



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 300-2017

**2017 REGIONAL STREET RENEWAL PROGRAM – M^CGILLIVRAY BOULEVARD
REHABILITATION AND KENASTON BOULEVARD PAVEMENT WIDENING**

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Appendix 'A' – Geotechnical Report

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 2017 Regional Street Renewal Program – M^cGillivray Boulevard Rehabilitation and Kenaston Boulevard Pavement Widening

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 6, 2017.
- 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. ENQUIRIES

- B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.
- B3.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.
- B3.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.
- B3.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.
- B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

B4. CONFIDENTIALITY

- B4.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:
- (a) was known to the Bidder before receipt hereof; or
 - (b) becomes publicly known other than through the Bidder; or
 - (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.
- B4.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

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 website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B5.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- 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/her sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.
- B6.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- 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/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B16.
- 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, hard copy;
 - (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.
- 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.
- B7.4.2 A hard copy of Form B: Prices must be submitted with the Bid. If there is any discrepancy between the Adobe PDF version of Form B: Prices and the Microsoft Excel version of Form B: Prices, the PDF version shall take precedence.
- 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, will be evaluated in accordance with B16.1(a).
- 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/her own name, his/her name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

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

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.

B9.1.1 For the convenience of Bidders, and pursuant to B7.4.2 and B16.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Bid Opportunity on the Bid Opportunities page at the Materials Management Division website at <http://www.winnipeg.ca/matmgt/>

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

B10. DISCLOSURE

B10.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full

disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B10.2 The Persons are:

- (a) N/A

B11. QUALIFICATION

B11.1 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.

B11.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

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

B11.3 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);

B11.4 Further to B11.3(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) Written confirmation of a safety and health certification meeting SAFE Work Manitoba's SAFE Work Certified Standard (e.g., COR™ and SECOR™) or
 - (i) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
 - (ii) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program or
- (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 website at <http://www.winnipeg.ca/matmgt/>).

B11.5 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.

B11.6 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.

B12. BID SECURITY

B12.1 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.

B12.1.1 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.

B12.1.2 All signatures on bid securities shall be original.

B12.1.3 The Bidder shall sign the Bid Bond.

B12.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B12.2 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.

B12.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B12.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B12.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B12.3 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.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

B13.1 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.

B13.1.1 Bidders or their representatives may attend.

B13.1.2 Bids determined by the Manager of Materials, or his/her designate, to not include the bid security specified in B12 will not be read out.

B13.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at

The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>

- B13.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B13.4 The Bidder is advised that any information contained in any Bid may be released if required by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law or by City policy or procedures (which may include access by members of City Council).

B14. IRREVOCABLE BID

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B14.2 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.

B15. WITHDRAWAL OF BIDS

- B15.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B15.1.1 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.
- B15.1.2 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.
- B15.1.3 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 B15.1.3(b), declare the Bid withdrawn.
- B15.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B14.2 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.

B16. EVALUATION OF BIDS

- B16.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11 (pass/fail);
 - (c) Total Bid Price;

(d) economic analysis of any approved alternative pursuant to B6.

B16.2 Further to B16.1(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.

B16.3 Further to B16.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.

B16.4 Further to B16.1(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.

B16.4.1 Further to B16.1(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.

B16.4.2 The electronic Form B: Prices and the formulas imbedded in that spreadsheet are only provided for the convenience of Bidders. The City makes no representations or warranties as to the correctness of the imbedded formulas. It is the Bidder's responsibility to ensure the extensions of the unit prices and the sum of Total Bid Price performed as a function of the formulas within the electronic Form B: Prices are correct.

B17. AWARD OF CONTRACT

B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B17.2 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.

B17.2.1 Without limiting the generality of B17.2, 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.

B17.3 The Work of this Contract is contingent upon Council approval of sufficient funding in the 2017 Capital Budget. If the Capital Budget approved by Council does not include sufficient funding for the Work, the City will have no obligation to award a Contract.

B17.4 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 B16.

