



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 133-2006

BUNN'S CREEK AT RED RIVER – RIVERBANK REMEDIATION WORKS

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

B1.1 Bunn's Creek At Red River – Riverbank Remediation Works

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, November 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. SITE INVESTIGATION

B3.1 Further to GC:3.1, the Bidder may view the Site without making an appointment.

B3.2 The Bidder is advised that the site is snow covered and that access to the riverbank is somewhat restricted due the presence of an existing parking lot along Henderson Highway. The parking lot has a relative narrow entrance off of Henderson Highway and is bounded on the south and west sides by timber bollards and a narrow gate.

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 Branch 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 Branch internet site for addenda shortly before submitting his Bid.
- 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 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 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 SUBMISSION

- B7.1 The Bid Submission consists of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
 - (c) 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 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.
- B7.3 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.
- B7.3.1 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.
- B7.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.5 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

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 shall be printed below such signatures.
- B8.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.
- 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 Submission 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.

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;
 - (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);
- B10.2** Further to B10.1(g), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder 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 - Option 1 administered by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
 - (b) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association; or
 - (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.)
- B10.3** 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.
- B10.4** 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.

B11.2 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 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.

B12.1.1 Bidders or their representatives may attend.

B12.1.2 Bid Submissions 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 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>.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

B12.4 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.

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 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.
- 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 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 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 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.
- 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 Submission 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.

B16. AWARD OF CONTRACT

- B16.1 The City will give notice of the award of the Contract by way of a letter of intent, 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.

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 access development, riverbank excavation, rockfill riprap placement, installation of a turf reinforcement mat, seeding, site restoration and related Works.
- D2.2 The major components of the Work are as follows:
- (a) Site preparation, access development, general Site cleanup and restoration
 - (b) Grading and flattening of the riverbank by excavation
 - (c) Supply and placement of a geotextile and rockfill riprap along the riverbank toe
 - (d) Supply and placement of turf reinforcement mat

D3. CONTRACT ADMINISTRATOR

- D3.1 The Contract Administrator is AMEC Earth & Environmental, represented by:
Brad Wiebe, M.Sc., P. Eng.
Geotechnical Engineer
440 Dovercourt Drive
Winnipeg, Manitoba R3Y 1N4
Telephone No. (204) 488-2997
Facsimile No. (204) 489-8261
- D3.2 At the pre-construction meeting, Mr. Wiebe 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 three (3) 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. SAFE WORK PLAN

- D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

D8. INSURANCE

- D8.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) 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;

D8.2 Deductibles shall be borne by the Contractor.

D8.3 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.

D8.4 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.

D9. PERFORMANCE SECURITY

D9.1 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.

D9.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D9.2 If the bid security provided in his Bid Submission 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 GC:4.1 for the return of the executed Contract.

D10. DETAILED WORK SCHEDULE

D10.1 The Contractor shall provide the Contract Administrator with a detailed Work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

D10.2 The detailed Work schedule shall consist of:

- (a) a Gantt chart for the Work based on the terms of the Work listed on Form B of the tender submission.

D10.3 Further to D10.2(a), the Gantt chart shall show the time, on a daily basis, required to carry out the Work of each specification division.

D11. SECURITY CLEARANCE

D11.1 Each individual proposed to perform the following portions of the Work:

(a) Riverbank remedial works on private property

shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence.

D11.2 Prior to the commencement of any Work, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform Work within City facilities or on private property.

D11.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person, will not be permitted to perform any Work within City facilities or on private property.

D11.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.

D11.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform Work under the Contract within City facilities or on private property.

SCHEDULE OF WORK

D12. COMMENCEMENT

D12.1 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.

D12.2 The Contractor shall not commence any Work on the Site until:

(a) the Contract Administrator has confirmed receipt and approval of:

(i) evidence that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;

(ii) evidence of the workers compensation coverage specified in GC:6.14;

(iii) the Safe Work Plan specified in D7;

(iv) evidence of the insurance specified in D8;

(v) the performance security specified in D9;

(vi) the detailed work schedule specified in D10;

(vii) the security clearances specified in D11; and

(b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D12.3 The Contractor shall commence the Work as soon as conditions allow and under no circumstance, later than January 15, 2007.

D13. SUBSTANTIAL PERFORMANCE

D13.1 The Contractor shall achieve Substantial Performance by March 31, 2007.

D13.2 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.

D13.3 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.

D14. TOTAL PERFORMANCE

D14.1 The Contractor shall achieve Total Performance by June 30, 2007.

D14.2 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.

D14.3 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.

D15. LIQUIDATED DAMAGES

D15.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City one thousand dollars (\$1000) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.

D15.2 The amount specified for liquidated damages in D15.1 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.

D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D16. SCHEDULED MAINTENANCE

D16.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

(a) Seeding as specified in CW 3520-R6

D16.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

D17. JOB MEETINGS

- D17.1 Regular semi-weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D17.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

- D18.1 Further to 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).

