



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 403-2015**

**BRADY ROAD RESOURCE MANAGEMENT FACILITY  
SURFACE WATER MANAGEMENT - PHASE 2**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

#### **BRADY ROAD RESOURCE MANAGEMENT FACILITY SURFACE WATER MANAGEMENT - PHASE 2**

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, May 26<sup>th</sup>, 2015
- 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 at 10:00 AM on May 20<sup>th</sup>, 2015 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. CONFIDENTIALITY**

- B5.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:
- (a) was known to the Bidder before receipt hereof; or
  - (b) becomes publicly known other than through the Bidder; or
  - (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

## **B6. ADDENDA**

B6.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.

B6.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

B6.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>

B6.2.2 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.

B6.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B7. SUBSTITUTES**

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

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

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

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

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

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

- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.
- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B17.
- B7.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B7.10 Notwithstanding B7.2 to B7.9, and in accordance with B8.6 deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B17.1(a).

## **B8. BID COMPONENTS**

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices;
  - (c) Bid Security
    - (i) Form G1: Bid Bond and Agreement to Bond, or  
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or  
a certified cheque or draft;
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B7.
- B8.3 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.
- B8.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B8.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B8.5 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B17.1(a).
- B8.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B8.8 Bids shall be submitted to:

The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

**B9. BID**

B9.1 The Bidder shall complete Form A: Bid, making all required entries.

B9.2 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.

B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.

B9.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B9.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his/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 and the corporate seal, if the corporation has one, should be affixed;
- (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B9.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

**B10. PRICES**

B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B10.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

**B11. DISCLOSURE**

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

B11.2 The Persons are:

- (a) NA

**B12. QUALIFICATION**

B12.1 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.

B12.2 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>

B12.3 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);

B12.4 Further to B12.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (c) 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/>).

B12.5 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.

B12.6 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.

### **B13. BID SECURITY**

B13.1 The Bidder shall provide bid security in the form of:

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

B13.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B13.1.2 All signatures on bid securities shall be original.

B13.1.3 The Bidder shall sign the Bid Bond.

B13.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B13.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B13.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B13.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B13.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B13.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

### **B14. OPENING OF BIDS AND RELEASE OF INFORMATION**

B14.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.

B14.1.1 Bidders or their representatives may attend.

B14.1.2 Bids determined by the Manager of Materials, or his/her designate, to not include the bid security specified in B13 will not be read out.

- B14.2 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/>
- B14.3 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/>
- B14.4 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.

### **B15. IRREVOCABLE BID**

- B15.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B15.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

### **B16. WITHDRAWAL OF BIDS**

- B16.1 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.
- B16.1.1 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.
- B16.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B16.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
  - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B16.1.3(b), declare the Bid withdrawn.
- B16.2 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 B15.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

### **B17. EVALUATION OF BIDS**

- B17.1 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 B12 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B7.

B17.2 Further to B17.1(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.

B17.3 Further to B17.1(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.

B17.4 Further to B17.1(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 adjusted, if necessary, as follows:

- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
- (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting A. Dry Pond Central Dyke and Weir No. 1 in its entirety, B. Dry pond Central Dyke and Weir No. 2 in its entirety, in the order listed, until a Total Bid Price within the budgetary provision is achieved.

## **B18. AWARD OF CONTRACT**

B18.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B18.2 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.

B18.2.1 Without limiting the generality of B18.2, 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.

B18.3 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 B17.

B18.3.1 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.

## **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 re-grading of Landfill Drainage Ditch (LCD), Landfill Collector Ditch (LCD), construction of dikes and weirs, Riprap placement, supply and installation of required materials according to this specification.

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

- (a) Re-grade West Land Collector Ditch (LCD) East Land Drainage Ditch (LDD).
- (b) Construction of New Clay Dikes
- (c) Removal of Existing Culverts
- (d) Supply and Installation of Culverts
- (e) Supply and Installation of Slide Gate
- (f) Supply and Installation of Platform Walkway with Corrosive Resistant Materials
- (g) Supply and Installation of Riprap
- (h) Supply and Installation of Geomembrane
- (i) Supply, Installation, Maintenance and removal of Silt Fence
- (j) Supply, Installation, and Maintenance of Ditch Checks

#### **D3. CONTRACT ADMINISTRATOR**

D3.1 The Contract Administrator is:

Michael Turko, C.E.T.