B17.4.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of:

- (a) Pavement Rehabilitation
 - (i) McGillivray Boulevard westbound from Waverley Street to west of Hamelin Street (Sta. 0+932)
 - (ii) McGillivray Boulevard westbound from Sta. 1+275 to Sta. 1+345
 - (iii) McGillivray Boulevard westbound from Sta. 2+100 to Pembina Highway.
- (b) "Sandwich Type" Asphaltic Pavement Rehabilitation
 - (i) McGillivray Boulevard westbound from west of Hamelin Street (Sta. 0+932) to Sta. 1+275.
 - (ii) McGillivray Boulevard westbound from Sta. 1+345 to Sta. 2+100.
- (c) Concrete Pavement Widening
 - (i) Kenaston Boulevard southbound from south of McGillivray Boulevard to south of Scurfield Boulevard.

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

- (a) Pavement Rehabilitation
 - (i) Ditch grading
 - (ii) Planing of existing asphalt pavement
 - (iii) Planing of concrete pavement where required
 - (iv) Removal of barrier curb
 - (v) Full depth concrete repairs of existing slabs and joints
 - (vi) Construction of concrete spillway with curb inlet frame
 - (vii) Installation of catch basin and sewer service pipe
 - (viii) Supply and install corrugated steel pipe
 - (ix) Construct asphalt swale
 - (x) Adjustment of drainage inlets, water valves and manholes
 - (xi) Renewal of existing concrete sidewalk as required
 - (xii) Installation of detectable warning surface tiles
 - (xiii) Construct monolithic concrete splash strip utilizing slip form paving (150mm reveal height)
 - (xiv) Preparation of existing granular shoulder
 - (xv) Placement of limestone base course material for shoulder (average thickness 75mm)
 - (xvi) Construction of asphalt overlay (average thickness 100mm)
 - (xvii) Construction of asphaltic concrete shoulder (average thickness 100 mm)
 - (xviii) Boulevard restoration
- (b) "Sandwich Type" Asphaltic Pavement Rehabilitation
 - (i) Ditch grading
 - (ii) Removal of barrier curb

- (iii) Adjustment of drainage inlets, water valves and manholes
 - (iv) Construction of concrete spillway with curb inlet frame
 - (v) Supply and install corrugated steel pipe
 - (vi) Renewal of existing concrete sidewalk as required
 - (vii) Installation of detectable warning surface tiles
 - (viii) Construct monolithic concrete splash strip in median lane utilizing slip form paving (150mm and 100 mm reveal height)
 - (ix) Preparation of existing granular shoulder
 - (x) Longitudinal joint and crack filling greater than 25mm in width as required
 - (xi) Construction of limestone base course (average thickness 100 mm)
 - (xii) Construction of asphalt overlay (average thickness 100mm)
 - (xiii) Construction of asphaltic concrete shoulder (average thickness 100mm)
 - (xiv) Boulevard restoration
- (c) Concrete Pavement Widening
- (i) Removal of existing pavement
 - (ii) Excavation
 - (iii) Installation of sub-drains
 - (iv) Compaction of sub-grade
 - (v) Installation of catchbasins and sewer service pipe
 - (vi) Placement of separation geotextile fabric
 - (vii) Placement of sub-base and base course materials
 - (viii) Adjustment of existing manholes and appurtenances
 - (ix) Construction of 230 mm plain dowelled concrete pavement
 - (x) Construction of 180 mm integral modified barrier curb
 - (xi) Construction of asphaltic concrete shoulder (average thickness 100 mm)
 - (xii) Construction of 100 mm concrete sidewalk
 - (xiii) Construction of asphalt path (average thickness 75 mm)
 - (xiv) Boulevard restoration

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Morrison Hershfield, represented by:

James Kennedy, P.Eng.
Transportation Engineer

Telephone No. 204 977 8370

Email Address jkennedy@morrisonhershfield.com

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

D3.3 Bids Submissions must be submitted to the address in B7

D4. CONTRACTOR'S SUPERVISOR

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

D4.2 At least two (2) business days prior to the commencement of any Work on the site, the Contractor shall provide the Contract Administrator with a phone number where the supervisor

identified in D4.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

- D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.
- D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.
- D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;
- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
 - (b) the Contract, all deliverables produced or developed; and
 - (c) any statement of fact or opinion regarding any aspect of the Contract.
- D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

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

- D6.4 Bids Submissions must not be submitted to this facsimile number. Bids must be submitted in accordance with B7.**