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.
- D19.2 Notwithstanding GC:13.2 or D19.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:
- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

SAFETY

D20. SAFETY

- D20.1 The contractor shall be required to maintain a safe Site and Work environment satisfying all regulatory requirements including, but not limited to, having in place a safety program which meets or exceeds all elements in Section 7.4 (5) of the Workplace Safety & Health Act.

FORM H1: PERFORMANCE BOND
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

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

_____ dollars (\$_____)

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

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

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 133-2006

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 D9)

(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. 133-2006

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>
15204-01	List of Drawings/Site Location Plan
15204-02	General Site Plan/Riverbank Remedial Works
15204-03	Section A
15204-04	Section B
15204-05	Section C

E2. GEOTECHNICAL INFORMATION

- E2.1 Further to GC:3.1, geotechnical test holes have been drilled in the vicinity of the proposed Works to determine the subsurface soil and groundwater conditions to facilitate the design of the Work. The information is considered accurate at the locations indicated and at the time of the investigation. However, considerable variation in soil conditions may exist between test hole locations and fluctuations in groundwater can be expected to occur seasonally. Test hole logs are included for information purposes only.
- E2.2 Bidders are responsible for any interpretation they place on the supplied information and are expected to make such additional investigation of the soil as they feel necessary to satisfy themselves.
- E2.3 Any test borings made by the Contractor shall be done in accordance with the requirements of the appropriate authority of the City of Winnipeg. Contractors shall notify the Contract Administrator prior to starting any soil boring program.

E3. VERIFICATION OF TRUCK WEIGHTS

- E3.1 All material which is paid for on a weight basis shall be weighted on a scale certified by Consumer & Corporate Affairs, Canada.
- E3.1.1 All weight tickets shall have the gross weight and the time and date of weighing printed by an approved electro/mechanical printer coupled to the scale. The tare weight and net weight may either be hand written or machine printed. All weights, scales and procedures shall be subject to inspection and verification by the Contract Administrator. Such inspection and verification may include, but shall not be limited to:

- (a) checking Contractor's scales for Consumer & Corporate Affairs certification seals;
- (b) observing weighing procedures;
- (c) random checking of either gross or tare weights by having such trucks or truck/trailer(s) combinations as the Contract Administrator shall select weighed at the nearest available certified scale; and
- (d) checking tare weights shown on delivery tickets against a current tare.

E3.2 The Contractor shall ensure that each truck or truck/trailer(s) combination delivering Material which is paid for on a weight basis carries a tare not more than one (1) month old.

E3.2.1 The tare shall be obtained by weighing the truck or truck/trailer(s) combination on a certified scale and shall show:

- (a) upon which scale the truck or truck/trailer(s) combination was weighed;
- (b) the mechanically printed tare weight; and
- (c) the license number(s) of the truck and trailer(s).

E4. TRUCK WEIGHT LIMITS

E4.1 The City shall not pay for any portion of Material which results in the vehicle exceeding the maximum gross vehicle weight allowed under *The City of Winnipeg Traffic By-Law*, unless such vehicle is operating under special permit.

E5. SITE DEVELOPMENT AND RESTORATION

E5.1 Description

E5.1.1 This Specification shall cover all aspects of the Site development and restoration Work, including equipment mobilization and demobilization, removal of debris, erection, maintenance and removal of safety fencing, snow clearing, general access development, access maintenance and Site restoration.

E5.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, and all things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.

E5.2 Equipment

E5.2.1 All equipment, implements, tools and facilities used shall be of a size and type as required to complete the Work in a reasonable time, approved by the Contract Administrator. The Contractor shall keep all equipment in good Working order, and have sufficient standby equipment available at all times, as required.

E5.3 Mobilization/Demobilization

E5.3.1 The mobilization and demobilization of all equipment necessary to complete the Work is covered under this Specification.

E5.4 Site and Construction Access

E5.4.1 The Contractor shall be responsible for developing suitable Site access. This shall include but is not limited to temporary bridging over structures, temporary removal and

reinstallation of fencing (including private fence along north Site limit), restoration of sod and other surface features, etc.

The construction access ramp from the top of bank area down to the edge of the river shall be constructed at the approximate location shown on the Drawings. The construction access ramp shall be constructed by excavating to the necessary ramp gradient (or to that slope deemed necessary by the Contractor to properly access the riverbank toe area) and disposing of the material off Site. The Contractor shall provide details of the proposed access ramp to the Contract Administrator for review and approval prior to proceeding with the Work. Under no circumstance will the excavated material or any additional material be placed as fill in the ramp area. The Contractor is responsible for obtaining all required permits and permissions that are necessary for Site access, which may include a Frozen Waterway Permit from the City of Winnipeg Police Department.

The Contractor is responsible for placing any required materials on the access slope to allow access to the riverbank toe area. All such materials will be required to be placed at no extra to the Contract and shall be removed at the completion of the project.

