



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 776-2008

CONSTRUCTION OF THE CHARLESWOOD HOWE DRAIN PHASE 1

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 CONSTRUCTION OF THE CHARLESWOOD HOWE DRAIN PHASE 1

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, Friday, October 31, 2008.

B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

B3.1 Further to C3.1, the Bidder may view the Site without making an appointment.

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt>.

B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division internet site for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed Work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed Work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B7. BID COMPONENTS

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;

(c) Bid Security

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

- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.
- B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.8 Bids shall be submitted to:
The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1
- B8. BID**
- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
 - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:

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

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

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

B9. PRICES

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

B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B9.4 Prices from Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B10. QUALIFICATION

B10.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt/debar.stm>.

B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out Work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

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

B11. BID SECURITY

- B11.1 The Bidder shall provide bid security in the form of:
- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
 - (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.
- B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B11.1.2 All signatures on bid securities shall be original.
- B11.1.3 The Bidder shall sign the Bid Bond.
- B11.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.
- B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.
- B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
- B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

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

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

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

B12.1.1 Bidders or their representatives may attend.

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

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

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

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

B13. IRREVOCABLE BID

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

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

B14. WITHDRAWAL OF BIDS

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

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

B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B15. EVALUATION OF BIDS

B15.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.

B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.

B15.4 Further to B15.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B15.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B15.4.2 Further to B15.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B16. AWARD OF CONTRACT

B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

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

B16.2.1 Without limiting the generality of B16.2, the City will have no obligation to award a Contract where:

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar Work in the past;
- (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
- (d) only one Bid is received; or
- (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B15.

B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

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

C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at http://www.winnipeg.ca/matmgt/gen_cond.stm .

C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for Construction*, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of construction of the Charleswood Howe Drain Phase I Works.

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

- (a) Earth and Base Works
 - (i) Excavation of the open channel portions of the Phase 1 Works
 - (ii) Restoration including ditch grading, roadway repairs, riprap placement, topsoil spreading and seeding.
- (b) Drain Crossing CSP Works
 - (i) Supply and installation of CSP drain crossings
 - (ii) Removal, replacement and/or re-grading of existing CSP culverts
- (c) LDS Piping Works
 - (i) Supply and installation of 1650 mm diameter LDS piping
 - (ii) Supply and installation of Type III inlet safety grating on LDS piping

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Chris Trupish, C.E.T.
Water and Waste Department
110-1199 Pacific Avenue

Telephone No. (204) 986-6560
Facsimile No. (204) 224-0032

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

D4. CONTRACTOR'S SUPERVISOR

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

D5. NOTICES

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

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

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

The City of Winnipeg
Chief Financial Officer
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: (204) 949-1174

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

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

D6. FURNISHING OF DOCUMENTS

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

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

D7.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D8. SAFE WORK PLAN

D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D8.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt/safety/default.stm> .

D9. INSURANCE

D9.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
- (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.

D9.2 Deductibles shall be borne by the Contractor.

D9.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in C4.1 for the return of the executed Contract.

D9.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D10. PERFORMANCE SECURITY

D10.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
- (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- (d) An all risks installation floater carrying limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of the installation

D10.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

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

D11. DETAILED WORK SCHEDULE

D11.1 The Contractor shall provide the Contract Administrator with a detailed Work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract

D11.2 The detailed Work schedule shall consist of the following:

- (a) A Gantt chart for the Work

all acceptable to the Contract Administrator.

D11.3 Further to D1.2(a), the Gantt chart shall show the time on a weekly basis required to carry out the Work activity or task. The time shall be on the horizontal axis and the activity or task shall be on the vertical axis.