D7. FURNISHING OF DOCUMENTS

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

SUBMISSIONS

D8. AUTHORITY TO CARRY ON BUSINESS

- D8.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor

does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D9. SAFE WORK PLAN

- D9.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D9.2 The Safe Work Plan shall be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/safety/default.stm>

D10. INSURANCE

- D10.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
 - (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.
- D10.2 Deductibles shall be borne by the Contractor.
- D10.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in the C4.1 for the return of the executed Contract.
- D10.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D11. PERFORMANCE SECURITY

- D11.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or

- (c) a certified cheque or draft payable to “The City of Winnipeg”, drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

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

D11.2 If the bid security provided in his/her Bid was not a certified cheque or draft pursuant to B12.1(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 and in no event later than the date specified in the C4.1 for the return of the executed Contract.

D12. SUBCONTRACTOR LIST

D12.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at or prior to a pre-construction meeting, or at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the C4.1 for the return of the executed Contract.

D13. DETAILED WORK SCHEDULE

D13.1 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 the General Conditions for the return of the executed Contract.

D13.2 The detailed work schedule shall consist of the following:

- (a) a Gantt chart for the Work acceptable to the Contract Administrator.

D13.3 Further to D13.2(a), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

SCHEDULE OF WORK

D14. COMMENCEMENT

D14.1 The Contractor shall not commence any Work until he/she is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.

D14.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D8;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
 - (iv) the Safe Work Plan specified in D9;
 - (v) evidence of the insurance specified in D10;
 - (vi) the performance security specified in D11;
 - (vii) the subcontractor list specified in D12;
 - (viii) the detailed work schedule specified in D13.
- (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.

D14.3 The Contractor shall not commence the Work on the Site before August 14, 2017, and shall commence the Work on Site no later than August 21, 2017, as directed by the Contract Administrator and weather permitting.

D14.3.1 The Contractor shall not commence the Work on McGillivray Boulevard from Fennell Street to Pembina Highway before May 1, 2018 and as approved by the Contract Administrator.

D14.4 The City intends to award this Contract by August 7, 2017.

D14.4.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D15. WORKING DAYS

D15.1 Further to C1.1(jj);

D15.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his/her assessment. On a weekly basis the Contract Administrator will provide the Contractor with a record of the Working Days assessed for the preceding week. The Contractor shall sign each report signifying that he/she agrees with the Contract Administrator's determination of the Working Days assessed for the report period.

D15.1.2 Work done to restore the Site to a condition suitable for Work, shall not be considered "work" as defined in the definition of a Working Day.

D15.1.3 When the Work includes two or more major types of Work that can be performed under different atmospheric conditions, the Contract Administrator shall consider all major types of Work in determining whether the Contractor was able to work in assessing Working Days.

D16. RESTRICTED WORK HOURS

D16.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission forty-eight (48) hours in advance from the Contract Administrator for any work to be performed between 2000 hours and 0700 hours, or on Saturdays, Sundays, Statutory Holidays and or Civic Holidays.

D17. WORK BY OTHERS

D17.1 Work by others on or near the Site will include but not necessarily be limited to:

- (a) Manitoba Hydro installation of new street lighting;
- (b) City of Winnipeg Traffic Signals relocation of existing signals plant;
- (c) Manitoba Hydro, Gas Division – lowering and/or rock wrapping of underground main and services as required;
- (d) City of Winnipeg Geomatics Branch – various work on survey monuments;
- (e) Pembina Trails School Division- lowering of fiber optic cable as required.

D17.2 The City of Winnipeg's Southwest Rapid Transit Phase 2 project has scheduled Work on McGillivray Boulevard east of Fennell Street. The majority of this Work is anticipated to be complete by the spring of 2018. The Contractor shall not commence his work east of Fennell Street until May 1, 2018 and as approved by the Contract Administrator and will be required to co-ordinate his Work, including traffic control, with any on-going work on that project.

D18. SEQUENCE OF WORK

D18.1 Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays, including scratch courses.

D19. CRITICAL STAGES

- D19.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) McGillivray Boulevard from Waverley Street to Fennell Street shall be completed within thirty-five (35) consecutive Working Days of the commencement of the Work as specified in D14.
 - (b) Kenaston Boulevard shall be completed within thirty-five (35) consecutive Working Days of the commencement of the Work as specified in D14.
- D19.2 When the Contractor considers the Work associated with Critical Stages to be completed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Completion. 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.
- D19.3 The date on which the Critical Stages Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of Critical Stages has been achieved.