E5.4.2 The Contractor's construction access ramp shall be left in place for future use by the City of Winnipeg. However, the Contractor will be responsible for the construction/installation of appropriate measures to prevent erosion of the soil within the ramp area. These measures may include a biodegradable turf reinforcement mat or other such treatments. The intent is to provide temporary erosion protection of the ramp area until such time as the City of Winnipeg assumes responsibility for this area.

E5.4.3 The Contractor shall construct a safety warning fence as directed by the Contract Administrator and shall enclose, as a minimum, all areas of ground disturbance, including on the river side of the project.

E5.5 Removal of Viewing Area

E5.5.1 Prior to any Work being undertaken at the riverbank, the existing sitting/viewing area located at the top of bank shall be removed from its current location and placed adjacent to the parking lot at Henderson Highway.

E5.6 Vegetation Removal

Some vegetation (trees and shrubs) removal will be permitted in order to facilitate Site access and riverbank regrading. Existing vegetation removal will be not permitted without prior approval from the Contract Administrator. The Contractor shall load and haul all removed vegetation, disposing of the materials off Site immediately after collection. Stockpiling will not be permitted. The Contractor shall provide all necessary protection, from all construction activities, to all trees/shrubs outside of the Work area. Any damaged or destroyed vegetation outside of the Work area shall be replaced or restored at the Contractor's sole expense. The Contractor is to inform the Contract Administrator of the off-Site disposal location and obtain approval prior to removing any material from the Site.

E5.7 Debris Removal

The Contractor shall remove all debris from the Site to permit access development and construction of the Works. The debris shall include but not be limited to wood/tree debris along the toe of Bunn's Creek and the Red River. All debris shall be disposed of off Site immediately after collection with the exception of select wood/tree debris from along the toe of the Red River. Select wood/tree debris from along the toe of the Red River will be removed and stockpiled as directed by the Contract Administrator. The Contractor is to inform the Contract Administrator of the off-Site disposal location and obtain approval prior to removing any material from the Site.

On completion of the rockfill riprap placement, the select wood/tree debris will be placed on the rockfill riprap as directed by the Contract Administrator. Stockpiling will not be permitted except as directed by the Contract Administrator.

E5.8 Snow and Ice Removal

E5.8.1 Snow cover shall be cleared from the riverbank prior to placement of the geotextile fabric underlying the rockfill riprap, to the dimensions provided on the Drawings. Snow shall also be cleared prior to placing the turf reinforcement mat. The snow clearing methodology shall be subject to the approval of the Contract Administrator. The Contractor will also be responsible for all snow clearing along Site access points for equipment access.

E5.8.2 Ice along the shoreline of Red River shall be removed, where it exists above the river level at the time of construction, prior to placement of geotextile and rockfill riprap. Care shall be taken to ensure that the ice is removed and does not become trapped below the geotextile/rockfill riprap placement, as identified in Section E7 Rockfill Riprap of this Specification.

E5.9 Environmental Regulations

E5.9.1 Further to Section E12, the Contractor shall adhere to all relevant Federal and Provincial environmental regulations throughout the entire construction process.

E5.9.2 The Contractor shall plan the Work in accordance with the current environmental regulations of "Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat", Fisheries and Oceans Canada and Manitoba Conservation.

E5.9.3 The Contractor shall develop an adequate sediment control plan prior to initiation of any work in accordance with the environmental regulations and also in accordance with "Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat", Fisheries and Oceans, and Manitoba Natural Resources, May 1996.

- (a) The sediment control plan shall be submitted by the Contractor to the Consultant at the pre-construction meeting for approval. As a minimum, the sediment control plan shall include the use of silt fencing in all areas between the river and the Work area, including the adjacent Bunn's Creek.
- (b) Once the sediment control plan is approved, the Contractor shall work in accordance with this plan at all times.

E5.10 The Contractor shall ensure that a sufficient supply of suitable spill kits is on Site to clean-up minor spills should they occur. The Contractor shall supply the name, address and phone number of a local supplier, where additional spill kits are available on short notice, on the Emergency Phone List specified in Section E12.

E5.11 Site Restoration

The Site shall be restored to a condition at least equivalent to its original condition prior to initiation of the Work, including but not limited to removal of any temporary safety fencing, re-grading any damaged areas and reinstallation of fence along private property at the north end of the Site.

E5.12 Method of Measurement

Site development and restoration will be paid for on a lump sum basis. The Work to be paid for shall be the total Work constructed in accordance with this Specification including mobilization and demobilization, viewing area dismantling and moving, debris removal, erection, maintenance and removal of safety fencing, removal and replacement of fence at private property, sediment control, snow/ice clearing, general access development and maintenance,

environmental regulations and Site restoration as accepted by the Contract Administrator. No measurement will be made for this Work.

E5.13 Basis of Payment

Site Development and restoration will be paid for at the Contract Lump Sum Price for "Site Development and Restoration", which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

E6. GEOTEXTILE

E6.1 Description

E6.1.1 This Specification shall cover the supply and installation of the geotextile fabric to be used as a separator between the rockfill riprap and the native soil.

