the work shall be as per the quotation, regardless of the actual cost to the Contractor.
- (a) Quotations shall indicate the labour hours and base cost of material, as well as mark-up factors.

- (b) Labour Rates shall correspond to Form B, unless specifically authorized by the Contract Administrator.
- (c) Material Mark-up Factors shall be consistent with E8.7.

## **E9. LOCATION AND ACCESS TO FACILITIES**

- E9.1 The Work specified hereinafter will take place at the SEWPCC, located at 100 Ed Spencer Drive Winnipeg, MB, R2N 4G3.
- E9.2 Access to the facility will be between 7:45 am and 3:45 pm, Monday to Friday excluding statutory or civic holidays.
- E9.3 Inform the Contract Administrator at least 24 hours in advance where the Contractor intends to carry out Work outside normal working hours. Do not initiate work outside normal working hours without the Contract Administrator's approval except when the Work is unavoidable or absolutely necessary for:
  - (a) Preventing injury to any person or saving the life of any person; or
  - (b) Preventing damage to property where the circumstances placing the property in danger could not reasonably have been foreseen and where the immediate carrying out of such Work is necessary in order to prevent damage to that property; in which case the Contractor shall immediately advise the Contract Administrator in writing that such Work outside the normal working hours is necessary and of the reasons for this. He shall also state the nature and extent of Work to be carried out.
- E9.4 Coordinate activities with City personnel and any other contractors that may be working concurrently on the Site.
- E9.5 Additional details and requirements regarding facility access will be provided to the Contractor. The Contractor must comply with all City policies set forth in this document, and detailed instructions provided after the Work is awarded.

## **E10. FACILITY OPERATION REQUIREMENTS**

- E10.1 The facilities related to the Work are critical to the treatment of wastewater for the City of Winnipeg. Under no condition shall equipment or power be shut down without prior permission of the Contract Administrator. Similarly, coordination and approval are required prior to returning the equipment back into service. The Contractor is responsible for preparing shutdown schedules in conjunction with the Contract Administrator and the City. The Contractor shall work within the schedule and any procedures given, and shall advise the Contract Administrator of any issues or concerns, prior to performing the Work.
- E10.2 The Work shall be scheduled and performed such that there is minimal disturbance to SEWPCC plant operation.
- E10.3 Hot work shall end no less than one (1) hour prior to end of shift and area inspected prior to daily departure by the Contractor's site supervisor and / or tradesman.
- E10.4 Some of the work will require shutdown of equipment. All equipment shutdown requirements require 24-48 hours notice. Coordinate the work to minimize the amount of time that equipment shutdown will be required. In addition, the Contractor shall be flexible to work around specific City operational requirements. Specific requirements that the Contractor is required to adhere to include:
  - (a) All equipment will be isolated by City personnel.
  - (b) Any electrical shutdowns affecting more than one branch circuit must be less than two hours in duration. Any longer shutdown which may be required must be coordinated with the Contract Administrator.

- (c) In case of accidental equipment shutdown, the Contractor must notify SEWPCC staff immediately for their corrective action. Under no circumstances shall the Contractor start or restart equipment.
- (d) Other process and safety requirements, as identified by the City or Contract Administrator.

E10.5 It is possible that equipment failure within the SEWPCC, or another unforeseen condition, could cause an event where construction must be stopped immediately and equipment brought back online. The City, upon their sole discretion, may delay or stop the Work at any time, require the Contractor to return all or equipment into service as soon as possible, and reschedule the Work.

E10.6 During dry weather flows, one of the two Wet Wells may potentially be drained by the City. The upstream sluice gates, however, do not have a perfect seal and some wastewater is expected to leak into the Wet Well. The Contractor must be prepared to address some inflows of wastewater in the event the proposed work involves construction of a temporary structure from the bottom of the Wet Well. It should be noted that the bottom of the Wet Well is not flat and the level cannot be pumped out completely. There may be a level of approximately 0.5 m of wastewater left in the Wet Well after it has been completely pumped out. Existing structural drawings of the Wet Well will be available after award, upon request.

## **E11. DETAILED WORK PLAN AND SHUTDOWN REQUESTS**

E11.1 Submit a Detailed Work Plan document for review and approval by the Contract Administrator on each Thursday, indicating the following:

- (a) Detailed description of all work planned for the next week. Where required or requested by the Contract Administrator, provide:
  - (i) The proposed construction sequence to be followed including all methods to be employed to ensure that no damage or unintended service outages occur.
  - (ii) A description of all proposed methods of construction to be implemented.
  - (iii) Specialized equipment that may be used.
- (b) Planned shutdowns within the next 2- 4 weeks.
- (c) Any design revisions proposed to accommodate the Contractor's proposed method of construction.
- (d) The Contractor shall respond to any concerns that may be raised by the Contract Administrator's review of the Contractor's construction methods submission.