Municipal Engineering Technologist

Municipal Department

KGS Group

Telephone No.: (204) 896-1209

Facsimile No.: (204) 896-0754

Email: mturko@kgsgroup.com

D3.2 At the pre-construction meeting, Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D3.3 Bids Submissions must be submitted to the address in B8.8

#### **D4. CONTRACTOR'S SUPERVISOR**

D4.1 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.

**D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE**

- D5.1 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.
- D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.
- D5.3 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.
- D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

**D6. NOTICES**

- D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.
- D6.3 Notwithstanding C21, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg  
Chief Financial Officer  
Facsimile No.: 204 949-1174
- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg  
Legal Services Department  
Attn: Director of Legal Services  
Facsimile No.: 204 947-9155
- D6.5 **Bids Submissions** must be submitted to the address in B8.8

**D7. FURNISHING OF DOCUMENTS**

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

## **SUBMISSIONS**

### **D8. AUTHORITY TO CARRY ON BUSINESS**

D8.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

### **D9. SAFE WORK PLAN**

D9.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D9.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

### **D10. INSURANCE**

D10.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg 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, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
- (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.
- (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.

D10.2 Deductibles shall be borne by the Contractor.

D10.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in C4.1 for the return of the executed Contract.

D10.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

### **D11. PERFORMANCE SECURITY**

D11.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or

- (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D11.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D11.2 If the bid security provided in his/her Bid was not a certified cheque or draft pursuant to B13.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

## **D12. SUBCONTRACTOR LIST**

D12.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the General Conditions for the return of the executed Contract.

## **SCHEDULE OF WORK**

### **D13. COMMENCEMENT**

D13.1 The Contractor shall not commence any Work until he/she is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.

D13.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
  - (i) evidence of authority to carry on business specified in D8;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the Safe Work Plan specified in D9;
  - (iv) evidence of the insurance specified in D10;
  - (v) the performance security specified in D11; and
  - (vi) the Subcontractor list specified in D12.
- (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.

D13.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

### **D14. SUBSTANTIAL PERFORMANCE**

D14.1 The Contractor shall achieve Substantial Performance by October 30<sup>th</sup>, 2015.

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 November 6<sup>th</sup>, 2015.

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 Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City One Thousand Five Hundred Dollars (\$1,500) per each Calendar Day following the day fixed herein for Substantial Performance during which such failure continues.

D16.2 The amount specified for liquidated damages in D16.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance by the day 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/she 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).

##### **D19. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS**

D19.1 Further to B12.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B12.4.

## MEASUREMENT AND PAYMENT

### D20. INVOICES

D20.1 Further to C12, the Contractor shall submit an invoice for each portion of Work performed. 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)

D20.2 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 work performed;
- (e) the amount payable with GST and MRST shown as separate amounts; and
- (f) the Contractor's GST registration number.

D20.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D20.4 Bids Submissions must be submitted to the address in B8.8

### D21. PAYMENT

D21.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

## WARRANTY

### D22. WARRANTY

D22.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D22.2 Notwithstanding C13.2 or D22.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:

- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D22.2.1 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 D11)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

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

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

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

BID OPPORTUNITY NO. 403-2015

**BRADY ROAD RESOURCE MANAGEMENT FACILITY  
SURFACE WATER MANAGEMENT - PHASE 2**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)**  
(See D11)

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

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 403-2015

**BRADY ROAD RESOURCE MANAGEMENT FACILITY  
SURFACE WATER MANAGEMENT - PHASE 2**

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 (2007 Revision), International Chamber of Commerce Publication Number 600.