D20. SUBSTANTIAL PERFORMANCE

- D20.1 The Contractor shall achieve Substantial Performance within seventy-five (75) consecutive Working Days of the commencement of the Work as specified in D14.
- D20.2 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.
- D20.3 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.

D21. TOTAL PERFORMANCE

- D21.1 The Contractor shall achieve Total Performance within eighty (80) consecutive Working Days of the commencement of the Work as specified in D14.
- D21.2 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.
- D21.3 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.

D22. LIQUIDATED DAMAGES

- D22.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:
- (a) D19.1(a) – one thousand dollars (\$1,000.00);
 - (b) D19.1(b) – one thousand dollars (\$1,000.00);

- (c) Substantial Performance – three thousand dollars (\$3,000.00);
- (d) Total Performance – one thousand dollars (\$1,000.00).

D22.2 The amounts specified for liquidated damages in D22.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.

D22.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D23. SCHEDULED MAINTENANCE

D23.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) Sod maintenance as specified in CW 3510;
- (b) Salt Tolerant Seed as specified in E8;
- (c) Reflective Crack Maintenance during the warranty period as specified in CW 3250.

D23.2 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

D24. JOB MEETINGS

D24.1 Regular weekly job meetings will be held at the offices of Morrison Hershfield (1-59 Scurfield Boulevard). 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.

D24.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D25. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D25.1 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).

D26. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D26.1 Further to B11.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B11.4.

MEASUREMENT AND PAYMENT

D27. PAYMENT

D27.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D28. WARRANTY

D28.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D28.2 Notwithstanding C13.2 or D28.1, 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.

D28.2.1 In such case the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See D11)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____)

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

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

BID OPPORTUNITY NO. 300-2017

2017 Regional Street Renewal Program – Mc Gillivray Boulevard Rehabilitation and Kenaston Boulevard Pavement Widening

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

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

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

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

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

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

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

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

(Date)

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

RE: PERFORMANCE SECURITY – BID OPPORTUNITY NO. 300-2017

2017 Regional Street Renewal Program – McGillivray Boulevard Rehabilitation and Kenaston
Boulevard Pavement Widening

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

This credit is subject to the Uniform Customs and Practice for Documentary Credit (2007 Revision), International Chamber of Commerce Publication Number 600.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

FORM J: SUBCONTRACTOR LIST
 (See D12)

2017 Regional Street Renewal Program – M^cGillivray Boulevard Rehabilitation and Kenaston Boulevard
 Pavement Widening

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
Supply of Materials:		
Concrete		
Asphalt		
Base Course		
Sub-Base Material		
Sod & Seed		
Catchbasins		
Separation Fabric		
Frames & Covers		
Pipes		
Interlocking Paving Stones		
Installation/Placement		
Concrete		
Asphalt		
Excavation		
Base Course		
Sub-Base Material		
Underground Works		
Landscaping		
Tree Removals		
Others:		

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 These Specifications shall apply to the Work.

E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>

E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.

E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
P-3482-0	Cover Sheet & Location Plan	A1
P-3482-1	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal Alignment McGillivray Blvd at Waverley St	A1
P-3482-2	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Waverley St to Sta 0+280	A1
P-3482-3	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 0+280 to Sta 0+410	A1
P-3482-4	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 0+410 to Sta 0+540	A1
P-3482-5	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 0+540 to Sta 0+670	A1
P-3482-6	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 0+670 to Sta 0+800	A1
P-3482-7	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 0+800 to Sta 0+930	A1
P-3482-8	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 0+930 to Sta 1+060	A1
P-3482-9	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+060 to Sta 1+190	A1
P-3482-10	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+190 to Sta 1+320	A1