E6.2 Materials

E6.2.1 The geotextile shall consist of non-woven fabric.

E6.2.2 The Contractor shall be responsible for the supply, safe storage and handling of the geotextile. The geotextile shall be handled in a careful manner. It shall be protected at all times against sun exposure, contamination from dirt, dust, and any other deleterious materials. The geotextile shall remain wrapped in a suitable protective covering until it is used.

E6.2.3 The geotextile material shall be a non-woven geotextile filter fabric at least 4.6 m in width. All physical property requirements are minimum average roll values and shall conform to:

- (a) Tensile Strength 890 Newtons (ASTM D4632 Grab test or CSGB Standard 4-GP-2 Method 9.2).
- (b) Trapezoid Tear 360 Newtons (ASTM D4533 or CSGB Standard 4-GP-2, Method 11.2).
- (c) Equivalent Opening Size 0.216 millimetre (ASTM D4751).
- (d) Acceptable products shall be Amoco 4553, Armtec 250, Mirafi 180 N, or approved equivalent.

E6.3 Construction Methods

E6.3.1 All work related to the geotextile storage, handling, and installation shall comply with the procedures and recommendations of the manufacturers and as accepted by the Contract Administrator. The Contractor shall supply all manufacturer recommendations for storage, handling, installation, and splicing to the Contract Administrator.

E6.3.2 Prior to laying the fabric, the riverbank shall be cleared of snow in accordance with Section E5.7 as well as all other deleterious materials (rocks, roots, branches, bricks, glass, etc) down to the bare in-situ soil surface, and graded to provide a smooth uniform surface to prevent puncturing or tearing the fabric.

- (a) The limits of the geotextile placement shall be coincident with those shown on the Construction Drawings for Rockfill Riprap Construction.

E6.3.3 The fabric shall be loosely laid in order to allow conformity to the riverbank surface. Folds and wrinkles in the fabric shall be avoided. Pins, nails or weights shall be installed to hold the fabric in place such that placement of the rockfill riprap will not excessively stretch or tear the fabric and seam overlaps will be maintained.

- E6.3.4 The fabric shall be overlapped in a downstream direction (upstream panel overtop of downstream panel) a minimum of 600 millimetres at all joints. The overlap shall be pinned or secured according to manufacturer's specifications and as approved by the Contract Administrator.
- E6.3.5 A minimum of 300 millimetres of riprap material shall be placed over the geotextile prior to equipment passage.
- E6.3.6 Rockfill riprap shall be placed on the geotextile in such a manner that the geotextile is not damaged, torn, excessively stretched or punctured.
- E6.3.7 Damaged geotextile, as identified by the Contract Administrator, shall be repaired immediately at the Contractor's own cost. All rockfill riprap shall be cleared a minimum of 1 metre around the damaged area. The damaged area shall be covered with a geotextile patch extending 1 metre beyond the perimeter of the damage.
- E6.4 Method of Measurement
- E6.4.1 The supply and placement of the geotextile shall be measured on an area basis. The area to be paid for shall be the total number of square metres of ground covered by the geotextile (i.e. overlap at all joints will be considered a single layer), placed in accordance with this Specification and accepted by the Contract Administrator, as measured in the field.
- E6.5 Basis of Payment
- E6.5.1 Geotextile will be paid at the Contract Unit Price per square metre for "Geotextile", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in the Specification.
- E6.5.2 Geotextile used for repairs will be excluded from the quantity paid.

E7. ROCKFILL RIPRAP CONSTRUCTION

- E7.1 Description
- E7.1.1 This Specification shall cover the supply and placement of rockfill riprap.
- E7.2 Materials
- E7.2.1 The rockfill material for use as riprap shall consist of clean free draining, sound, dense and durable crushed rock. The rockfill material shall be free from organics, roots, silts, sand, clay, snow, ice or any other material that would detract from the strength and drainage characteristics of the clean rockfill.
- E7.2.2 The riprap shall be durable, comprised of either limestone, granite, or other quality dense crushed rock. Individual particles shall be shaped such that no one dimension is greater than two times the smallest dimension. Flat, elongated, or platy particle shapes shall not be accepted.
- E7.2.3 Should the Contractor choose to use limestone, it shall be durable white crystalline limestone. Softer buff to yellow dolomite or dolostone will not be accepted.
- E7.2.4 The rockfill material shall meet the following requirements:
- (a) maximum aggregate size of 450 millimetres
 - (b) minimum bulk specific gravity of 2.6 (ASTM C127)
 - (c) maximum Los Angeles abrasion loss of 30% (ASTM C131)

(d) maximum soundness loss of 13% (ASTM C88)

E7.2.5 Rockfill riprap shall be well graded having a full range and even distribution of sizes and shall conform to the following gradation as measured in the smallest dimension:

Canadian Metric Sieve Size (millimetres)	Percent of Total Dry Weight Passing Each Sieve
450	100%
300	50-70%
200	25-40%
100	10-20%
50	0-5%

E7.3 Submittals

E7.3.1 The Contractor shall submit the proposed supplier(s) and location of quarry Sites for supply of rockfill riprap.

