



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 590-2006**

**RETAINING WALL REHABILITATION – CHARLESWOOD BRIDGE**

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## **PART B - BIDDING PROCEDURES**

### **B1. PROJECT TITLE**

B1.1 RETAINING WALL REHABILITATION – CHARLESWOOD BRIDGE

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, October 17, 2006.

B2.2 Bid Submissions 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. ENQUIRIES**

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B3.2 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.

B3.3 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.

B3.4 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.

B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B4. ADDENDA**

B4.1 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.

B4.2 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.

B4.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B4.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B4.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B5. SUBSTITUTES**

- B5.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B5.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B5.3 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.
- B5.4 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.
- B5.5 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.
- B5.6 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.
- B5.6.1 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.
- B5.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B5.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B13.
- B5.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

**B6. BID SUBMISSION**

- B6.1 The Bid Submission consists of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices;
- B6.2 All components of the Bid Submission 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 in ink, to constitute a responsive Bid.
- B6.3 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B6.3.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.
- B6.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B6.5 Bid Submissions shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Branch  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

**B7. BID**

- B7.1 The Bidder shall complete Form A: Bid, making all required entries.
- B7.2 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.
- B7.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.
- B7.3 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.
- B7.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;

- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers 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.

B7.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.

B7.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.

B7.5 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 Submission and the Contract, when awarded, shall be both joint and several.

## **B8. PRICES**

B8.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B8.2 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.

B8.3 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. QUALIFICATION**

B9.1 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;
- (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
- (c) be financially capable of carrying out the terms of the Contract;
- (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
- (e) have successfully carried out work, similar in nature, scope and value to the Work;
- (f) employ only Subcontractors who:
  - (i) are responsible and not suspended, debarred or in default of any obligation to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>); and
  - (ii) have successfully carried out work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract;
- (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);

- B9.2 The Bidder shall be prepared to 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.
- B9.3 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.

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

- B10.1 Bid Submissions will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.
- B10.1.1 Bidders or their representatives may attend.
- B10.2 After the public opening, the names of the Bidders and their Total Bid Prices as read out (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B10.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B10.4 The Bidder is advised that any information contained in any Bid Submission 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.

#### **B11. IRREVOCABLE BID**

- B11.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.
- B11.2 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 9 of Form A: Bid.

#### **B12. WITHDRAWAL OF BIDS**

- B12.1 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.
- B12.1.1 Notwithstanding GC:23.3, 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.
- B12.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B12.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials shall:
- (a) retain the Bid Submission until after the Submission Deadline has elapsed;



- (b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B12.1.3(b), declare the Bid withdrawn.

B12.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B11.2 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.

### **B13. EVALUATION OF BIDS**

B13.1 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 B9 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B5.

B13.2 Further to B13.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission 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 if the interests of the City so require.

B13.3 Further to B13.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid Submission or in other information required to be submitted, that he is responsible and qualified.

B13.4 Further to B13.1(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.

B13.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

### **B14. AWARD OF CONTRACT**

B14.1 The City will give notice of the award or will give notice that no award will be made.

B14.2 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.

B14.2.1 Without limiting the generality of B14.2, 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.

- B14.3 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.
- B14.4 Notwithstanding GC:4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B14.5 The Contract, as defined in GC:1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

## **PART C - GENERAL CONDITIONS**

### **C1. GENERAL CONDITIONS**

C1.1 The *General Conditions for Construction Contracts* (Revision 2000 11 09) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

- D1.1 In addition to the *General Conditions for Construction Contracts*, these Supplemental Conditions are applicable to the Work of the Contract.
- D1.2 The General Conditions are amended by striking out "The City of Winnipeg Act" wherever it appears in the General Conditions and substituting "The City of Winnipeg Charter".
- D1.3 The General Conditions are amended by striking out "Tender Package" wherever it appears in the General Conditions and substituting "Bid Opportunity".
- D1.4 The General Conditions are amended by striking out "Tender Submission" wherever it appears in the General Conditions and substituting "Bid Submission".
- D1.5 The General Conditions are amended by deleting GC:6.16 and GC:6.17. The City of Winnipeg is now within the jurisdiction of the Manitoba Ombudsman pursuant to The Ombudsman Act.