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
P-3482-11	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+320 to Sta 1+450	A1
P-3482-12	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+450 to Sta 1+580	A1
P-3482-13	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+580 to Sta 1+710	A1
P-3482-14	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+710 to Sta 1+840	A1
P-3482-15	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+840 to Sta 1+970	A1
P-3482-16	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 1+970 to Sta 2+100	A1
P-3482-17	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 2+100 to Sta 2+230	A1
P-3482-18	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 2+230 to Sta 2+370	A1
P-3482-19	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Horizontal and Vertical Alignment Sta 2+370 to Pembina Hwy	A1
P-3482-20	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Cross Sections A,B & C	A1
P-3482-21	McGillivray Boulevard Rehabilitation Waverley Street to Pembina Highway Details	A1
P-3482-22	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Horizontal Geometry Various Locations	A1
P-3482-23	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Horizontal and Vertical Alignment Sta 0+800 to Sta 0+930	A1
P-3482-24	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Horizontal and Vertical Alignment Sta 0+930 to Sta 1+040	A1
P-3482-25	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Horizontal and Vertical Alignment Sta 1+040 to Sta 1+150	A1
P-3482-26	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Horizontal and Vertical Alignment Sta 1+150 to Sta 1+270	A1
P-3482-27	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Horizontal and Vertical Alignment Sta 1+270 to Sta 1+390	A1
P-3482-28	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Horizontal and Vertical Alignment Sta 1+390 to Sta 1+440	A1

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
P-3482-29	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Cross Sections A, B & C	A1
P-3482-30	Kenaston Boulevard Widening McGillivray Boulevard to Bishop Grandin Boulevard Cross Sections D & E	A1

E2. GEOTECHNICAL REPORT

E2.1 Further to C3.1, the geotechnical report is provided to aid the Contractor's evaluation of the pavement structure and/or existing soil conditions. The geotechnical report is contained in Appendix 'A'.

E3. PROTECTION OF EXISTING TREES

E3.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:

- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
- (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
- (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
- (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E3.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his/her designate.

E3.3 No separate measurement or payment will be made for the protection of trees.

E3.4 Except as required in clause E3.1(c) and E3.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

E4. TRAFFIC CONTROL

E4.1 Further to clauses 3.6, 3.7 and 3.8 of CW 1130:

- (a) Where directed by the Contract Administrator, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. Payment shall be in accordance with CW3410.

- (b) In accordance with the Manual of Temporary Traffic Control on City Streets (MTTC), the Contractor ("Construction Agency" in the manual) shall be responsible for placing, maintaining and removing the appropriate temporary traffic control devices as specified by the MTTC or by the Traffic Management Branch of the City of Winnipeg Public Works Department. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by their own forces or subcontractor.

E4.2 Notwithstanding E4.1, in accordance with the MTTC, the Contract Administrator shall make arrangements with the **Traffic Services Branch of the City of Winnipeg** to place, maintain, and remove all **regulatory signs** and traffic control devices authorized and/or required by the Traffic Management Branch in the following situations:

- (a) Parking restrictions,
- (b) Stopping restrictions,
- (c) Turn restrictions,
- (d) Diamond lane removal,
- (e) Full or directional closures on a Regional Street,
- (f) Traffic routed across a median,
- (g) Full or directional closure of a non-regional street where there is a requirement for regulatory signs (turn restrictions, bus stop relocations, etc.) to implement the closure.
- (h) Approved Designated Construction Zones with a temporary posted speed limit reduction. Traffic Services will be responsible for placing all of the advance signs and 'Construction Ends' (TC-4) signs. The Contractor is still responsible for all other temporary traffic control including but not limited to barricades, barrels and tall cones.

E4.2.1 An exception to E4.2 is the 'KEEP RIGHT/KEEP LEFT' sign (RB-25 / RB-25L) which shall be supplied, installed, and maintained by the Contractor at their own expense.

E4.2.2 Further to E4.2, where the Contract Administrator has determined that the services of the Traffic Services Branch are required, the City shall bear the costs associated with the placement of temporary traffic control devices by the Traffic Services Branch of the City of Winnipeg in connection with the works undertaken by the Contractor.

E5. TRAFFIC MANAGEMENT

E5.1 Further to clause 3.7 of CW 1130:

E5.1.1 Single lane closures on intersecting and/or adjoining Regional Streets shall only be permitted during non-peak periods when required for construction activities when approved by the Traffic Management Branch. Storage/parking of materials, equipment or vehicles is not permitted on Regional Streets at any time unless approved by the Contract Administrator, in consultation with the Traffic Management Branch.

E5.1.2 Maintain a minimum of one lane of traffic westbound on McGillivray Boulevard during all construction times, including during paving and milling operations. When no work is being performed on site, non-essential lane closures will not be permitted.

