



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 575-2008**

**HARTE TRAIL EXTENSION**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 HARTE TRAIL EXTENSION

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, August 1, 2008.

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 Shaftebury Road, immediately north of the CNR rail line, from 9:30 a.m to 10:30 a.m. on July 25, 2008 to provide Bidders access to the Site.

B3.2 The Bidder is advised that that the Site should be viewed to identify and Site restrictions that could impede the work progress.

B3.3 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

### **B4. ENQUIRIES**

B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

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

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

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

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

### **B5. ADDENDA**

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

B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt>.
- B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division internet site for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B6. SUBSTITUTES**

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
  - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
  - (c) identify any anticipated cost or time savings that may be associated with the substitute;
  - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
  - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.

B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

**B7. BID COMPONENTS**

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

- (a) Form A: Bid;
- (b) Form B: Prices;
- (c) Bid Security
  - (i) Form G1: Bid Bond and Agreement to Bond, or  
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or  
a certified cheque or draft;

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.

B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.

B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.8 Bids shall be submitted to:

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

**B8. BID**

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;

- (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
- (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

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

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

## **B9. PRICES**

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

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 Prices from Non-Resident Bidders are subject to a 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 internet site at <http://www.winnipeg.ca/matmgt/debar.stm> ).

- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and
  - (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
  - (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);
- B10.4 Further to B10.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:
- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
  - (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt>.)
- B10.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B10.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B11. BID SECURITY**

- B11.1 The Bidder shall provide bid security in the form of:
- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
  - (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
  - (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.
- B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B11.1.2 All signatures on bid securities shall be original.
- B11.1.3 The Bidder shall sign the Bid Bond.
- B11.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.



B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

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

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

B11.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

## **B12. OPENING OF BIDS AND RELEASE OF INFORMATION**

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

B12.1.1 Bidders or their representatives may attend.

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

B12.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt>.

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

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

## **B13. IRREVOCABLE BID**

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

B13.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

## **B14. WITHDRAWAL OF BIDS**

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

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

- B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
  - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.
- B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

## **B15. EVALUATION OF BIDS**

- B15.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
  - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
  - (c) Total Bid Price;
  - (d) economic analysis of any approved alternative pursuant to B6.
- B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.
- B15.4 Further to B15.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.
- B15.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.
- B15.4.2 Further to B15.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

## **B16. AWARD OF CONTRACT**

- B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B16.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

- B16.2.1 Without limiting the generality of B16.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
  - (b) the prices are materially in excess of the prices received for similar work in the past;
  - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
  - (d) only one Bid is received; or
  - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B15.
- B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.

C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site 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:

- (a) Clearing and grubbing through forested areas along proposed pathway alignment and legal disposal of waste material,
- (b) Construction of 1832 linear metres of 3.0 metres wide (finished) granular surface pathway,
- (c) Supply and installation of corrugated steel pipe culverts,
- (d) Supply and installation of rock filled gabion baskets, and;
- (e) Legal disposal of surplus excavated soils.

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

D3.1 The Contract Administrator is Scatliff+Miller+Murray Inc., represented by:

Mr. Bob St. Goddard  
Contract Administrator  
8-136 Market Avenue  
Winnipeg, Manitoba R3B 0P4

Telephone No. (204) 927-3444  
Facsimile No. (204) 927-3443

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

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

D4.1 At the pre-construction meeting, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

#### **D5. NOTICES**

D5.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.

D5.3 Notwithstanding C21.3, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg  
Chief Financial Officer  
Administration Building, 3rd Floor

510 Main Street  
Winnipeg MB R3B 1B9  
Facsimile No.: (204) 949-1174

- D5.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:

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

**D6. FURNISHING OF DOCUMENTS**

- D6.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

**SUBMISSIONS**

**D7. AUTHORITY TO CARRY ON BUSINESS**

- D7.1 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.

**D8. SAFE WORK PLAN**

- D8.1 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.
- D8.2 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 internet site at <http://www.winnipeg.ca/matmgt/safety/default.stm> .

**D9. INSURANCE**

- D9.1 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) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;

- (c) 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.