D12. SECURITY CLEARANCE

D12.1 Each individual proposed to perform the following portions of the Work:

- (a) any Work on private property;
- (b) any Work within City facilities other than:
 - (i) an underground structure such as a manhole;
 - (ii) in areas and at times normally open to the public;
- (c) communicating with residents and homeowners in person or by telephone;

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

D12.2 The Criminal Record Search shall include a Vulnerable Sector Search. This can be obtained by completing and providing the following in person to the Winnipeg Police Service Division 30 Clerk at Main Floor, 151 Princess Street:

- (a) Form P-612 Check the following boxes: Vulnerable Sector; and Other by inputting the Bid Opportunity Number in the space provided. This form can be found on the website at: www.winnipeg.ca/police/BPR/forms/Criminal_Record_Check_P612.doc
 - (i) Individuals will need to state in Section 2 of the form, that they may be working in City of Winnipeg pools, libraries and community centres;
 - (ii) Individuals will need to sign and date Section 3 of the form.
- (b) Two (2) pieces of identification as stated in Bureau of Police Records on the website at: www.winnipeg.ca/police/BPR/id.stm
- (c) Fee for each individual applying for a Criminal Record Search. Fee schedule can be found on the website at: www.winnipeg.ca/police/BPR/fees.stm

D12.2.1 The original Criminal Record Search Certificate (Form P-253) will be provided by the Winnipeg Police Service to the individual applicant. The original has a validation sticker from the Winnipeg Police Service in the top right hand corner. The applicant shall:

- (a) Provide the original Criminal Record Search Certificate (Form P-253) to the Contract Administrator.

D12.3 Prior to the commencement of any Work specified in D12.1, 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 such Work.

D12.4 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 specified in D12.1.

D12.5 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.

D12.6 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 any Work specified in D12.1.

SCHEDULE OF WORK

D13. COMMENCEMENT

D13.1 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.

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

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D8;
 - (iv) evidence of the insurance specified in D9;
 - (v) the performance security specified in D10;
 - (vi) the security clearances specified in D11; and
 - (vii) the detailed Work schedule specified in D11.

D13.3 Further to D13.2(a)(vi), subject to all other requirements being met, the Contractor may commence Work within seven (7) Working Days of receipt of the letter of intent.

D13.3 The City intends to award this Contract by November 21, 2008.

D13.3.1 If the actual date of award is later than the intended date, the dates specified for Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D13.4 Commencement of the Work shall be at the discretion of the Contractor provided the commencement date will allow the achievement of Substantial Performance of the Work in accordance with D14, and Total Performance of the Work in accordance with D15.

D14. SUBSTANTIAL PERFORMANCE

D14.1 The Contractor shall achieve Substantial Performance by March 31, 2009.

D14.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D14.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D15. TOTAL PERFORMANCE

D15.1 The Contractor shall achieve Total Performance by July 1, 2009.

D15.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D15.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D16. LIQUIDATED DAMAGES

D16.1 If the Contractor fails to achieve Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for Substantial Performance or Total 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 or Total Performance during which such failure continues.

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

D16.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D17. SCHEDULED MAINTENANCE

D17.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

(a) as specified in E16 and CW 3520.

D17.2 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

D18. JOB MEETINGS

D18.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

D18.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D19. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D19.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

MEASUREMENT AND PAYMENT

D20. PAYMENT

D20.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D21. WARRANTY

D21.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D21.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.

D21.2 Notwithstanding C13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D21.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____)

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

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

BID OPPORTUNITY NO. 776-2008

CONSTRUCTION OF THE CHARLESWOOD HOWE DRAIN PHASE 1

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

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

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

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

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

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

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D10)

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 776-2008
CONSTRUCTION OF THE CHARLESWOOD HOWE DRAIN PHASE 1

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
	Cover Sheet
LD-5103	Construction of the Howe Drain Phase 1 McConnell Road to McCreary Road
LD-5104	Construction of the Howe Drain Phase 1 McCreary Road to 650 m east of McCreary Road
LD-5105	Construction of the Howe Drain Phase 1 650 m east of McCreary Road to Fort Whyte Centre Lake
LD-5106	Construction of the Howe Drain Phase 1 McConnell Road to Fort Whyte Centre Lake – Cross Sections