E7.3.2 Representative samples of the rockfill riprap submitted for material testing purposes shall be completed as specified herein.

E7.4 Quarry Sites

E7.4.1 Contractors supplying rockfill riprap shall be responsible for demonstrating that the material is of adequate quality and volume to meet the material specifications contained herein.

E7.5 Testing and Approval

E7.5.1 All materials set forth in this Specification shall be subject to inspection and testing by the Contract Administrator or by the testing laboratory designated by the Contract Administrator. There shall be no charge for any materials taken by the Contract Administrator for testing purposes.

E7.5.2 The Contract Administrator will visit proposed quarry Sites for inspection of the proposed rockfill riprap material and quarry faces a minimum of three (3) days prior to supply and placement of the rockfill riprap.

E7.5.3 No supply and placement of rockfill riprap shall be permitted prior to the Contract Administrator reviewing the source.

E7.5.4 The procedures for preparation of all rockfill riprap samples for use in material inspection and testing shall be subject to review and acceptance by the Contract Administrator for individual tests. The samples may be obtained from crushed and processed material at the sizing necessary for specific tests if the material is deemed to be representative of the rockfill riprap that will be used, subject to acceptance of the Contract Administrator. Rockfill riprap samples submitted for testing by the Contractor shall be submitted a minimum of three (3) days prior to supply and placement of the rockfill riprap. Alternatively, the Contractor may submit recent (within six months) confirmatory test results for the rockfill rip proposed for use, performed by a qualified testing laboratory, to the Contract Administrator for review.

E7.5.5 The testing frequency necessary to confirm the material quality will be specified at the discretion of the Contract Administrator.

E7.6 Construction Methods

- E7.6.1 On geotextile installed in accordance with Section E6, push or roll rockfill riprap into place such that the larger pieces of rockfill are uniformly distributed and the small pieces of rockfill serve to fill the spaces between the larger rockfill pieces such that excessive segregation of the various particle sizes does not occur.
- E7.6.2 Sufficient levelling shall be done to produce a near and uniform surface conforming to the shape and dimensions shown on the Drawings.
- E7.6.3 The allowable fill tolerances shall be within ± 50 mm of the grades and thicknesses shown on the Drawings.
- E7.6.4 Provide a smooth uniform surface from the existing grade and new rockfill riprap when placing outside edges or transitions as accepted by the Contract Administrator.
- E7.6.5 Temporary stockpiling of rockfill riprap will be allowed as directed by the Contract Administrator. The rockfill riprap shall be transported to the toe of the riverbank by means of a front end loader or hydraulic excavator. Truck or trucks and trailer(s) will not be permitted to access the toe of the riverbank.

E7.7 Method of Measurement

The supply and placement of the rockfill riprap shall be measured on a weight basis. The weight to be paid for shall be the total number of metric tonnes rockfill riprap, supplied and placed in accordance with this Specification, acceptable to the Contract Administrator, as measured on a certified scale.

The Contractor shall provide the weigh scale tickets to the Contract Administrator for the material supplied to the Site at the time of delivery. No payment will be made for any weigh scale tickets that are not supplied at the time of delivery.

E7.8 Basis of Payment

Rockfill riprap will be paid at the Contract Unit Price per metric tonne for "Rockfill Riprap Construction", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in the Specification.

E8. CHANNEL PROTECTION

- E8.1 The ice surface shall be cleaned prior to ice break-up. The Contractor shall clean up all materials, including but not limited to, soil, construction debris, etc, from their construction activity. All items that will have an adverse impact on the channel shall be removed. Channel Protection shall be considered incidental to the Works of this Contract and no measurement or payment will be made for this item.

E9. COMMON EXCAVATION

E9.1 Description

- E9.1.1 This Specification shall cover regrading of the riverbank.
- E9.1.2 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 Works as hereinafter specified.

E9.2 Materials

E9.2.1 Excavation

The materials covered in this Specification consist of the in situ overburden soils and may include but not necessarily limited to organic clay (topsoil), clay, silt, sand, gravel, fill, rubble, trees roots, shrubs, etc., all of which may be excavated with standard hydraulic excavation equipment.

E9.3 Construction Methods

All material encountered within the limits of the riverbank regrading shall be excavated to the lines and grades shown on the Drawings. All excavation shall proceed from the top of riverbank down to minimize the potential for riverbank instability. All materials shall be loaded and hauled off Site immediately upon excavation. The allowable excavation tolerances shall be within 50 mm of the grade shown on the Drawings.

(a) The Contract Administrator will provide the initial excavation limits.