#### **D2. SCOPE OF WORK**

- D2.1 The Work to be done under the Contract shall consist of
- (a) Removal and reassembly of modular concrete block retaining wall;
  - (b) Excavation and backfill;
  - (c) Asphalt paving;
  - (d) Finish grading and landscaping

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

- D3.1 The Contract Administrator is Wardrop Engineering Inc., represented by:  
Mr. Rick Haldane-Wilsons, P.Eng.  
Principal and Manager  
400-386 Broadway, Winnipeg, MB R3C 4M8  
Telephone No. (204) 956-0980  
Facsimile No. (204) 957-5389
- D3.2 At the pre-construction meeting, Mr. Haldane-Wilsons 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 GC:23.2.2, 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 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 Administrative Officer Secretariat  
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  
Corporate Services Department  
Legal Services Division  
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. INSURANCE**

- D7.1 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) all inclusive, with The City of Winnipeg being added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a products and completed operations endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;
  - (b) automobile liability insurance for owned and non-owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D7.2 Deductibles shall be borne by the Contractor.

D7.3 The Contractor shall provide the City Solicitor with a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, 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 GC:4.1 for the return of the executed Contract.

D7.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

## **D8. PERFORMANCE SECURITY**

D8.1 If the Contract price exceeds twenty-five thousand dollars (\$25,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
- (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D8.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

## **D9. 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 GC:4.1, for the return of the executed Contract.

D9.2 The Safe Work Plan shall 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>.

## **SCHEDULE OF WORK**

### **D10. COMMENCEMENT**

D10.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.

D10.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
  - (i) evidence that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
  - (ii) evidence of the workers compensation coverage specified in GC:6.14;
  - (iii) evidence of the insurance specified in D7;

- (iv) the performance security specified in D8;
- (v) the safe work plan specified in D9
- (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.

D10.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D10.4 The City intends to award this Contract by October 20, 2006.

#### **D11. SUBSTANTIAL PERFORMANCE**

D11.1 The Contractor shall achieve Substantial Performance by May 30, 2007.

D11.2 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 re-inspected.

D11.3 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.

#### **D12. TOTAL PERFORMANCE**

D12.1 The Contractor shall achieve Total Performance by June 30, 2007.

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 re-inspected.

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 Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City Five Hundred dollars (\$500) per Working Day for each and every Working Day following the day fixed herein for Substantial 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 losses in the event that the Contractor does not achieve Substantial 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 job meetings will be held at the discretion of the Contract Administrator. 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. COOPERATION WITH OTHERS**

- D15.1 The Contractor's attention is directed to the fact that other Contractors, the personnel of Utilities and the staff of the City may be working on the structure, approach roadways, adjacent roadways or rights-of-way. The activities of these agencies may coincide with the Contractor's execution of the Work, and it will be the Contractor's responsibility to cooperate to the fullest extent with the other personnel working in the area, and such cooperation is an obligation of the Contractor under the terms of the Contract.

### **D16. ENVIRONMENTAL PLANNING**

- D16.1 The Contractor shall conduct his operations in accordance with all applicable regulations and to obtain necessary approvals and permits for his operations.

### **D17. CLEAN UP**

- D17.1 The Contractor shall maintain the Site of Work in a tidy condition free from the accumulation of waste and debris.

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

- D18.1 Further to GC:6.26, 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**

### **WARRANTY**

#### **D19. WARRANTY**

- D19.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for thereunder.



**FORM H1: PERFORMANCE BOND**  
(See D8)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

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

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

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

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for:

BID OPPORTUNITY NO. 590-2006

RETAINING WALL REHABILITATION – CHARLESWOOD BRIDGE

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

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

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

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

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

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

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

SIGNED AND SEALED  
in the presence of:

\_\_\_\_\_  
(Witness)

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

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

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

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

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

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)  
(See D8)**

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

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 590-2006  
RETAINING WALL REHABILITATION – CHARLESWOOD BRIDGE

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, STANDARD DETAILS AND DRAWINGS

- E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
B225-06-01	Cover Sheet
B225-06-02	Site Plan
B225-06-03	Proposed Retaining Wall Sections