GENERAL REQUIREMENTS

E2. MOBILIZATION AND DEMOBILIZATION

- E2.1 Mobilization and demobilization will include but not be limited to start-up costs, equipment set-up and removal, field office and storage facilities set-up and removal and Site cleanup
- E2.2 Mobilization and demobilization will be measured on a unit basis and paid for at the Contract Unit Price for "Mobilization and Demobilization" in accordance with this specification, accepted and measured by the Contract Administrator.
- E2.3 Fifty percent (50%) of the Mobilization and Demobilization unit price will be paid on the first progress payment.
- E2.4 The remaining fifty percent (50%) of the Mobilization and Demobilization unit price will be paid subsequent to the completion of the Work and restoration and cleanup of the entire Site.

E3. PROTECTION OF EXISTING TREES

- E3.1 Do not remove existing trees and take the following precautionary steps to avoid damage from construction activities to existing trees within the limits of the construction easement areas.
- E3.2 Do not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.

- E3.3 Strap mature tree trunks with 25 x 150 x 2400 wood planks. Smaller trees shall be similarly protected using appropriately sized wood planks.
- E3.4 Excavations shall be carried out in a manner to minimize damage to existing root systems. Where roots must be cut to facilitate an excavation, they shall be neatly pruned at the face of the excavation.
- E3.5 Work on the Site shall be carried out in a manner to minimize damage to existing tree branches. Where damage to tree branches does occur, the Contractor shall neatly prune the damaged branches
- E3.6 All damage to existing trees due to construction activities shall be repaired to the requirements and satisfaction of the City of Winnipeg, Forestry Branch at the Contractor's expense.
- E3.7 Cost for protection of trees will be included in Mobilization and Demobilization.

E4. LAYOUT OF THE WORK

- E4.1 Further to Clause 3.15 of Standard Provision CW 1130, the Contract Administrator will provide the following control survey for the Works:
 - E4.1.1 Control monuments and their respective local coordinate values.
 - E4.1.2 One set of graded offset stakes for all pipe and culvert works, and ditch grade changes only.
 - E4.1.3 Location and elevation of appurtenances, chambers, and control structures.
- E4.2 The Contract Administrator will only provide the control survey once prior to the start of Works. It shall be the responsibility of the Contractor to maintain, protect, and/or reference the control survey for the duration of the Works.
- E4.3 Any control survey removed or destroyed by the Contractor, without the consent of the Contract Administrator, shall be replaced by the Contractor at his expense as directed by the Contract Administrator.

E5. EXISTING SERVICES AND UTILITIES

- E5.1 Further to Clause GC.3.1 of the General Conditions and CW 1120-R1 Clause 3.3 of the General Requirements, information shown on the drawings is supplied by the City to the best of their knowledge from record information. It is hereby expressly understood that the information provided with respect to type of, location of service shall be accepted by the Contractor at his own risk, and the City shall assume no responsibility for the accuracy or completeness of the information contained therein.
- E5.2 In addition, with regard to Underground Utilities, all gas crossings shall be exposed by hydro vacuum methods prior to pipe installations underneath them by augured or jacked methods.

E6. SAFETY PRECAUTIONS

- E6.1 The Contractor shall ensure that any excavation left open or exposed overnight, over a weekend or for any length of time unattended shall have full and adequate safety precautions provided. These precautions shall include but not be limited to covering the excavation with timber planks or steel plates and erecting a barricade completely around the excavation complete with signing in accordance with the City of Winnipeg Manual of Temporary Traffic Control.

E7. TRAFFIC CONTROL AND MAINTENANCE OF ACCESS

E7.1 The Contractor's attention is drawn to Clause 3 of CW 1120 regarding his responsibility for notification to utilities and other authorities as well as their responsibility concerning traffic control and maintenance of access.

E7.1.1 Traffic control shall be done in accordance with the latest version of the City of Winnipeg "Manual of Temporary Traffic Control in Work Areas on City Streets" and the City of Winnipeg Emergency Services shall be notified.