E5.1.3 Maintain a minimum of two southbound lanes of traffic on Kenaston Boulevard during the afternoon peak period (15:30 – 17:30). Maintain a minimum of one lane of traffic southbound on Kenaston Boulevard during all other times, including during paving and milling operations. When no work is being performed on site, non-essential lane closures will not be permitted

E5.1.4 Where left turn lanes exist, an additional lane to accommodate the left turn storage lane shall be maintained at all times.

E5.1.5 Intersecting local street, median opening and private approach access shall be maintained at all times unless joint/slab repairs or planing/paving operations require temporary closure. Temporary closures are to be staggered such that consecutive intersections are not closed

at the same time. Traffic on intersecting regional/collector streets shall be maintained at all times unless planing/paving operations require temporary complete closures. Temporary complete closures shall be no longer than 10 minutes during asphalt planing/paving operations and shall be completed during off peak hours.

- E5.1.6 Flag persons may be necessary to maintain the flow of traffic during certain work operations.
- E5.1.7 Should the Contractor be unable to maintain pedestrian or vehicular access to a residence or business, he/she shall review the planned disruption with the business or residence and the Contract Administrator, and take reasonable measures to minimize the impact. The Contractor shall provide a minimum of 24 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.
- E5.1.8 Ambulance/emergency vehicle access must be maintained at all times.

E6. WATER OBTAINED FROM THE CITY

- E6.1 Further to clause 3.7 of CW 1120, the Contractor shall pay for all costs, including sewer charges, associated with obtaining water from the City in accordance with the Waterworks and Sewer By-laws.

E7. SURFACE RESTORATIONS

- E7.1 Further to clause 3.3 of CW 1130, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

E8. SALT TOLERANT GRASS SEEDING

DESCRIPTION

- E8.1 Further to CW 3520 and CW3540, this specification shall cover sub-grade preparation and the supply and placement of Salt Tolerant Grass Seed.

MATERIALS

- E8.2 Salt Tolerant Grass Seed
 - E8.2.1 Salt Tolerant Grass Seed for regional and collector boulevards, medians and interchange areas shall be a mixture composed of:
 - (a) Seventy percent (70%) Fults or Nuttals Alkaligrass (*Puccinellia* spp.), twenty percent (20%) Audubon or Aberdeen Creeping Red Fescue and ten percent (10%) Perennial Ryegrass.

EQUIPMENT

- E8.3 Scarification equipment shall be suitable for the area being scarified, shall be capable of scarifying the sub-grade to the specified depth and shall be accepted by the Contract Administrator. For confined areas a toothed bucket may be acceptable. For larger areas tilling equipment may be required.

CONSTRUCTION METHODS

E8.4 Preparation of Existing Grade

- E8.4.1 Prior to placing topsoil, in areas to be seeded greater in width than 600mm, prepare the existing sub-grade by scarifying to a minimum depth of 75mm and to a maximum depth of 100mm to the satisfaction of the Contract Administrator.
- E8.4.2 Scarification shall consist of breaking up and loosening the sub-grade. No scarification shall occur within the edge of a tree canopy (or drip line).

E8.5 Salt Tolerant Grass Seeding

- E8.5.1 Salt Tolerant Grass Seed shall be sown at a rate of 2.2 kilograms per 100 square meters.

MEASUREMENT AND PAYMENT

- E8.6 Supply, placement and maintenance of Salt Tolerant Grass Seed will be paid for at the Contract Unit Price per square metre for "Salt Tolerant Grass Seeding", measured as specified herein, which price shall be payment in full for supplying all materials and for completing all operations herein described and all other items incidental to the work included in this Specification. Payment for Salt Tolerant Grass Seeding shall be in accordance with the following:
- (a) Sixty five (65%) percent of quantity following supply and placement.
 - (b) Remaining thirty five (35%) percent of quantity following termination of the Maintenance Period.

E9. CONTRACTOR PARKING

- E9.1 Parking of private work force vehicles within the work zone without prior written authorization from the Contract Administrator is prohibited. Requests to the Contract Administrator for private work force vehicle parking must include the reason for the request, the time frame of the request, description of any parking alternatives that were considered by the Contractor but not deemed feasible and a description of the specific location intended to accommodate the parking.