#### E2. RECONSTRUCTION OF MODULAR CONCRETE RETAINING WALLS

- E2.1 Description
- This Specification will cover the removal and reconstruction of identified modular concrete block retaining walls.
  - The Work to be done under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.
- E2.2 Definitions
- Modular concrete retaining wall blocks are dry-cast solid concrete units that form the external facia of a modular unit retaining wall system.
  - Capping blocks are the last course of concrete units used to finish the top of the wall.
- E2.3 Materials
- E2.3.1 General
- The Contractor shall be responsible for the supply, safe storage, and handling of all materials set forth in the Specification. All materials shall be new and within the recommended shelf-life, as approved by the Contract Administrator.
- E2.3.2 Testing and Approval
- Notwithstanding that the Contractor is responsible to provide all routine quality control testing for this Work, all materials supplied under this Specification shall be subject to the inspection and testing by the Contract Administrator or by the Testing Laboratory designated by the Contract Administrator. There will be no charge to the City for any materials taken by the Contract Administrator for testing purposes.

E2.3.3 Handling and Storage of Materials

- (a) All materials shall be handled and stored in a careful, safe, and workmanlike manner to the satisfaction of the Contract Administrator.

E2.3.4 Granular Backfill

- (a) Footing and wall backfill shall be compacted granular base course material, 19mm, in accordance with requirements of base course material specified in CW 3110-R9.
- (b) Gradations to be within limits specified when tested to ASTM C136 and ASTM C117. Sieve sizes to CAN/CGSB 8.1 CAN/CGSB 8.2.

Sieve Designation	% Passing
19 mm	100
16 mm	80-100
4.75 mm	40-70
2.00 mm	25-55
0.425 mm	15-30
0.075 mm	8-12

- (c) Liquid limit: to ASTM D4318, maximum 25.
- (d) Plasticity index: to ASTM D4318, maximum 6
- (e) Los Angeles degradation: to ASTM C131. Max. % loss by weight: 35
- (f) Crushed particles: at least 50% of particles by mass within each of following sieve designation ranges to have at least 1 freshly fractured face.

E2.3.5 Drainage Stone

- (a) The drainage stone shall be a free draining angular granular material of uniform particle size smaller than 19 mm (3/4 inch) and less than 5% fines (0.08 mm diameter) separated from the retained soil by a geotextile filter. The drainage soil shall be installed directly behind the SRW units. The individual particles shall be dense, durable, and resistant to breakdown from freezing effects. The material shall be free of organics and other deleterious material.

E2.3.6 Geotextile Filter

- (a) The non-woven geotextile shall be installed as specified on the construction drawings. Geotextile for filtration will have an Apparent Opening Size ranging between 0.149 and 0.210 mm and a minimum unit weight of 135 grams per square meter. The coefficient of permeability shall typically range between 0.1 and 0.3 cm/second.
- (b) Mirafi® 140N non-woven geotextile composed of polypropylene fibers or an equivalent product shall be used.

E2.3.7 Geogrid Reinforcement

- (a) All reinforcing geogrid shall be MIRAGRID™ 3XT, or equivalent compatible with Pisa II units. The embedded length of geogrid shall be at least 1.2 m (4.0 feet). Location of geogrid layers shall be as specified in the construction drawings.

E2.3.8 Drainage Pipe

- (a) The drainage pipe shall be perforated corrugated HDPE or PVC pipe, with a minimum diameter of 100 mm (4 inches), protected by a geotextile filter to prevent the migration of soil particles into the pipe, or as specified on the construction drawings. Provide a minimum of 2% slope for pipe layout

E2.3.9 Modular Concrete Retaining Wall Blocks

- (a) It is intended that all existing modular concrete retaining wall blocks be reused. New concrete modular retaining wall blocks, if required, shall be Pisa II Standard Unit ('Natural' colour) 150 x 200 x 300 mm (6 x 8 x 12 inches), as supplied by Barkman Concrete. The supply of new concrete modular retaining wall blocks will be paid for at the Contract Unit Price.

E2.3.10 Capping Blocks

- (a) All concrete capping blocks shall be new material. Capping blocks shall be Revers-A-Cap Coping Unit ('Natural' colour) 75 x 200 x 300 mm (3 x 8 x 12 inches) as supplied by Barkman Concrete. All capping blocks and hardware are incidental to the retaining wall reconstruction and no additional payment will be made.

E2.3.11 Concrete Adhesive

- (a) The adhesive used to permanently secure the capping blocks to the top course of the wall shall be PL Landscape Block and Paver Adhesive, or equivalent.