E8. PRODUCTS APPROVED FOR USE IN UNDERGROUND WORKS

E8.1 The Contractor shall obtain the latest information available at the time of advertising for public bid relative to Products Approved for Use in Underground Work in the City of Winnipeg and bid the project accordingly.

E8.2 This information is available as part of the Standard Construction Specifications found at <http://www.city.winnipeg.mb.ca/matmgt/info.stm>.

E8.3 Products added to the list or having a change in status during the bid opportunity period will be addressed by Addendum. If not addressed by Addendum, the project shall be bid on the basis of the products approved for use and product status as of the advertisement date for bidding. The advertisement date shall be deemed to be the date that bid opportunities are advertised on the City of Winnipeg Web Site.

E9. CLEARING AND GRUBBING

E9.1 As shown on Drawings, Clearing and Grubbing shall be carried out as per CW 3010. Disposal of material shall be as specified in E11.

E10. STRIPPING AND STOCKPILING OF TOPSOIL

E10.1 Stripping and stockpiling of topsoil to be in accordance with CW 3110.

E10.2 Where shown on Drawings, stripped topsoil shall be stockpiled in the designated area and shall be used for restoration as required.

E11. EARTHWORK AND GRADING

E11.1 Description

E11.1.1 This Specification shall revise, amend, and supplement CW 3170 and CW 3010.

E11.1.2 Construction Methods

E11.1.3 Disposal of Material

(a) Stockpile topsoil at the location(s) shown on the Drawings or as designated in the field by the Contract Administrator to a height not exceeding 2.5 m.

(b) Place excavated materials at the location shown on the Drawings or as designated in the field by the Contract Administrator.

(c) All vegetation removed as part of excavation procedures shall be removed from Site and disposed of in accordance with Clause 9 of CW 3010, and Section E15 of these Specifications.

(d) Maintain positive drainage of all material placed as surplus material at the location shown on the drawings. The material shall be spread and compacted daily or as directed by the Contract Administrator.

E11.1.4 Care of Runoff

The Contractor shall be responsible for maintaining Site and right-of-way drainage. Precipitation during the construction period may require the utilization of the newly constructed or graded channels. Should such an event occur, the Contractor shall be prepared to undertake any necessary temporary work to accommodate the runoff flows through the work Site. Prior to completion of the Contract, any temporary works constructed to control runoff shall be removed, any damages to the newly constructed Works due to runoff shall be repaired and the area left in a condition acceptable to the Contract Administrator. All such temporary works and repairs shall be included in the price for "Common Excavation."

E11.2 Measurement and Payment

E11.2.1 Excavation

- (a) Excavation will be measured on a volume basis and paid for at the Contract Unit Price per cubic metre of "Common Excavation" for each location specified. The volume to be paid for shall be the total number of cubic meters that are excavated in accordance with this Specification acceptable to the Contract Administrator, as computed from measurements made by the Contract Administrator. No payment will be made for material removed outside of the limits of excavation.
- (b) The excavation of the Howe Drainage Channel shall include all open channel construction and will not include excavation required in the installation of Corrugated Steel Pipe, C76 Concrete Class 2 Pipe and High Density Polyethylene Pipe. Excavation for CSP, C76 Concrete Class 2 Pipe and HDPE Pipe will be included in the price of installation of the pipe.

E12. DITCH GRADING

E12.1 Description

E12.1.1 Further to the requirements of Specification CW 3110 and CW 3170, this Specification shall cover the cleanout and grading of existing ditches.

E12.2 Construction Methods

E12.2.1 Cleanout and excavate existing ditches to the lines and grades as shown on the Contract Drawings. Dispose of excavated material in accordance with E11.1.3. Clean up material that is dropped or spilled onto any street during the hauling operations.

E12.3 Measurement and Payment

- (a) Ditch cleanout and excavation will be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre of "Ditch Grading," for each location specified as measured, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification

E13. RANDOM STONE RIPRAP

E13.1 Supply and place Random Stone Riprap in accordance with CW3615 and as shown on the Drawings.