E11.2 All shutdowns require detailed planning and approval by the City. The Contractor must submit a Shutdown Request Form a minimum of two weeks prior to a shutdown, indicating:

- (a) Purpose of Shutdown
- (b) Proposed date and time
- (c) Detailed Description of the Work
- (d) Impact on Facility Operation (brief description)
- (e) Potential Risks that could extend the shutdown or impact facility operation. (brief description)
- (f) Estimated duration.
- (g) Maximum duration (with issues)
- (h) Contingency Plans
- (i) City personnel required to be present

E11.3 No work shall proceed without the inclusion of the work on a Detailed Work Plan and corresponding approval of the work by the Contract Administrator.

E11.4 Typical forms for completion of the Detailed Work Plan and Shutdown Requests will be provided by the Contract Administrator for completion by the Contractor.

## **E12. TEMPORARY STRUCTURES**

- E12.1 It is expected that temporary structures will be required to install the ventilation ductwork within the wet well. These temporary structures will be the responsibility of the Contractor.
- (a) Provide drawings sealed by a Professional Engineer licensed to practice in Manitoba, indicating the details of temporary structures to be utilized.
  - (b) All safety requirements are the responsibility of the Contractor.
  - (c) Original structural drawings of the wet well will be made available to the Contractor, upon request after award.
- E12.2 Potential solutions are provided below as concepts only, and the neither the City nor the Contract Administrator verify the feasibility or safety of the below solutions.
- (a) One solution for the installation of the ductwork above the platform level may be to install steel beams across the wet well open chamber, and install a temporary working platform on the beams.
  - (b) A bosun's chair, hung from a temporary structure, may potentially be utilized for work below the platform level.
  - (c) Install scaffolding from the bottom of the wet well.
- E12.3 The Contractor's proposed methods must not permanently damage the structure of the Wet Well, or compromise its integrity. No penetrations through the Wet Well walls will be permitted. It is expected that the use of small concrete anchors will be acceptable. Avoid existing reinforcing steel as stipulated in E7.3. Repair temporary holes made with non-shrinking grout. The Contractor's proposed methods will be reviewed at the shop drawing submittal stage.

## **E13. TEMPORARY VENTILATION**

- E13.1 Provide temporary ventilation during construction period, including attendance and maintenance.
- E13.2 Construction heaters, if used inside building must be vented to outside or be flameless type.
- E13.3 Maintain temperatures of minimum 10°C in areas where construction is in progress, unless indicated otherwise in specifications, (painting requirements may dictate higher temperatures).
- E13.4 Ventilate heated areas and keep building free of welding exhaust or other combustion gases and paint off-gassing solvent vapours.
- E13.5 Permanent heating system of building or portions thereof may be used when available. Be responsible for damage thereto.
- E13.6 Provide all temporary ventilation required and dictated by legislation to safely work in confined-space-areas.
- E13.7 It is expected that temporary ventilation will be required for the following:
- (a) Wet Well
  - (b) Grit Blower and Electrical Room
- E13.8 Submit temporary ventilation plans and calculations for review and approval.
- E13.9 Provide a minimum of 6 ACH to the Wet Well space while permanent ventilation is not operating.
- E13.10 If exterior doorways are used for temporary ventilation, they should be covered with plywood with a grille for the ventilation opening.

E13.11 It is acceptable for the electrical and blower room temporary ventilation to be installed in the existing doorways to these rooms.

**E14. SEQUENCING OF WORK**

E14.1 Sequence work to ensure that the minimum number of ventilation systems will be out of service at a single time.

E14.2 The Contract Administrator reserves the right to prohibit work where multiple ventilation systems are out of service simultaneously.

E14.3 Specific requirements include, but are not limited to:

- (a) Schedule work to avoid simultaneous disruption of the Wet Well Ventilation and Electrical and Blower Room Ventilation (G682-AHU).

**E15. ROLLING LADDER REQUIREMENTS**

E15.1 Material: Aluminum

E15.2 Style: Tilt and Roll with Side Rails

E15.3 Tread: Serrated

E15.4 Number of Steps: Four

E15.5 Width: 610 mm (24")

E15.6 Capacity: 200 kg (450 lbs)

E15.7 Conform to the OSHA 29 CFR 1910.29 standard.

E15.8 Capable of immobility when in use through a stopping/locking mechanism for the wheels

E15.9 Equipped with slip resistant treads.

E15.10 Manufacturer and Model:

- (a) Factory Supply Inc. A4SH30-TR
- (b) Or approved equal in accordance with B6