E2.3.12 Capping Block Anchors

- (a) Capping block anchors shall be HIT RE 500 Epoxy Anchor System complete with stainless steel threaded rods.

E2.3.13 Grout

- (a) Grout shall be non-shrink and of a type approved by the Contract Administrator.

E2.3.14 Asphalt

- (a) Asphalt shall be in accordance with CW31120 and CW 3410.

E2.3.15 Other Materials

- (a) Other materials shall be as approved by the Contract Administrator.

E2.4 Equipment

- (a) All equipment shall be of a type accepted by the Contract Administrator and shall be kept in good working order.

E2.5 Construction Methods

E2.5.1 Work Site

- (a) The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property.

E2.5.2 Pedestrian Access

- (a) Pedestrian access shall be accommodated around the work area as approved by the Contract Administrator. The Contractor shall provide a plan to the Contract Administrator for approval a minimum of 3 days before on site Work will commence.

E2.5.3 Layout

- (a) It is intended that the retaining wall be reconstructed in their current locations as shown on the Drawings.
- (b) The Contractor shall be responsible for all layouts with regard to alignment and elevation of the reconstructed walls. All layout work shall be inspected and approved by the Contract Administrator.
- (c) Existing site photos are available for viewing at the Contract Administrator's office.
- (d) The Contractor shall obtain all underground utility clearances prior to the start of construction.

#### E2.5.4 Removal of Existing Retaining Walls

- (a) Removal of the existing modular concrete wall units for reinstallation shall include removal of all standard units and coping units, removal of levelling base, disposal of unusable/damaged wall units and stockpiling of sound modular concrete wall units in approved area for future reinstallation.
- (b) The Contractor shall exercise due caution during the wall units removal Works so as to limit vibration. Concrete retaining wall material to be reused shall be stored in an acceptable manner in a safe location and be secured against theft and vandalism. Retaining wall material stolen or vandalized shall be replaced by the Contractor at no additional cost to the City.
- (c) All necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing infrastructure. For all damage incurred in the performance of the Work, the Contractor shall repair such damage to the satisfaction of the Contract Administrator at no additional cost to the City.

#### E2.5.5 Excavation

- (a) This Specification shall amend and supplement City of Winnipeg Standard Construction Specification CW 3170-R3.
- (b) Follow the "Guidelines for Excavation Work" published by Manitoba Labour – Workplace Safety and Health.
- (c) Comply with all applicable rules and regulations of governmental authorities.
- (d) Submit excavation plan to the Contract Administrator for review three (3) days prior to commencement of the Work.
- (e) Before starting Work, locate all utilities crossing the Work Site. Notify all agencies or companies having jurisdiction over the specific utilities. Take all the necessary precautions to avoid damaging the utilities.
- (f) Before commencement of any work the Contractor shall consult with the Contract Administrator as to which trees are designated to be removed. The Contractor shall cut down only trees and shrubs designated for removal.
- (g) Care shall be taken to protect existing trees and their root systems from damage, compaction, and contamination resulting from construction to the satisfaction of the Contract Administrator. No heavy equipment shall be driven or parked on the area within the drip line of any trees.
- (h) Excavate in a manner to minimize damage to the tree root systems. Keep exposed roots in excavations and trenches moist or shaded. If stockpiling of excavated soil material is required, stockpile in areas away from the tree roots.
- (i) Prune exposed roots with equipment such as chain saws, root cutters or other methods acceptable to the Contract Administrator in a manner that will leave a neat, clean root end.
- (j) If shoring / bracing is required, have it designed by a Professional Engineer registered in the Province of Manitoba. Erect shoring / bracing independent of utilities and structures.
- (k) Excavate to the limits as shown in the construction drawings. When complete, request the Contract Administrator to review the excavations.
- (l) Keep excavation, pits, and the entire sub-grade near the Work free of water. Maintain positive surface drainage at all times.
- (m) At the limits of excavation, the Contractor shall saw-cut the existing asphalt paving to produce a clean straight edge when excavated.



- (n) As excavation proceeds, keep roads, streets, and sidewalks clean of dirt and excavated material. Clean-up and wash down to remove all dirt and excavated materials caused by Work of this Section.
- (o) Disposal of material shall be understood to mean the hauling of all unsuitable material from the Site and the unloading in a legal manner acceptable to the Contract Administrator.