E14. BRILLION SEEDING

E14.1 Description

E14.1.1 General

- (a) This specification shall amend and supplement City of Winnipeg Standard Construction Specification CW 3520 "Seeding", and shall cover all aspects of the

supply and installation of seed, including the preparation of finish grade, hydro mulching and maintenance.

- (b) Referenced Standard Construction Specifications
 - (i) CW 3520- Seeding

E14.2 Materials

E14.2.1 General

- (a) Provide the Contract Administrator with Certificates of Analysis and mix compositions for all seed mixes. Include supplier's name and telephone contact information, and percentages of each species and cultivar in the mix.

E14.2.2 Ditch Seed Mix

- (a) Ditch Seed Mix shall be a mixture of the following species and cultivars:
 - (i) 25% Creeping Red fescue (*Festuca rubra*);
 - (ii) 20% Mustang Tall fescue (*Festuca arundinacea* 'Mustang');
 - (iii) 15% Fiesta II Perennial ryegrass (*Lolium perenne* 'Fiesta II');
 - (iv) 15% Kentucky bluegrass (*Poa pratensis*), any Class 2 cultivar;
 - (v) 10% Victory Chewings fescue (*Festuca commutata* 'Victory');
 - (vi) 10% White clover (*Trifolium repens*), and
 - (vii) 5% Timothy (*Phleum pratense*).

E14.2.3 Herbicides and Insecticides

- (a) Herbicides and Insecticides shall be in accordance with CW 3520.

E14.2.4 Hydro Mulch

- (a) Mulch, water and tackifier shall be in accordance with CW 3520.

E14.3 Construction Methods

E14.3.1 Ditch Seed Mix: Site Topsoil; Seeding and Hydro Mulching, and Maintenance.

- (a) Seed with a Brillion seeder, or equal, on 50 mm compacted depth of site topsoil, placed over scarified sub-grade and conditioned in accordance with the Topsoil, Planting Soil, Soil Amendments and Finish Grading Specification in Ditch Seed areas. Preparation of seed bed as per CW 3520-R6.

E14.3.2 Chemical Weed Control

- (a) The Contractor shall use chemical weed control, Roundup, 2-4 D or Diacamba, only as required to spot remove weeds in localized areas. Do not treat large areas seeded with trefoil, clover, vetch and wildflowers with chemical weed control agents following seeding operations, unless directed by the Contract Administrator.
- (b) Use only chemicals approved by Agriculture Canada.

E14.3.3 Termination of Long-Term Maintenance Period

- (a) The maintenance period shall be terminated after the following criteria have been met:
 - (i) The certified seed sowed meets the requirements of CW 3520-R6;
 - (ii) The seeded area is free of debris, including leaves;
 - (iii) The seeded area has a firm, uniform and even surface;
 - (iv) Seeded grasses and plants show healthy, vigorous growth;
 - (v) The area is free of bare and dead spots and with less than 10 noxious weeds per 50square metres;
 - (vi) The seeded area has sufficient growth density that bare spots do not exceed 5% of total surface area, and
 - (vii) Seeded areas are free of damaging insects.

E14.4 Measurement and Payment

E14.4.1 Brillion Ditch Seed Mix with Imported Topsoil

- (a) Ditch seed mix with imported topsoil shall be measured on an area basis and paid for at the Contract Unit Price per square metre of "Brillion Seeding". The total area to be paid for shall be the number of square metres of ditch seed mix with 50 mm of conditioned topsoil seeded and maintained in accordance with this Specification, measured and accepted by the Contract Administrator.
- (b) No measurement shall be made for seed placed outside the limits of placement unless directed by the Contract Administrator.

E14.4.2 Herbicides and Insecticides

- (a) There will be no separate measurement for materials, equipment and operations related to the use of herbicides and insecticides.

E15. CORRUGATED STEEL PIPE

E15.1 Description

E15.1.1 This Specification shall supplement and amend CW 3610.