\_\_\_\_\_  
(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>
SWD-D-449	BRADY LANDDFILL - SURFACE WATER MANAGEMENT - PHASE 2 - COVER SHEET AND DRAWING LIST
SWD-D-450	BRADY LANDDFILL - SURFACE WATER MANAGEMENT - PHASE 2 - LANDFILL COLLECTOR DITCH (LCD) AND LAND DRAINAGE DITCH (LDD) - ALIGNMENT CONTROL
SWD-D-451	BRADY LANDDFILL - SURFACE WATER MANAGEMENT - PHASE 2 - AREA PLAN
SWD-D-452	BRADY LANDDFILL - SURFACE WATER MANAGEMENT - PHASE 2 - LANDFILL COLLECTOR DITCH (LCD) LAND DRAINAGE DITCH (LDD) - PROFILES AND SECTIONS
SWD-D-453	BRADY LANDDFILL - SURFACE WATER MANAGEMENT - PHASE 2 - DRY PONDS - PLAN, PROFILE AND SECTIONS
SWD-D-454	BRADY LANDDFILL - SURFACE WATER MANAGEMENT - PHASE 2 - DRY POND WIER AND DRAIN PIPE - SECTIONS AND DETAILS

#### E2. SOILS INVESTIGATION REPORT

- E2.1 Contractor is responsible to obtain soils investigation reports including available well logs prior to bid submission and construction. Contact The City of Winnipeg Solid and Waste Services Division for available soils investigation reports for the Site.

#### E3. CONSTRUCTION SURVEY

- E3.1 Construction and Quantity surveys will be the responsibility of the Contractor.

### GENERAL REQUIREMENTS

#### E4. ACCESS

- E4.1 The Contractor shall access the Site using Brady Road from the Perimeter Highway, and then entering the Site using Charette Road.
- E4.2 The Contractor shall also exit the Site using Brady Road onto Perimeter Highway.
- E4.3 The Contractor shall not block traffic when entering or exiting the Site.

- E4.4 Heavy equipment shall be moved into and out of the Site during low-traffic hours.
- E4.5 The Contractor shall immediately move any of the Contractor's vehicles that are blocking emergency vehicles.
- E4.6 The Contractor shall sign in when entering the site and sign out when leaving the site with hours of operation on a daily basis.

## **E5. TRUCK WEIGHT LIMITS**

- E5.1 The City shall not pay for any portion of material which results in the vehicle exceeding the maximum gross vehicle weight allowed under The City of Winnipeg Traffic By-Law, unless such vehicle is operating under special permit.

## **E6. SHOP DRAWINGS**

### **E6.1 DESCRIPTION**

- E6.1.1 This Specification shall revise, amend and supplement the requirements of CW 1100.
  - (i) The term 'shop drawings' means drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data, including Site erection drawings which are to be provided by the Contractor to illustrate details of a portion of the Work.
  - (ii) The Contractor shall submit specified shop drawings to the Contract Administrator for review. All submissions must be in metric units. Where data is in imperial units, the correct metric equivalent shall also be shown on all submissions for Engineering review.
  - (iii) Original drawings are to be prepared by Contractor, SubContractor, Supplier, Distributor, or Manufacturer, which illustrate appropriate portion of Work; showing fabrication, layout, setting or erection details as specified in appropriate sections.
  - (iv) Shop drawings for the following structural components shall bear the seal of a Registered Professional Engineer in the Province of Manitoba.
    - (a) Shoring.
    - (b) Reinforcing steel.
    - (c) Metal Fabrications.
- E6.1.2 **CONTRACTOR'S RESPONSIBILITIES**
  - (i) Review shop drawings, product data and samples prior to submission and stamp and sign drawings indicating conformance to the Contract requirements.
  - (ii) Verify:
    - (a) Field Measurements
    - (b) Field Construction Criteria
    - (c) Catalogue numbers and similar data
  - (iii) Coordinate each submission with requirements of Work and Contract Documents. Individual shop drawings will not be reviewed until all related drawings are available.
  - (iv) Notify Contract Administrator, in writing at time of submission, of deviations from requirements of Contract Documents.
  - (v) Responsibility for deviations in submission from requirements of Contract Documents is not relieved by Contract Administrator's review of submission, unless Contract Administrator gives written acceptance of specified deviations.
  - (vi) Responsibility for errors and omissions in submission is not relieved by Contract Administrator's review of submittals.
  - (vii) The Contractor shall make any corrections required by the Contract Administrator and shall resubmit the required number of corrected copies of Shop Drawings. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections requested by the Contract Administrator on previous submission.

- (viii) After Contract Administrator's review and return of copies, distribute copies to subtrades as appropriate.
- (ix) Maintain one (1) complete set of reviewed shop drawings, filed by Specification Section Number, at the Site of the Work for use and reference of the Contract Administrator and SubContractors.