D9.2 Deductibles shall be borne by the Contractor.

D9.3 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.

D9.4 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.

## **D10. PERFORMANCE SECURITY**

D10.1 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.

D10.1.1 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.

D10.2 If the bid security provided in his Bid was not a certified cheque or draft pursuant to B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

## **SCHEDULE OF WORK**

### **D11. COMMENCEMENT**

D11.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.

D11.2 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 D7;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the Safe Work Plan specified in D8;
  - (iv) evidence of the insurance specified in D9;
  - (v) the performance security specified in D10;
- (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.

D11.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

**D12. TOTAL PERFORMANCE**

D12.1 The Contractor shall achieve Total Performance within Thirty (30) consecutive Working Days of the commencement of the Work as specified in D11.

D12.2 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.

D12.3 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.

**D13. LIQUIDATED DAMAGES**

D13.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City Six Hundred dollars (\$600.00) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.

D13.2 The amount specified for liquidated damages in D13.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D13.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

**CONTROL OF WORK**

**D14. JOB MEETINGS**

D14.1 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.

D14.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

**D15. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D15.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).



## **MEASUREMENT AND PAYMENT**

### **D16. PAYMENT**

D16.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

## **WARRANTY**

### **D17. WARRANTY**

D17.1 Warranty is as stated in C13.

**FORM H1: PERFORMANCE BOND**  
(See D10)

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. 575-2008

HARTE TRAIL EXTENSION

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 D10)

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

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 575-2008  
  
HARTE TRAIL EXTENSION

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 internet site at <http://www.winnipeg.ca/matmgt>.
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
	Cover Sheet
L1	Trail Layout and Details - Trail Segments A, B, C, D & G
L2	Trail Layout and Details - Trail Segments D, E, F & G
L3	Culvert Details

#### E2. SITE ACCESS

- E2.1 Site access points are shown on the drawings:
- (a) Shaftesbury Boulevard approximately 140 metres north of Wilkes Avenue.
  - (b) Elmhurst Road at sta. 18+32. Note that a temporary ditch crossing will be required at this point. Construction traffic will not be permitted on the new crossing at this location.
  - (c) Cathcart Street at sta. 16+43.
- E2.2 The Contractor shall clear any soil or debris resulting from construction activities, from adjacent streets and roadways on a daily basis.
- E2.3 The Contractor shall confine all construction activity to the limits of the 5.0 metre wide corridor for pathway construction, except for access to stockpile and surplus material disposal sites.
- E2.4 The Contractor shall restore site access areas, stockpile areas and surplus material disposal sites by covering the sites with a minimum of 150mm of surplus topsoil, grading and levelling to match adjacent surfaces.
- E2.5 Surplus material disposal piles shall have minimum 5H:1V side slopes.

#### E3. FOREST FIRE PREVENTION CONDITIONS

- E3.1 All mechanical equipment and work areas must have adequate fire prevention and fire suppression equipment as required by local fire prevention regulations.

#### **E4. HANDLING OF HAZARDOUS MATERIALS**

- E4.1 Fuel, oil, fluids and lubricants required for servicing construction equipment shall not be permanently stored on site. Refuelling of construction equipment shall be conducted using a fuel truck. All refuelling, maintenance, repair and parking of construction equipment will be confined to one area as designated by the Contract Administrator.
- E4.2 All used oils, fluids and trash shall be collected and properly removed from the project site and disposed of at appropriate collection agencies in a timely manner.

#### **E5. CLEARING AND GRUBBING**

##### **E5.1 GENERAL**

- (a) This Specification shall cover the clearing and grubbing of a 4.0 metre wide corridor through forested areas for the installation of a granular surface pathway as indicated on the Drawings.
- (b) The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified.
- (c) The Work is to include the following:
- (a) Cutting off standing trees, brush, scrub, roots, stumps and embedded logs, removing at, or close to, existing grade and legally disposing of fallen timber and surface debris.
- (b) Grubbing out of roots, stumps and boulders to not less than 200mm below ground surface.
- (c) Trimming of overhanging trees and branches throughout corridor to a height of not more than 4.0 metres above ground, and legally disposing of felled trees and debris.