E15.2 Materials

E15.2.1 CSP products

- (a) All CSP products shall utilize a corrugation profile of 68 mm x 13 mm. All CSP products shall be made from plate thicknesses as shown below:
Diameter Plate Thickness
≤1150 mm 2.0 mm
≥1200 mm 2.8 mm

E15.2.2 Culvert Couplers

- (a) Hugger Band H330, or approved equal, complete with O-Ring gaskets.

E15.3 Construction Methods

E15.3.1 Removal and Disposal of Existing Culverts

- (a) Where shown on the Drawings, the Contractor shall remove existing culverts, and dispose of said culverts off-site, at a legal disposal site approved by the Contract Administrator.
- (b) The excavation from the culvert removal shall then be backfilled in accordance with CW 2030 to the requirements of Class 2 backfill. Roadway surfaces shall be restored to the requirements of CW 3150 to a minimum thickness of 150 mm, or the existing granular material layer thickness, whichever is the greater.

E15.3.2 Re-grading Existing Culverts

- (a) Where shown on the Drawings, the Contractor shall carefully remove existing culverts, taking care not to cause any damage or deformation to the culvert. Any existing culverts in good condition which are damaged through the actions of the Contractor shall be removed and replaced with new CSP meeting the requirements of CW 3610 immediately, at the Contractor's expense.
- (b) The Contract Administrator shall then inspect the existing culvert to determine its suitability for reuse. Should the existing culvert be found unsuitable for reuse due to deterioration, new CSP shall be supplied and paid for in accordance with CW 3610.

(c) If suitable for reuse, the Contractor shall carefully clean the culvert interior and exterior using high pressure water blast, and then reinstall the culvert to design lines and grades in accordance with CW 3610.

E15.4 Measurement and Payment

E15.4.1 Removal and Disposal of Existing Culverts

Removal and disposal of existing culverts shall be measured on a linear measure basis. The length to be paid for shall be the total number of metres for each size of culvert disposed of, including all excavation, backfill, and surface restoration, measured horizontally at grade above the centreline of the pipe culvert, as computed by measurements made by the Contract Administrator and paid for at the Contract Unit Price for "Removal and Disposal of Existing Culverts".

E15.4.2 Re-grading Existing Culverts

Re-grading existing culverts shall be measured on a linear measure basis. The length to be paid for shall be the total number of linear metres for each size culvert re-graded, including all excavation, cleaning, backfill, and surface restoration, measured horizontally at grade above the centreline of the pipe culvert, as computed by measurements made by the Contract Administrator and paid for at the Contract Unit Price for "Re-grading of Existing Culverts".

E15.4.3 Corrugated Steel Pipe (CSP)

Supply and installation of corrugated steel pipe of various diameters and gauges will be measured on a linear basis and paid for at the Contract Unit Price per linear metre for each size of "Corrugated Steel Pipe (CSP)," 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.

E16. REINFORCED CONCRETE PIPE

E16.1 Description

E16.1.1 This specification shall cover the supply and installation of C76 Class II Reinforced Concrete Pipe (RCP).

E16.2 Materials

The reinforced concrete pipe shall comply with CW 2130.

E16.3 Construction Methods

E16.3.1 Installation

(a) Installation of the C76 Class II RCP shall be at the location shown on the construction drawings.

E16.4 Measurement and Payment

E16.4.1 Supply and Installation of C76 Class II RCP shall be measured on a linear measure basis and paid for at the Contract Unit Price per metre for "LDS Piping - 1650mm C76 Class II RCP OR 1650mm High Density Polyethylene Pipe (HDPE)" measured as specified herein, including all excavation, backfill, and surface restoration, measured horizontally at grade above the centreline of the pipe, as computed by measurements made by the Contract Administrator.

E17. LDS HIGH DENSITY POLYETHYLENE PIPE

E17.1 Description

E17.1.1 This specification shall cover the supply and installation of High Density Polyethylene Pipe (HDPE).

E17.2 Materials

E17.2.1 HDPE Products

- (a) HDPE Pipe shall be Wheelite, BOSS 2000 Storm Sewer and Culvert Pipe with a stocked stiffness of 320 kPa., or approved equal.
- (b) All HDPE couplings shall consist of soil tight joining systems or threaded joints.