#### E6.1.3 SUBMISSION REQUIREMENTS

- (i) Schedule submissions at least 14 Calendar Days before dates reviewed submissions will be needed, and allow for a 14 Calendar Day period for review by the Contract Administrator of each individual submission and re-submission, unless noted otherwise in the Contract Documents.
- (ii) Submit five (5) paper prints of shop drawings. The Contractor is advised that the Contract Administrator will retain three (3) copies of all submittals and return two (2) copies to the Contractor.
- (iii) Accompany submissions with transmittal letter, containing:
  - (a) Date
  - (b) Project title and Bid Opportunity number
  - (c) Contractor's name and address
  - (d) Number of each shop drawing, product data and sample submitted
  - (e) Specification Section, Title, Number and Clause
  - (f) Drawing Number and Detail/Section Number
  - (g) Other pertinent data
- (iv) Submissions shall include:
  - (a) Date and revision dates.
  - (b) Project title and Bid Opportunity number.
  - (c) Name of Contractor, SubContractor Supplier, Manufacturer
  - (d) Identification of product of material.
  - (e) Relation to adjacent structure or materials.
  - (f) Field dimensions, clearly identified as such.
  - (g) Specification section name, number and clause number or drawing number and detail/section number.
  - (h) Applicable standards, such as CSA or CGSB numbers.
  - (i) Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with Contract Documents.

#### E6.1.4 Other Considerations

- (i) Fabrication, erection, installation or commissioning may require modifications to equipment or systems to conform to the design intent. Revise pertinent shop drawings and resubmit.
- (ii) Material and equipment delivered to the Site of the Works will not be paid for at least until pertinent shop drawings have been submitted and reviewed.
- (iii) Incomplete shop drawing information will be considered as stipulated deductions for the purposes of progress payment certificates.
- (iv) No delay or cost claims will be allowed that arise because of delays in submissions, re-submissions and review of shop drawings.

### E7. ENVIRONMENTAL PROTECTION PLAN

- E7.1 The Contractor shall plan and implement the Work of this Contract strictly in accordance with all Federal and Provincial regulatory requirements including, but not limited to, the transportation of dangerous goods, fuel handling and storage, dangerous goods and hazardous waste handling and disposal, and emergency response.
- E7.2 The Contractor shall supply, in writing, prior to commencement of Work on-site, a detailed plan for sediment control on this project.

## **E8. SUPPLY AND INSTALLATION OF CAST IRON SLIDE GATE**

### **E8.1 DESCRIPTION**

E8.1.1 The Contractor is responsible to supply and install cast iron slide gates, mechanical lift operator, stems, wall brackets, and accessories.

### **E8.2 CONSTRUCTION METHODS**

E8.2.1 Supply and install 610 mm diameter Armtec Model 20-10C Cast Iron Slide Gates, or equivalent, complete with all accessories including mechanical lift operator, stems, wall brackets and accessories in accordance with the manufacturer's recommendations.

E8.2.2 Adaptor plate to be welded to 600 mm diameter x 600 mm wide smooth steel sleeve, for mounting to 600 mm diameter HDPE pipe

E8.2.3 Make arrangements to have a qualified field representative of the slide gate supplier/manufacturer inspect the installation during and after completion and provide a Certificate of Satisfactory Installation to the Contract Administrator.

### **E8.3 METHOD OF MEASUREMENT**

E8.3.1 The cast iron slide gate and accessories will be paid for at the Contract Unit Price indicated in Form B.

### **E8.4 BASIS OF PAYMENT**

E8.4.1 100% of the Unit Price listed in Form B of the Slide Gate will be paid on upon supply and installation.

## **E9. SUPPLY AND INSTALLATION OF PLATFORM WALKWAY**

### **E9.1 DESCRIPTION**

E9.1.1 The Contractor is responsible to propose an access platform with build materials and price listed in Form B.

E9.1.2 The platform should provide access to the wheel screw for the slide gate operation.

E9.1.3 The platform should provide support for the wheel screw for the slide gate operation.

E9.1.4 The platform should be constructed above the expected water level indicated in SWD-D-454.

E9.1.5 The platform should be constructed on Concrete Footings indicated in SWD-D-454.