##### **E5.2 CONSTRUCTION METHODS**

###### **E5.2.1 General**

###### **E5.2.2 Clearing**

- (a) Cut off trees, brush, scrub, roots, stumps and embedded logs to ground level.
- (b) Cut off branches overhanging area cleared as directed by Contract Administrator.
- (c) Cut off unsound branches on trees designated to remain as directed by Contract Administrator.
- (d) Protect mature trees that are to remain.
- (e) Tree bark damage shall be sealed with approved pruning paint.

###### **E5.2.3 Isolated Trees**

- (a) Cut off isolated trees as by the Contract Administrator.
- (b) Grub out isolated tree stumps.
- (c) Prune individual trees as indicated.
- (d) Trim trees designated to be left standing within cleared areas of dead branches, and trim branches to provide 4.0 metres clearance from pathway surface.
- (e) Paint cuts with approved pruning paint.

###### **E5.2.4 Grubbing**

- (a) Grub out and legally dispose of stumps and roots to not less than 200 mm below ground surface.

- (b) Grub out visible rock fragments and boulders to not less than 200mm below ground surface.
- (c) Fill depressions made by grubbing with suitable material and to make new surface conform with existing adjacent surface.

### E5.3 MEASUREMENT AND PAYMENT

- E5.3.1 Clearing and Grubbing shall be measured on an area basis. The total area of Clearing and Grubbing to be paid for shall be the total number of square meters of clearing and grubbing acceptably performed in accordance with this Specification and accepted by the Contract Administrator as computed from measurements made by the Contract Administrator.
- E5.3.2 The legal disposal of trees, brush, scrub, roots, stumps and embedded logs, rocks and boulders and all other Work associated with Clearing and Grubbing is considered incidental to the Works and no separate measurement and payment will be made.

## E6. GRANULAR SURFACE PATHWAY

### E6.1 GENERAL

- (a) This Specification shall cover the supply and installation of a granular surface pathway as indicated on the Drawings.
- (b) The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified.
- (c) The Work is to include the following:
  - (a) Removal of existing organic soils to depths indicated on the drawings,
  - (b) Installation of woven geo-textile fabric and securing to subsoil where necessary,
  - (c) Supply, installation and compaction of 50mm down, 20mm down and 6mm down, white limestone to the lines and grades as indicated on the drawings,
  - (d) Placement of excavated topsoil to sides of the completed pathway, and:
  - (e) Removal from site and legally dispose of, or stockpiling and grading of excess excavated material at sites indicated on the drawings,

### E6.2 MATERIALS

#### E6.2.1 General

- (a) All materials shall conform to CW 3110-R7 and CW 3130-R1 and this Specification. Where the two do not agree, this Specification shall take precedence. All materials supplied under this Specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.

#### E6.2.2 Granular Sub-base Course

- (a) Granular sub-base course for the pathway shall be 50mm down, crushed white limestone.

#### E6.2.3 Granular Base Course

- (a) Granular base course for the pathway shall be 20mm down, crushed white limestone.

#### E6.2.4 Granular Surface Course

- (a) Granular surface course for the pathway shall be 6mm down, crushed white limestone.

#### E6.2.5 Geo-textile Fabric

- (a) Woven geo-textile Armtec 855 or approved equal in accordance with B6..



## E6.3 CONSTRUCTION METHODS

### E6.3.1 General

- (a) Construction method shall conform to Specification CW 3110-R7 'Sub-grade, Sub-base, and Base Course Construction' and Specification CW 3130 R1 'Supply and Installation of Geo-Textile Fabrics'.
- (b) Pathway to be laid out by the Contract Administrator.
- (c) Excavation for sub-base material to be undertaken to minimize disturbance to surrounding conditions.

### E6.3.2 Sub-Grade

- (a) Prepare compacted sub-grade to the lines and grades as shown on Drawings. Contract Administrator is to review sub-grade preparation prior to placement of geotextile and granular sub-base.