E9.4 Method of Measurement

Common excavation will be measured on a volume basis. The volume to be paid for shall be the total number of cubic metres excavated and removed in accordance with this Specification and accepted by the Contract Administrator, as measured in the field. The volume will be measured by cross sectioning using a rod, level and chain or other similar methods such as the use of a Total Station, at a mutually agreeable number of locations. The Contractor is required to complete all such measurements and provide the data to the Contract Administrator.

E9.5 Basis of Payment

Common excavation will be paid at the Contract Unit Price per cubic metre "Common Excavation", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in the Specification.

E10. TOPSOIL AND SEEDING

E10.1 Description

Topsoil and seeding shall be completed in accordance with CW 3540-R4 and CW 3520-R6, respectively, except as noted herein.

E10.2 Materials

E10.2.1 The topsoil shall consist of imported topsoil only.

E10.2.2 The grass seed shall consist of a Canada common native seed mix as follows:

- 20% Slender Wheatgrass
- 20% Switchgrass
- 20% Big Bluestem
- 20% Canada Wildrye
- 10% Fringed Brome
- 10% Canada Milkvetch

Grass species that may be substituted in varying percentages (no greater than 20%) as alternatives to those listed above include:

Prairie Cordgrass
Streambank Wheatgrass
Western Wheatgrass
Northern Wheatgrass

E10.3 Submittals

The Contractor shall submit the proposed seed mix for review by the Contract Administrator prior to initiating seeding operations.

E10.4 Construction Methods

On the riverbank regraded as specified in Section E10, place topsoil in accordance with CW 3540-R4 (for seeding areas) to the limits indicated on the Drawings.

Grass seed shall be sown at a rate in accordance with CW 3520-R6.

E10.5 Method of Measurement

E10.5.1 Topsoil and seeding shall be measured on an area basis. The area to be paid for shall be the total number of square metres of ground covered by the topsoil and seed placed in accordance with this Specification and accepted by the Contract Administrator, as measured in the field.

E10.6 Basis of Payment

Topsoil and seeding will be paid at the Contract Unit Price per square metre for "Topsoil and Seeding", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in the Specification.

E11. PERMANENT TURF REINFORCEMENT MAT

E11.1 Description

E11.1.1 This Specification shall cover the supply and installation of the permanent turf reinforcement mat to be used on regraded riverbank between the rockfill riprap and the crest of the riverbank.

E11.2 Materials

E11.2.1 The permanent turf reinforcement mat shall consist of a machine-produced mat of a straw or straw and coconut fibre matrix incorporated into a permanent three-dimensional turf reinforcement matting.

E11.2.2 The Contractor shall be responsible for the supply, safe storage and handling of the permanent turf reinforcement matting. The permanent turf reinforcement matting shall be handled in a careful manner. It shall be protected at all times against sun exposure, contamination from dirt, dust, and any other deleterious materials. The permanent turf reinforcement matting shall remain wrapped in a suitable protective covering until it is used.

E11.2.3 The permanent turf reinforcement mat shall be at least 2.0 m in width. All physical property requirements are minimum average roll values and shall conform to:

- (a) Matrix: Straw fibre to be 0.19 kilograms per square metre.
- (b) Netting: Top and bottom netting to consist of heavy duty UV stabilized polypropylene with an approximate weight of 2.44 kilograms per 100 square metres.

- (c) The top and bottom netting shall be stitched together using UV stabilized polypropylene thread.
- (d) Acceptable products shall be North American Green SC250, Erosion Control Blanket P42 or approved equivalent.

E11.3 Construction Methods

- E11.3.1 All work related to the permanent turf reinforcement matting storage, handling, and installation shall comply with the procedures and recommendations of the manufacturers and as accepted by the Contract Administrator. The Contractor shall supply all manufacturer recommendations for storage, handling, installation, and splicing to the Contract Administrator.
- E11.3.2 Prior to laying the permanent turf reinforcement matting, the riverbank shall be prepared in accordance with Section E10.
 - (a) An exception will be the area below the rockfill riprap as noted in Section E11.3.6, where no topsoil should underlay the turf reinforcement mat.
 - (b) The Contract Administrator will provide the initial survey control.
- E11.3.3 The mat shall be loosely laid in order to allow conformity to the riverbank surface. Folds and wrinkles in the mat shall be avoided. Staples shall be installed to hold the mat in place in accordance with the manufacturer's recommendations.
- E11.3.4 The mat shall be overlapped in a downstream direction (upstream panel overtop of downstream panel) a minimum of 300 millimetres at all joints. The overlap shall be stapled according to manufacturer's recommendations and as approved by the Contract Administrator.
- E11.3.5 Damaged permanent turf reinforcement mat, as identified by the Contract Administrator, shall be repaired immediately at the Contractor's own cost. The damaged area shall be covered with a permanent turf reinforcement mat patch extending 1 metre beyond the perimeter of the damage.
- E11.3.6 The lower portion of the mat adjacent to the rockfill riprap will extend laterally 1.0 metre below the riprap.
- E11.3.7 The upper section of the mat at the crest of the riverbank will be installed in a 0.6 metre wide trench as indicated on the Drawings.