E9.1.6 The platform materials should be corrosion resistant.

E9.1.7 The platform should not affect the operation and structure of the culvert and slide gate.

E9.1.8 The design and construction should be approved and supervised by the Contract Administrator.

### **E9.2 METHOD OF MEASUREMENT**

The Supply and Installation of Platform Walkway will be paid for at the Contract Unit Price indicated in Form B.

### **E9.3 BASIS OF PAYMENT**

E9.3.1 100% of the Unit Price listed in Form B of the Slide Gate will be paid on upon supply and installation.

## **E10. SUPPLY AND INSTALLATION OF THE HDPE GEOMEMBRANE**

### **E10.1 DESCRIPTION**

E10.1.1 This Specification shall cover the supply and placement of the HDPE geomembrane.

### **E10.2 MATERIALS**

E10.2.1 The geomembrane shall be 60 Mil (1.52mm) thick High Density Polyethylene (HDPE) manufactured from virgin first-quality polyethylene resin designed and manufactured specifically for use in HDPE geomembrane applications.

E10.2.2 Reclaimed polymer or reprocessed geomembrane shall not be added to the virgin resin, however, the use of edge trimmings recycled during the manufacturing process of the same batch of geomembrane is permitted if recycled polymer does not exceed 10 percent by weight.

E10.2.3 Manufacturer to provide certificate stating name of resin supplier, complete with product description and stated properties to certify resin product has not been produced from blend of resins.

E10.2.4 Geomembrane and resin raw material specifications to meet or exceed those listed ASTM standards.

E10.2.5 Geomembrane to be free of pinholes, blisters, undispersed raw material, striations, roughness, or any sign of contamination by foreign matter.

E10.2.6 In addition to the material specifications, the source of the material is to be approved by the Consultant. Project experience of the material and manufacturer on Canadian projects may be requested and approval of the manufacturer and material may be determined based on these project examples.

E10.2.7 Extensively damaged rolls of geomembrane delivered to the Site shall be rejected and replaced.

E10.2.8 The contractor shall protect geomembranes from direct sunlight, excessive heat, mud, debris, dust and deformation.

### **E10.3 CONSTRUCTION METHODS**

E10.3.1 Prior to installation, the Contractor shall inspect the subgrade and ensure that the subsurface provides a firm, unyielding foundation for the membrane with no sudden, sharp or abrupt changes or break in grade.

E10.3.2 Install geomembrane according to the Consultant's Drawings.

E10.3.3 Install geotextile layer covering the geomembrane according to the Consultant's Drawings.

E10.3.4 The placement of the geomembrane shall be done in accordance with the manufacturers recommendations and as approved by the Consultant, to suit field conditions.

E10.3.5 All geomembrane seams shall be welded. Only methods and equipment approved by the Consultant may be used. The approved seaming method is double fusion welding. The Contractor shall provide information on the proposed method of performing seaming and joining operations including details of equipment to be used.

E10.3.6 Artificially induced cooling of welded seams is not allowed.

E10.3.7 Equipment used to handle and weld the geomembrane shall not cause damage to the geomembrane or to the subgrade due to handling, trafficking, leakage of hydrocarbons, or any other means. All damage to soils to be corrected to the Consultant's satisfaction prior to geomembrane placement.

E10.3.8 The Contractor shall place panels in such a way as to minimize scratches, crimps, and other damage to material and to minimize wrinkles.

E10.3.9 The Contractor shall not allow geomembrane to “bridge over” voids or low areas in the subgrade. The subgrade shall be regraded and the geomembrane placed such that it rests on the subgrade surface.

E10.3.10 Any panel or part thereof which becomes seriously damaged shall be replaced at no additional cost to the Owner. Such damaged panels shall be removed from the Site immediately. Minor damage such as crimps, wrinkles, etc., shall be repaired as approved by the Consultant.

#### E10.4 METHOD OF MEASUREMENT

E10.4.1 The supply and installation of geomembrane will be measured and paid for on an area basis. The amount to be paid for will be the total number of square meters of ground covered by geomembrane supplied and installed in accordance with this specification, as measured in the field by the Consultant. Overlap at all joints will be considered a single layer of geomembrane for measurement and payment purposes.