### E6.3.3 Granular Sub-base

- (a) Geo-textile fabric to be placed between sub-grade and granular sub-base as per CW 3130-R1
- (b) Place granular sub-base material to the lines and grades as shown on Drawings.
- (c) Grade and compact material to a minimum of 95 percent Standard Proctor Density.

### E6.3.4 Granular Base

- (a) Do not install granular base until completion of sub-base.
- (b) Clear sub-base of all debris and contamination prior to placement of base course material.
- (c) Place granular base to a uniform thickness of 50mm.
- (d) Grade and compact material to a minimum of 95 percent Standard Proctor Density.

### E6.3.5 Granular Surface Course

- (a) The surface upon which new surface course is to be placed shall be approved by the Contract Administrator prior to placement.
- (b) Place granular surface course to a minimum thickness of 50mm. Crown centre of pathway as indicated on the drawings.
- (c) Grade and compact material to a minimum of 95 percent Standard Proctor Density.

### E6.3.6 Topsoil placement

- (a) Upon completion of placement of the granular surface, topsoil to be placed against the pathway sides and trimmed to blend with adjacent area or slopes.
- (b) The topsoil shall be placed evenly in a layer no less than 150mm in thickness over the side slopes.

## E6.4 MEASUREMENT AND PAYMENT

E6.4.1 The supplying and placing of Granular Surface Pathway shall be measured on an area basis. The total area of Granular Surface Pathway to be paid for shall be the total number of square meters of pathway acceptably constructed in accordance with this Specification and accepted by the Contract Administrator as computed from measurements made by the Contract Administrator.

E6.4.2 The excavation and re-use or disposal of topsoil and other excavated material, preparation of sub-grade, installation of geo-textile, supply and installation of granular sub-base, base and surface course material, and all other Work associated for Granular Surface Pathway is considered incidental to the Works and no separate measurement and payment will be made.

## **E7. SUPPLY AND INSTALLATION OF CORRUGATED STEEL PIPE CULVERTS**

### **E7.1 GENERAL**

E7.1.1 This Specification shall cover the supply and installation of culverts as indicated on the Drawings.

E7.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified and in accordance with CW 3610 'Installation of Culverts'.

E7.1.3 The Work is to include the following:

- (a) Supply and installation of eight (8) 1.6mm x 7.0 metre x 400mm Ø corrugated steel pipe culverts.
- (b) Supply and installation of one (1) 2.0mm x 6.0 metre x 600mm Ø corrugated steel pipe culvert.
- (c) Removal and legal disposal of two (2) existing corrugated steel pipe culverts.

### **E7.2 MATERIALS**

E7.2.1 Corrugated steel pipe culverts shall conform to CW 3610 5.3 'Pipe Culverts, Fittings and Accessories'

### **E7.3 CONSTRUCTION METHODS**

E7.3.1 Installation of Corrugated steel pipe culverts shall conform to CW 3610 9.2.1 'Corrugated Steel Pipe and Pipe Arches (CSP)'

E7.3.2 CSP locations shown on the drawings are approximate and for reference only. Final location to be determined in the field by the Contract Administrator.

### **E7.4 MEASUREMENT AND PAYMENT**

E7.4.1 The supply and installation of corrugated steel pipe culverts shall be measured on a linear metre basis. The linear metres of corrugated steel pipe culverts to be paid for shall be the total number of linear metres acceptably supplied and installed, complete with couplers and necessary hardware, in accordance with this Specification and accepted by the Contract Administrator as computed from measurements made by the Contract Administrator.

E7.4.2 Separate payment will be made for each size and class of culvert.

E7.4.3 Payment for removal and disposal of existing culverts, and excavation, bedding and backfill for new culverts is considered incidental to the Works and no separate measurement and payment will be made.

## **E8. GABIONS**

### **E8.1 GENERAL**

E8.1.1 This specification shall cover the supply and installation of gabions. The work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all work as hereinafter specified.