#### E2.5.6 Base Levelling Pad

- (a) The base trench must be dug deep enough to allow for placement of the base levelling pad and the buried standard units. The minimum number of buried course is typically one unit.
- (b) Level and compact soils in the base trench prior to installation of the levelling pad.
- (c) Place granular base material to the lines and grades shown on the drawings. Extend base minimum of 450 mm beyond front and back faces of wall. The minimum base Levelling Pad thickness shall be 150mm (6 in)
- (d) Compact material to 98% Standard Proctor Density
- (e) When the grade running parallel with the wall is not level with the bottom of the Pisa II Units, the depth of the base trench and depth of the units below grade will vary. Maintain the minimum depth of buried Pisa II Units
- (f) Prepare base to ensure full contact to the base surface of the wall units

#### E2.5.7 Base Course

- (a) The base course of retaining wall modules shall be placed on the prepared levelling base as shown in the construction drawings. Care shall be taken to ensure that the wall modules are aligned properly, levelled from side to side and front to back and are in complete contact with the base material.
- (b) Check and adjust the level and alignment of all units. The position of the base course determines the alignment of all succeeding courses. Adjustments to alignment must be made at this time.
- (c) When placing the base course for a wall with a stepping grade, set all units at the lowest grade elevation first.

#### E2.5.8 Installation of Modular Concrete Retaining Wall Units

- (a) The Contract Administrator will inspect blocks for damage prior to and during installation. Blocks will be considered damaged if they contain any cracks or spalls. Damaged blocks will not be accepted.
- (b) All segmental block walls and coping units shall be installed with the following tolerances:
  - (i) Vertical Control  $\pm 7$  mm over a distance of 3 m
  - (ii) Horizontal Location Control  $\pm 13$  mm over a distance of 3 m
- (c) The wall modules above the bottom course shall be placed such that the tongue and groove arrangement provides the design batter (i.e. setback) of the wall face. Successive courses shall be placed to create a running bond pattern with the edge of all units being approximately aligned with the middle of the unit in the course below it.
- (d) Follow closely with backfill. Maximum stacked vertical height of wall prior to backfill placement and compaction not to exceed 2 courses.
- (e) The wall modules shall be swept clean before placing additional levels to ensure that no dirt, concrete or other foreign materials become lodged between successive lifts of the wall modules.

- (f) The contractor shall check the level of wall modules with each lift to ensure that no gaps are formed between successive lifts that may affect the pullout resistance of geogrid reinforcement.
- (g) Care shall be taken to ensure that the wall modules are not broken or damaged during handling and placement.
- (h) Top of wall shall be set to the heights shown on the drawings or as directed by the Contract Administrator.

#### E2.5.9 Cutting and Fitting units around Curves

- (a) The approximate wall curves shall be performed by a circular arc of segmental blocks. Under no circumstance shall the curves be done by butting segmental blocks against each other at a 90° angle. The minimum radius of all wall curves shall be 1.5 m.
- (b) For capstones required to be cut to achieve inside or outside curves, they shall be cut at a the current angle so that a gap of no more than 3 mm is visible between successive capstones along the entire width of the capstone.
- (c) In preparation for the bottom course, the radius will decrease by 19mm (3/4 in) every course. Therefore, the smallest curve will result on the uppermost course. This has to be taken into consideration when placing the tapered units on a curve according to the radii as shown in the construction drawings.
- (d) Geogrid layers shall be placed within 25mm (1 in) of the front face of the block. The geogrid will overlap and should have 75mm (3 in) of compacted soil between the layers. The geogrid should be placed on the Pisa2 units so the geogrid does not overlap until it enters the soil zone.

#### E2.5.10 Capping Blocks

- (a) Capping blocks shall be secured to the top of the wall with two 10 mm (3/8 inch) beads of the approved flexible concrete adhesive positioned 50mm (2 inches) in front and behind the tongue of the last course of retaining wall units. Refer to manufacturer's instructions for complete details on the use of flexible concrete adhesive.
- (b) Capping blocks shall also be secured to the top of the wall with HIT RE 500 Epoxy Anchor System with threaded rod in addition to applying flexible concrete adhesive as mentioned in E2.5.10 (a). Refer to manufacturer's instructions for complete details. Holes shall be drilled into the top of the modular block units and capping blocks to accept the mechanical anchor.
- (c) The tops of the holes shall be grouted. White cement shall be added to the grout to match the colour of the capping block.