E11.4 Method of Measurement

- E11.4.1 The supply and placement of the permanent turf reinforcement mat shall be measured on an area basis. The area to be paid for shall be the total number of square metres of ground covered by the permanent turf reinforcement mat (i.e. overlap at all joints will be considered a single layer), placed in accordance with this Specification and accepted by the Contract Administrator, as measured in the field. The portion of mat located within the trench area shall be considered to have a payment width equal to the ground surface of the trench (i.e. no payment for that portion within the trench).

E11.5 Basis of Payment

- E11.5.1 Permanent turf reinforcement mat will be paid at the Contract Unit Price per square metre for "Permanent Turf Reinforcement Mat", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in the Specification.

E12. ENVIRONMENTAL PROTECTION PLAN

- E12.1 The Contractor shall plan and implement the Work of this Contract in accordance with the requirements of the Environmental Protection Plan as herein specified and Fisheries and Oceans authorization.
- E12.2 The Contractor is advised that the Work is subject to all applicable Federal, Provincial and Municipal Acts, Regulations and By-Laws.
- E12.3 The Contractor is advised that the following environmental protection measures apply to the Work.
- E12.3.1 Materials Handling and Storage
- (a) Construction materials shall not be deposited or stored on riverbanks or river shorelines unless authorized in advance by the Contract Administrator.
 - (b) Construction materials and debris shall be prevented from entering the Red River or Bunn's Creek. In the event that materials and/or debris inadvertently enter the channel, the Contractor shall be required to remove the material and restore the channel to its original condition.
- E12.3.2 Fuel Handling and Storage
- (a) The Contractor shall obtain all necessary permits from Manitoba Conservation for the handling and storage of fuel products and shall provide copies to the Contract Administrator.
 - (b) All fuel handling and storage facilities shall comply with The Dangerous Goods and Transportation Act Storage and Handling of Petroleum Products Regulation and any local land use permits.
 - (c) Fuels, lubricants and other potentially hazardous materials as defined in The Dangerous Goods and Transportation Act shall be stored and handled within the approved storage areas.
 - (d) In accordance with Section 2.5 (Construction: General Guidelines) of the Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat, (DFO and DNR, 1996), the Contractor shall ensure that any temporary fuel storage areas established for construction of the Works are contained by an impermeable dyke and are located a minimum distance of 100 metres away from the high water line of the Red River. Dykes shall be designed, constructed and maintained to retain not less than 100% of the capacity of the total number of containers or 110% of the largest container, whichever is greater. The dykes shall be constructed of clay or similar impervious material. If this type of material is not available, the dyke shall be constructed of locally available material and lined with a high density polyethylene (HDPE) membrane. Furthermore, the fuel storage area(s) shall be secured by a barrier such as a high fence and gate to prevent vandalism.
 - (e) The Contractor shall ensure that all fuel storage containers are inspected daily for leaks and spillage.
 - (f) Products transferred from the fuel storage area(s) to specific work Sites shall not exceed the daily usage requirement.
 - (g) Where equipment servicing requires the drainage or pumping of fuels, lubricating oils or other fluids, a ground sheet of suitable material (such as HDPE) and size shall be placed on the ground surface to collect the fluid in the event of a leak or spill.
 - (h) Refuelling of mobile equipment and vehicles shall take place at least 100 metres from the Red River and at least 50 metres from Bunn's Creek.

- (i) The area around fuel storage Sites and fuel lines shall be distinctly marked and kept clear of snow and debris to allow for routine inspection and leak detection.
- (j) A sufficient supply of materials, such as absorbent material and plastic oil booms, to clean up minor spills shall be stored on Site. The Contractor shall ensure that additional materials can be made available on short notice.

E12.3.3 Waste Handling and Disposal

- (a) The construction Site shall be kept clean and orderly at all times during and at the completion of the Work.
- (b) At no time during construction shall personal or construction waste be permitted to accumulate for more than one day at any location on the construction Site, other than at a dedicated storage area as approved by the Contract Administrator.
- (c) All resulting debris shall be deposited at a Waste Disposal Ground operating under the authority of Manitoba Regulation # 150/91. Exceptions are liquid industrial and hazardous wastes which may require special disposal methods (see Section E12.3.4).
- (d) Indiscriminate dumping, littering or abandonment will not be permitted.
- (e) No burning of waste will be permitted at the Site.
- (f) Run-off from a waste storage area shall not be allowed to cause siltation of a watercourse.
- (g) Waste storage areas shall be left in a neat and finished appearance and/or restored to their original condition to the satisfaction of the Contract Administrator.
- (h) Equipment shall not be cleaned near the Red River or Bunn's Creek.
- (i) Contaminated water from cleaning operations shall not be permitted to enter the Red River or Bunn's Creek.