### **E8.2 MATERIALS**

#### **E8.2.1 Gabion Baskets**

- (a) Gabion baskets shall be wire mesh with uniform hexagonal pattern wire woven in triple twist pattern with openings of approximately 80 x 100 mm and fabricated to be non-ravelling.
- (b) Perimeter edges of mesh to be securely selvaged so that joints formed by connecting selvages are as strong as body of mesh.
- (c) The baskets shall be factory fabricated so that sides, ends, lid and internal diaphragms readily assemble at site into rectangular baskets of sizes as indicated.
- (d) Baskets shall have single unit construction or with joints having strength and flexibility equal to that of mesh. When length exceeds horizontal width, provide diaphragms of same mesh as gabion walls to divide basket into equal cells of length not in excess of horizontal width.
- (e) Wire to have following dimensions: Mesh at 3.0 mm diameter; Selvages at 3.8 mm diameter; Binding at 2.0 mm diameter.
- (f) Wire shall be PVC coated hot dip galvanized with minimum coverage of 260 g/m<sup>2</sup> to CSA G164.
- (g) Interlocking wire fasteners shall be galvanized steel to ASTM A764, Finish 1, Class1, Type 3.

#### **E8.2.2 Stone Fill**

- (a) Stone Fill shall be hard, durable, abrasion-resistant limestone, and such that it will not disintegrate from action of wetting and drying, and freezing and thawing cycles.
- (b) The minimum shall be 100 mm to maximum 200 mm dimension for individual stones.

#### **E8.2.3 Granular Fill**

- (a) Granular fill to match materials for sub-base, base course and surface course materials specified in E6.2

#### **E8.2.4 Geo-textile Filter Fabric**

- (a) Woven geo-textile Armtex 855 or approved equal.

## E8.3 CONSTRUCTION METHODS

### E8.3.1 Excavation

- (a) Excavation for foundation bed, and compact sub-grade in accordance with CW 3170-R3 and CW 3110-R5, as shown on the drawings, and as directed by the Contract Administrator.

### E8.3.2 Gabion Installation

- (a) Install gabions to lines and grades as indicated.
- (b) Follow manufacturer's instructions in assembling baskets.
- (c) Wherever possible, place baskets in position prior to filling with stones. Join adjacent baskets together at corners as recommended by manufacturer, so that joints are as strong as mesh.
- (d) On exposed faces of gabions, place stones by hand with flattest surfaces bearing against face mesh to produce satisfactory alignment and appearance.
- (e) Fill gabion cells in lifts not exceeding 300 mm and connect opposite walls with 2 tie wires after each lift. Each gabion shall appear, upon completion, to be aligned properly with adjacent gabions.

### E8.3.3 Placement of Geo-textile Filter Fabric

- (a) The Geo-textile Filter Fabric is to be placed prior to the commencement of backfilling behind the gabions.
- (b) Prior to placement the Contractor shall ensure that the area is free from sharp objects that may puncture the fabric during backfilling.
- (c) Geo-textile filter fabric shall be installed directly behind the gabion wall.
- (d) The lower limit for the installation of the fabric shall be 150 mm below the bottom of the gabion wall. The upper limit shall be the top of the gabion wall as shown on the Drawings, and as directed by the Contract Administrator.
- (e) The filter fabric shall be rolled loosely over the gabion wall so it will conform to the contours of the wall. Adjacent strips of filter fabric shall be overlapped by a minimum of 450 mm, and be pinned together using 150 mm long nails spaced at 450 mm.
- (f) Care must be taken to avoid puncturing or tearing the material. Any damaged geo-textile filter fabric shall be replaced by the Contractor at his own expense.

### E8.3.4 Granular Fill

- (a) Backfill behind the gabions with granular fill the full length of the wall and to the height shown on the drawings, unless otherwise specified on the drawings.

## E8.4 MEASUREMENT AND PAYMENT

E8.4.1 The supply and placement of Gabions shall be measured and paid on a cubic metre basis as acceptably supplied and installed in accordance with this Specification and accepted by the Contract Administrator.

E8.4.2 Payment for excavation, supply and installation of geo-textile fabric and granular fill is considered incidental to the Works and no separate measurement and payment will be made.