#### E2.5.11 Geotextile Filter

- (a) Prior to laying any geotextile fabric, all bedding surfaces shall be cleared of deleterious material to provide a smooth uniform surface and prevent puncture or tearing of the fabric.
- (b) The approved non-woven geotextile shall be set against the back of the first retaining wall unit, over the prepared foundation, and extend towards the back of the excavation, up the excavation face and back over the top of the infill soil to the retaining wall, or as shown in the Construction Drawings.
- (c) Fabric shall be folded back overtop of granular backfill, 450mm minimum.
- (d) Where joining of fabric is required overlap seams 300mm minimum.

#### E2.5.12 Drainage Pipe

- (a) The drainage pipe shall be placed behind lower course of facing units as shown in the Construction Drawings. The pipe shall be laid at a minimum gradient of 2% to ensure adequate drainage to free outlets.
- (b) The outlet pipe should be non-perforated PVC (connected through a T-joint) placed a minimum of 15m (45ft) on centre.
- (c) Cutting a half Pisa2 unit allows the pipe through the wall face without losing the running bond pattern. It is recommended that the area around the pipe be grouted to prevent the washout of fines.

#### E2.5.13 Granular Backfill

- (a) Place, spread, and compact backfill in such a manner that minimizes the development of slack in the geotextile cloth. Ensure no damage to the geotextile cloth.
- (b) Place and compact backfill in maximum lifts of 150mm (6 in.) and compacted to a minimum density of 95% Standard Proctor.
- (c) No heavy compaction equipment shall be allowed within 1.0m (3 ft.) of the back of the wall fascia.
- (d) Do not over compact or compact soils next to the back of the unit in an uncontrolled manner. This may drive drainage material under the unit, forcing the units out of level. If this continues, the wall may begin to lean forward.

#### E2.5.14 Geogrid Reinforcement

- (a) Pre-cut sections of geogrid reinforcement shall be placed horizontally at the specified elevations and with longitudinal axis perpendicular to the wall face (i.e. machine direction)
- (b) The geogrid shall be placed over the compacted infill soil and the wall facing units with the outside edge extending over the tongue of the bottom unit and to within 25 mm (1 in.) of the front facing unit. Care shall be taken to ensure that the wall modules are swept clean and that the geogrid is in complete contact with the top and bottom faces of the adjacent wall modules. The next course of wall modules shall be carefully placed on top of the lower modules to ensure that no pieces of concrete are chipped off and become lodged between unit layers.
- (c) The geogrid shall be pulled taut away from the back of the wall modules during placement of infill soil. Alternatively, suitable anchoring pins or staples can be used to ensure that there are no wrinkles or slackness prior to placement of the infill soil. The geogrid shall lay perfectly flat when pulled back perpendicular to the back of the wall fascia.

#### E2.5.15 Top Soil and Finish Grading

- (a) Top soil and finish grading shall be in accordance with CW3540-R4. The minimum mechanically rolled topsoil depth shall be 100 mm.
- (b) This Work is incidental to the Works of this Specification and no additional payment shall be made.

#### E2.5.16 Sodding

- (a) Sodding shall be in accordance with CW3510-R8.
- (b) This Work is incidental to the Works of this Specification and no additional payment shall be made.

#### E2.5.17 Asphalt Swale

- (a) Construction of the asphalt swale shall be in accordance with CW31120 and CW 3410.

- (b) This Work is incidental to the Works of this Specification and no additional payment shall be made.

E2.6 Measurement and Payment

E2.6.1 Reconstruction of Modular Concrete Retaining Walls

- (a) The reconstruction of modular concrete retaining walls will not be measured. This item of Work will be paid for at the Contract Lump Sum Price for "Reconstruction of Modular Concrete Retaining Walls," performed in accordance with this Specification and accepted by the Contract Administrator.

E2.6.2 Supply of New Modular Concrete Retaining Wall Blocks

- (a) The supply of new modular concrete retaining wall blocks will be measured on a unit basis and paid for at the Contract Unit Price for "Supply of New Modular Concrete Retaining Wall Blocks," supplied in accordance with this specification and accepted by the Contract Administrator. This item does not include the capping blocks which are incidental to the Lump Sum Price specified above.