E12.3.4 Dangerous Goods/Hazardous Handling and Disposal

- (a) Dangerous goods/hazardous wastes are identified by, and shall be handled according to, The Dangerous Goods Handling and Transportation Act and Regulations.
- (b) The Contractor shall be familiar with The Dangerous Goods Handling and Transportation Act and Regulations.
- (c) The Contractor shall have staff on the Site that are trained and certified in the handling of dangerous/hazardous goods, when said dangerous/hazardous goods are being utilized on the Site for the performance of the Work.
- (d) Different waste streams shall not be mixed.
- (e) Disposal of dangerous goods/hazardous wastes shall be at approved hazardous waste facilities.
- (f) Liquid hydrocarbons shall not be stored or disposed of in earthen pits at the Site.
- (g) Used oils shall be stored in appropriate drums or tankage until shipment to waste oil recycling centres, incinerators or secure disposal facilities approved for such wastes.
- (h) Used oil filters shall be drained, placed in suitable storage containers and buried or incinerators at approved hazardous waste treatment and disposal facilities.
- (i) Dangerous goods/hazardous waste storage areas shall be dyked and located at least 100 m from the high water line of the Red River and 50 m from the high water line of Bunn's Creek.
- (j) Run-off from dangerous goods/hazardous waste storage areas shall not be allowed to cause siltation of the Red River or Bunn's Creek.

- (k) Dangerous goods/hazardous waste storage areas shall be left in a neat and finished appearance and/or restored to their original condition to the satisfaction of the Contract Administrator.

E12.3.5 Emergency Response

- (a) The Contractor shall ensure that due care and caution are taken to prevent spills.
- (b) The Contractor shall report all major spills of petroleum hydrocarbon products or other hazardous substances with significant impact on the environment and threat to human health and safety to Manitoba Conservation, immediately after occurrence of the environmental accident, by calling the 24 hour emergency phone number (204) 945-4888. The Contract Administrator shall also be notified immediately.
- (c) The Contractor shall designate a qualified supervisor as the on-Site emergency response co-ordinator. The emergency response co-ordinator shall have the authority to redirect manpower in order to respond in the event of a spill.
- (d) The following actions shall be taken by the person in charge of the spilled material or the first person(s) arriving at the scene of a hazardous material accident or the on-Site emergency response co-ordinator:
 - (i) Notify emergency-response co-ordinator of the accident:
 - identify exact location and time of accident;
 - indicate injuries, if any; and
 - request assistance as required by magnitude of accident (Manitoba Conservation 24 hour Spill Response Line (2040) 945-4888, Police, Fire Department, Ambulance, company backup).
 - (ii) Attend to public safety:
 - stop traffic, road block/cordon off immediate danger area;
 - eliminate ignition sources; and
 - initiate evacuation procedures if necessary.
 - (iii) Assess situation and gather information on the status of the situation, noting:
 - personnel on-Site;
 - cause and effect of spill;
 - estimated extent of damage;
 - amount and type of material involved; and
 - proximity to waterways, sewers and manholes.
 - (iv) If safe to do so, try to stop the dispersion or flow of spill material:
 - approach spill from upwind;
 - stop or reduce leak;
 - dyke spill material with dry, inert sorbet material or dry clay soil or sand;
 - prevent spill material from entering waterways by dyking; and
 - prevent spill material from entering manholes and other openings by covering with rubber spill mats or dyking.
 - (v) Resume any effective action to contain, clean up or stop the flow of the spilled product.
- (e) The emergency response co-ordinator shall ensure that all environmental accidents involving contaminants shall be documented and reported to Manitoba Conservation according to The Dangerous Goods Handling and Transportation Act Environmental Accident Report Regulation 439/87.

- (f) Where dangerous goods are used on the Site, materials for containment and clean up of spill material (e.g. absorbent materials, plastic oil booms and oversized recovery drums) shall be available at the Site.
- (g) Minor spills of such substances that may be contained on land with no significant impact on the environment may be responded to with in-house resources without formal notification of Manitoba Conservation.
- (h) City emergency response, 9-1-1, shall be used if other means are not available.
- (i) The on-Site emergency response co-ordinator shall contact The Canadian Coast Guard in Selkirk, Manitoba (204) 785-6030, if the spill material reaches and is on or in the Red River or Bunn's Creek.

E12.3.6 Vegetation

- (a) Vegetation shall not be disturbed without written permission of the Contract Administrator. The Contractor shall protect shrubs or trees which may be at risk of accidental damage. Such measures may include protective fencing or signage and shall be approved in advance by the Contract Administrator.
- (b) Trees damaged during construction activities shall be examined by bonded tree care professionals. Viable trees damaged during construction activities shall be pruned according to good practice by bonded tree care professionals. Damaged trees which are not viable shall be replaced at the expense of the Contractor.
- (c) Trees, identified by the Contract Administrator to be at risk, are to be strapped with 25 by 100 by 2400 millimetre wood planks or suitably protected as approved by the Contract Administrator.
- (d) Trees or shrubs shall not be felled into waterways.