E10. OPERATING CONSTRAINTS FOR WORK IN CLOSE PROXIMITY TO THE AQUEDUCT AND SOUTH FORT GARRY-ST. VITAL FEEDERMAIN

DESCRIPTION

- E10.1 This Specification details operating constraints for all Work to be carried out in close proximity to the Aqueduct and the South Fort Garry-St. Vital Feedermain crossing McGillivray Boulevard. Close proximity shall be deemed to be any construction activity within a 5 m offset from the centreline of the Aqueduct and Feedermain.
- E10.2 General Considerations for Work in Close Proximity to the Aqueduct and the South Fort Garry-St. Vital Feedermain
- E10.2.1 The Aqueduct and Feedermain are a critical component of the City of Winnipeg Regional Water Supply System and Work in close proximity to the pipeline shall be undertaken with an abundance of caution. The pipe cannot be taken out of service to facilitate construction and inadvertent damage caused to the pipes would likely have catastrophic consequences.
- E10.2.2 Work around the Aqueduct and Feedermain shall be planned and implemented to minimize the time period that Work is carried out in close proximity to it and to ensure that the pipeline is not subjected to excessive construction related loads, including excessive vibrations and/or concentrated or asymmetrical lateral loads during backfill placement.
- E10.2.3 The 1650 mm Aqueduct is constructed of Reinforced Concrete. This section of the pipeline was installed in approximately 1959.

- E10.2.4 The 750 mm South Fort Garry-St. Vital Feedermain is constructed of Concrete. The installation date of this pipe is 1960.
- E10.3 Protection of the Aqueduct and the South Fort Garry-St. Vital Feedermain during Construction
- E10.3.1 Pipe locations noted on the Drawings are based on the original record drawings. At the request of the Contract Administrator the Contractor shall verify the Aqueduct and Feedermain locations.
- E10.3.2 Contractors carrying out repair Work or Working in close proximity to the Aqueduct and Feedermain shall meet the following conditions and technical requirements:
- (a) Pre-Work, Planning and General Execution
 - (i) No work shall commence at the site until the Aqueduct and Feedermain locations have been clearly delineated in the field including centreline alignment and outside limits of the pipe.
 - (ii) Granular material, construction material, soil or other material shall not be stockpiled on the pipelines or within 5 metres of the pipe centerline.
 - (iii) Stage construction such that the Aqueduct and Feedermain are not subjected to significant asymmetrical loading at anytime.
 - (iv) Where Work is in proximity to the Aqueduct and Feedermain, utilize construction practices and procedures that do not impart excessive vibration loads on the Aqueduct and Feedermain or that would cause settlement of the subgrade below the Aqueduct and Feedermain.
 - (v) The Contractor shall ensure that all crew members understand and observe the requirements of this specification. Prior to commencement of on-site work, the Contractor shall jointly conduct an orientation meeting with the Contract Administrator with all superintendents, foremen, and heavy equipment operators to make all workers on site fully cognizant of the limitations of altered loading on Aqueduct and Feedermain, the ramifications of inadvertent damage to the Aqueduct and Feedermain, and constraints associated with work in close proximity to the Aqueduct and Feedermain.
 - (b) Demolition and Excavation
 - (i) Concrete demolition and removal within 3 metres horizontally of the Aqueduct and Feedermain shall be completed by sawcutting and removal, or use of hand held jackhammers. Use of machine mounted concrete breakers above Aqueduct and Feedermain shall not be permitted.
 - (ii) Where there is less than 1.6 metres of earth cover over the Aqueduct and Feedermain, and further excavation is required either adjacent to or over the Aqueduct and Feedermain, utilize only smooth edged excavation buckets, soft excavation or hand excavation techniques.
 - (iii) Where there is less than 2.5 metres of cover over the Aqueduct and Feedermain, offset the excavator or excavation equipment from the Aqueduct and Feedermain, a minimum of 2.5 metres from the Aqueduct and Feedermain centrelines, to carry out excavation.
 - (c) Subgrade Construction
 - (i) Subgrade compaction shall be limited to static compaction methods.
 - (ii) Stage Work activities to minimize the time period that unprotected subgrade is exposed to the environment and protect the subgrade against the impacts of adverse weather if subbase/ base course construction activities are not sequential with excavation.
 - (d) Subbase and Base Course Construction
 - (i) Subbase or base course materials shall not be dumped directly on pipelines but shall be carefully bladed in-place.