#### E10.5 BASIS OF PAYMENT

E10.5.1 The supply and installation of geomembrane will be paid for at the Contract unit prices, which price shall be payment in full for supplying and installation of geomembrane herein described and all other items incidental to the work included in this Specification. All costs related to testing shall be considered incidental to the work. No separate payment will be made for testing.

### E11. DITCH CHECK

#### E11.1 DESCRIPTION

E11.1.1 The Contractor is responsible to supply, installation, maintenance, and removal of all temporary ditch checks including associated connections, pins and erosion control blanket, to be installed as shown on the Drawings and described in this Specification.

E11.1.2 The removal and disposal of accumulated sediment from the temporary ditch checks to restore capacity.

#### E11.2 MATERIALS

##### E11.2.1 Straw Roll Ditch Check

(a) The straw roll shall consist of straw or wood fibre that has been compressed and stuffed into biodegradable polyester or plastic netting. The straw or wood fibre roll shall be a minimum of 305 mm in diameter.

#### E11.3 CONSTRUCTION METHODS

E11.3.1 The temporary ditch checks shall be installed immediately following removal of the existing vegetation within the existing ditches, or immediately following excavation and seeding of new ditches.

E11.3.2 Installation of the straw roll ditch checks shall conform to the Manufacturer's recommendations and as accepted by the Contract Administrator.

E11.3.3 The alignment of the temporary ditch checks should be perpendicular to the ditch and may be adjusted and accepted by the Contract Administrator.

E11.3.4 The temporary ditch checks should be located prior to each major culvert, at a minimum, and the location of the ditch checks may be adjusted and accepted by the Contract Administrator.

E11.3.5 The straw roll shall be anchored with wooden stakes having a 50mm x 50 mm cross section and a minimum length of 600 mm. Stakes shall have a maximum spacing along the roll of 1200 mm.

E11.3.6 The separation distance of temporary ditch checks should be approximately every 100 meters, or as required by the Contract Administrator.

#### E11.4 MAINTENANCE

E11.4.1 The temporary ditch checks are biodegradable and shall remain in place.

E11.4.2 The Contractor shall maintain the temporary ditch checks until they are no longer necessary. Maintenance consists of keeping the devices functioning effectively. The Contractor shall repair or correct plugged, displaced, damaged, or non-functioning devices to the satisfaction of the Contract Administrator.

E11.4.3 Any damaged or poorly performing temporary ditch checks as a result of storm events shall be replaced/repared immediately. Re-grading of the slope by hand methods may be required in the event of rill or gully erosion. Damaged areas may also require reseeding.

E11.4.4 Should the Contract Administrator determine that the Contractor has not maintained the temporary ditch checks properly or has damaged the devices from construction activities resulting in sediment releases fullest extent possible, at his own cost. As a minimum, the Contractor shall remove all deltas and sediment deposited in drainage ways and re-grade and/or reseed the areas where sediment removal results in exposed soil. The removal and restoration shall take place within 5 working days of discovery unless precluded by legal, regulatory, or physical access restraints. If precluded, removal and restoration must take place within 5 working days of obtaining access.

E11.4.5 The Contractor is responsible for contacting all local, regional, provincial, and federal authorities before working in surface waters and for obtaining applicable permits. The Contractor's restoration work to restore property outside of the designated work area shall be at his own cost.

#### E11.5 METHOD OF MEASUREMENT

E11.5.1 Supply and installation of straw roll ditch checks will be measured on a lineal meter basis.

E11.5.2 Ditch checks requiring replacement as directed by the Contract Administrator will be re-measured and paid for at the Contract Unit Price specified herein.

E11.5.3 No re-measurement or payment will be made for those areas damaged and requiring reseeding or reinstallation due to faulty installation of the temporary ditch checks by the Contractor.

#### E11.6 BASIS OF PAYMENT

E11.6.1 Supply and placement of straw roll sediment ditch checks will be paid for at the Contract Unit Price for "Ditch Check", measured as specified herein, which will be payment in full for performing all operations herein described and all other items incidental to the work.

### **E12. SILT FENCE**

#### E12.1 DESCRIPTION

E12.1.1 This Specification covers the erection of temporary silt fencing to control runoff and minimize the release of sediment to watercourses.