E17.3 Construction Methods

E17.3.1 Installation of HDPE

- (a) The installation of the HDPE shall be in accordance with the instructions and recommendations from the manufacturer. Ensure that installation is completed with precision in order to ensure optimum haunch support. Special care must be taken to pack backfill tightly around haunches of the pipe.
- (b) All installation must be inspected by the contact administrator and or inspector prior to back fill in order to verify that packing and proper haunch support has been set in place.

E17.4 Measurement and Payment

E17.4.1 Supply and Installation of HDPE shall be measured on a linear measure basis and paid for at the Contract Unit Price per metre for "LDS Piping - 1650mm C76 Class II RCP OR 1650mm High Density Polyethylene Pipe (HDPE)" measured as specified herein, including all excavation, backfill, and surface restoration, measured horizontally at grade above the centreline of the pipe, as computed by measurements made by the Contract Administrator.

E18. TYPE III PRECAST CONCRETE FLARED END SECTION DRAINAGE INLET

E18.1.1 General

- (a) This specification shall cover the installation of the precast concrete flared end section drainage inlets.

E18.2 Materials

E18.2.1 Precast concrete flared end sections as shown on the drawings.

E18.3 Construction Methods

E18.3.1 Installation

- (a) Install precast concrete flared end sections at the locations and sizes as shown on construction drawings.

E18.4 Measurement and Payment

E18.4.1 Precast Concrete Flared End Section Drainage Inlet Construction

- (b) Precast Concrete Flared End Section Drainage Inlets will be measured on a unit basis and paid for at the Contract Unit Price for each size "Precast Concrete Flared End Section Drainage Inlet". The number to be paid for will be the total number of units installed in accordance with this specification, accepted and measured by the Contract Administrator.

E19. END SECTION INLET GRATES

E19.1 Description

E19.1.1 This Specification shall cover the supply, fabrication, and placement of End Section Inlet Grates.

E19.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.

E19.1.3 The inclined end section inlet grates are to have bars at a maximum of 140mm clear spacing in accordance with the Culvert and Drainage Inlet/Outlet Safety Guidelines.

E19.2 Materials

E19.2.1 General

(a) The Contractor shall be responsible for the supply, safe storage, and handling of all materials set for this in this Specification.

E19.2.2 Handling and Storage of Materials

(a) All materials shall be handled in a careful and workmanship like manner, to the satisfaction of the Contract Administrator.

E19.2.3 Steel Sections and Plates

(a) All steel sections and plates shall be fabricated from new material conforming to CSA G40.21-M92, Grade 300 W.

E19.2.4 Galvanizing

(a) Galvanizing shall be hot-dipped, conforming to CSA Specification G164-M92. All components shall be galvanized after fabrication.

E19.2.5 Fasteners, Fittings, Lifting Cables/Chains, and Accessories

(a) All anchor bolts, fasteners, fittings, lifting cables, and other accessories shall be Type 316 stainless steel and of ample section to safely withstand the forces created by operation of the equipment. Quantity and size of the fasteners shall be as recommended by the manufacturer or as shown on the Drawings. Chains shall be hot-dip galvanized and shall otherwise comply with the requirements listed above.

E19.2.6 Tamperproof Bolts

(a) All removable appurtenances shall be fastened in place using tamperproof bolts. Tamperproof bolts shall be approved by the Contract Administrator, and shall be made of Type 316 stainless steel. Supply four (4) matching keys for the tamperproof bolts. Approved products are "Tamper Resistant Hex Sockets - Flathead Socket, 3/8 - 18 Series, or Button Head Socket, 3/8 - 16 Series, 8 Stainless Steel," available from A. Adams Supply (1969) Ltd.

E19.3 Construction Methods

E19.4 Shop Drawings

E19.4.1 The Contractor shall submit shop drawings of all fabrications for the Contract Administrator's approval prior to the commencement of Work as specified in CW 1110.