E12.1.2 The scope of Work included in this Specification is as follows:

- (a) Supply and Install temporary silt fencing at the locations as indicated on the Drawings or as directed by the Contract Administrator, in accordance with the detailed drawing provided, and prior to undertaking any other activities on the Site where silt fencing is required.
- (b) Maintain the silt fencing in serviceable condition throughout the entire duration of activities at the Site where silt fencing is required, including final restoration and cleanup of the construction Site.

- (c) Remove the silt fencing and restore the area where the fencing was installed, without further disturbing the area and without releasing any deleterious substances to the adjacent watercourse.

**E12.2 MATERIALS**

**E12.2.1 Fences Posts**

- (a) Fence posts shall be 100 mm diameter untreated wood posts or 50 mm diameter steel.

**E12.2.2 Filter Fabric**

- (a) Filter Fabric shall be a woven geotextile material specifically designed for silt fence applications, meeting the following minimum requirements:

<b>Property</b>	<b>Test Method</b>	<b>Value</b>
Grab Tensile Strength	ASTM D 4632	0.55 kN
Grab Tensile Elongation	ASTM D 4632	15%
Mullen Burst	ASTM D 4786	2060 kPa
Puncture	ASTM D 4833	0.285 kN
Trapezoid Tear	ASTM D 4533	0.285 kN
UV Resistance	ASTM D 435	5 80 % @ 500 hrs
Apparent Opening Size (AOS)	ASTM D 4751	0.60 mm
Flow Rate	ASTM D 4491	405 l/min/m <sup>2</sup>

- (b) Acceptable Product: "Amoco 2130 Silt Fence Fabric" or approved equivalents.

**E12.2.3 Wire Mesh**

- (a) Wire mesh shall be galvanized or plain metal with wire gauge = 3.0 mm, wire spacing @ 150 mm o/c.

**E12.2.4 Fencing Material Fasteners**

- (a) Staples or wire ties of sufficient strength and spacing to withstand 500 N (100 lbf) pull test at any point on the wire mesh.

**E12.3 CONSTRUCTION METHODS**

**E12.3.1** Ensure that no deleterious substances are discharged into the adjacent watercourse at any time during construction activities.

**E12.3.2 Silt Fence Installation**

- (a) Excavate 150 mm x 150 mm anchor trench along alignment of silt fence.
- (b) Install fence posts and ensure that fence posts are firmly driven into undisturbed soil, or are completely and firmly backfilled if installed via auger methods. Attach wire mesh as support backing for silt fence filter fabric with fasteners. Attach silt fence filter fabric on top of wire mesh in similar fashion. Overlap any fence seams (wire mesh or filter fabric) by 450 mm minimum. Ensure that wire mesh and filter fabric are installed on the upslope side of the post and are fully laid in anchor trench as shown.
- (c) Install and compact impermeable excavated materials into anchor trench and slope as indicated. Compact to 95% of Standard Proctor Maximum Dry Density (ASTM D-698).

**E12.3.3 Silt Fence Maintenance**

- (a) Inspect silt fence daily, prior to starting any other construction activities. If fence posts are found loose or not upright, repair in accordance with installation procedure. If silt fence is found to be loose or torn, repair or replace as necessary.
- (b) If silt deposition at the fence is 300 mm or more in depth, carefully remove and dispose of silt off Site without disturbing silt fence.

E12.3.4 Silt Fence Removal

- (a) The silt fence shall remain in place until new vegetation growth has established on the bank, as determined by the Contract Administrator.
- (b) Upon authorization of the Contract Administrator, remove all fence posts, wire mesh, fabric, and fasteners from Site.
- (c) Restore areas disturbed in accordance without releasing any deleterious substances to the adjacent watercourse.

E12.4 MEASUREMENT AND PAYMENT

- E12.4.1 The supply, placement, maintenance and removal of silt fence shall be measured on a length basis and paid for at the Contract Unit Price per lineal metre for "Silt Fence". The length to be paid for shall be the total number of metres supplied and placed in accordance with this Specification, accepted and measured by the Contract Administrator.
- E12.4.2 100% of the Contract Unit Price per lineal metre indicated in Form B shall be paid following supply and installation.
- E12.4.3 Removal of accumulated sediment from the silt fence is considered incidental to the Work and no separate measurement or payment will be made.