E19.5 Quality Control

E19.5.1 All workmanship and all materials furnished and supplied under this Specification are subject to close and systematic inspection and testing by the Contract Administrator, including all operations from the selection and production of materials through to final acceptance of the specified Work. The Contractor shall be wholly responsible for the control of all operations incidental thereto previously given. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of this Specification.

E19.6 Measurement and Payment

E19.6.1 The supply, manufacture, and installation of the end section inlet grates will be measured on a unit basis and paid for at the Contract Unit Price for each size "End Section Inlet Grate". The number to be paid for will be the total number of units installed in accordance with this specification, accepted and measured by the Contract Administrator.

E20. TEMPORARY COFFER DAM AND PUMPING

E20.1 Description

E20.1.1 The Work performed under this specification shall include:

- (a) Supply and mobilization of all supervision, labour, materials, plant and equipment required to install, maintain and remove the temporary coffer dam to be installed to facilitate the outfall construction into the Inland Cement stormwater retention basin.
- (b) The temporary coffer dam materials shall consist of competent clay or granular materials with a synthetic membrane core.

E20.1.2 This Specification shall amend and supplement the City of Winnipeg Standard Specification CW 3170.

E20.2 Materials

E20.2.1 Fills for the coffer dam shall be medium of highly plastic inorganic clays and shall not contain materials such as debris, organic material or other materials considered unsuitable by the Contract Administrator. Well-graded granular materials may be used for the temporary coffer dam if an impervious liner is used to determine compliance with the Specification.

E20.3 Construction Methods

E20.3.1 Placement and Compaction of Clay for the Cofferdam

- (a) Place clay in layers not exceeding 150 mm.

E20.3.2 Pumping Equipment

- (a) Pumping equipment is required to initially dewater the area protected by the temporary coffer dam and deal with any seepage or surface runoff.

E20.4 Measurement and Payment

E20.4.1 Measurement and payment will be based on the Contract Lump Sum unit price for "Temporary Cofferdam and Pumping". One half of the Contract Lump Sum unit price will be progressed once the temporary coffer dam is in place and the area protected by the temporary coffer dam is dewatered and accepted by the Contract Administrator. The remaining half of the Contract Lump Sum unit price will be progressed once the coffer dam has been removed.

E21. SILT FENCING

E21.1 Description

E21.1.1 The Work performed under this specification shall include:

- (a) Supply and install temporary silt fencing at the location indicated on the drawings to control runoff and minimize the silt loading into the drain and retention basin.
- (b) Maintenance of the silt fencing in serviceable condition.
- (c) Removal of sediment trapped by the silt fencing.
- (d) Removal of the silt fencing and restoration of the area where the fencing was installed without further disturbance to the area and without releasing the sediments to the drain.

E21.2 Materials

E21.2.1 Fence Posts

- (a) Posts shall be constructed of steel or wood having a minimum length of 1.2 m.

E21.2.2 Filter Fabric

- (a) Shall be a woven geotextile material specifically designed for silt fencing.

E21.3 Construction Methods

E21.3.1 Installation

- (a) Excavate a 150 x 150 mm anchor trench along the alignment of the silt fence as located on the drawings.
- (b) Install the fence posts, ensuring they are driven into undisturbed soil, or are completely and firmly backfilled if installed using augering methods at a maximum spacing of 2.5 m.
- (c) Attach the filter fabric, overlapping joints by 450 mm on the upstream side of the fence posts. Nails shall be used to anchor to wood posts (200 mm spacing) and tie wire or locking fasteners for steel posts (200 mm spacing) in accordance with the manufacturer's recommendations.
- (d) Install compacted excavated materials into the anchor trench.

E21.4 Measurement and Payment

- E21.4.1 Measurement and payment will be based on a length basis and paid for at the Contract Unit Price for "Silt Fencing". The amount to be paid for shall be the total number of lineal metres of silt fence installed and removed in accordance with the specification, accepted and measured by the Contract Administrator. No measurement or payment shall be made for sediment removal or silt fence maintenance during or after construction.