- (ii) Subbase compaction shall be either carried out by static methods without vibration or with smaller approved equipment such as hand held plate packers or smaller roller equipment.

E10.4 Compliance with the Specification

- E10.4.1 Employees of the Contractor or any Subcontractor that fail to comply with the conditions for Working in close proximity to the Aqueduct and Feedermain shall be promptly removed from the Site.

E11. WORK WITHIN CN RAILWAY RIGHT-OF-WAYS

GENERAL REQUIREMENTS

- E11.1 The Contractor shall be responsible to meet all Canadian National (CN) constraints, requirements, and safety measures.
- E11.2 The Contractor shall not enter into CN property at any time unless he has obtained an agreement from CN and adheres to CN safety measures. All employees must complete the contractor orientation course prior to working within the CN right-of-way.
- E11.3 The Contractor shall arrange with CN to have CN supply a flag person for all activity on the CN right-of-way as required by CN.
- E11.4 The Contractor shall apply for a CN work permit. A sample form is attached in Appendix 'B'.
- E11.5 The Contractor shall follow all construction and safety requirements while working within the CN right-of-way as specified within the current "CN Safety Guidelines for Contractors and Non-CN Personnel".
- E11.6 The Contractor shall contact CN to commence the work permit and approvals process at:

Sara Lovegrove
Sara.lovegrove@cn.ca
Prairie Utilities Coordinator
PH: (780) 643-7668

MEASUREMENT AND PAYMENT

- E11.7 Coordination of construction with CN Rail will be paid for at the Contract Lump Sum Price for "Coordination of Construction with CN Rail". Payment will be made upon completion of all construction work within CN right-of-way and will be compensation in full for the costs of coordination efforts, application or permit fees, flagging costs and all other costs associated with coordination and working within the CN right-of-way.

E12. BASE COURSE MATERIAL ON M^CGILLIVRAY BOULEVARD

DESCRIPTION

- E12.1 This specification shall cover the supply, placement and compaction of base course material for construction on McGillivray Boulevard.

MEASUREMENT AND PAYMENT

- E12.2 Amendment to Clause 4.6.1 of CW 3110:
- E12.3 The supplying, placing and compaction of base course material on McGillivray Boulevard will be measured on a weight basis and paid for at the Contract Unit Price per **tonne** for "Supplying and Placing Limestone Base Course Material". The weight to be paid for will be the total number of tonnes of base course material supplied and placed in accordance with this Specification, accepted and measured by the Contract Administrator.

E12.4 No measurement or payment will be made for materials rejected by the Contract Administrator.

E13. CONCRETE SPILLWAYS

DESCRIPTION

E13.1 General

E13.1.1 This specification covers the supply and installation of concrete spillways complete with curb inlet grates.

E13.1.2 Referenced Standard Construction Specifications

(a) CW 2160 – Concrete Underground Structures and Works;

(b) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction; and

(c) CW 3210 – Adjustment of Pavement and Boulevard Structures.

MATERIALS

E13.2 Concrete Spillway

E13.2.1 Concrete and reinforcing steel shall be supplied and installed in accordance with the Drawings and CW 2160-R7.

E13.2.2 Bedding shall be supplied and installed in accordance with the Drawings and for base course material as described in CW 3110-R11.

E13.2.3 Curb inlet grates shall be supplied and installed in accordance with the Drawings and CW 3210-R7.

CONSTRUCTION METHODS

E13.3 Concrete Spillway

E13.3.1 Concrete spillways complete with or without curb inlet grates shall be constructed in accordance with the Drawings.

MEASUREMENT AND PAYMENT

E13.4 Concrete Spillway

E13.5 The supply and installation of concrete spillways will be measured on a linear metre basis and paid for at the Contract Unit Price per unit for “Concrete Spillway c/w Curb Inlet Gate” or “Concrete Spillway”. The length to be paid for shall be the total number of metres of concrete spillways supplied and installed in accordance with this Specification as measured and accepted by the Contract Administrator.

E13.6 Payment of “Concrete Spillway c/w Curb Inlet Gate” shall include all base course bedding material, concrete, reinforcing steel, curb inlet grate, labour, superintendence and all other incidental items necessary to complete the work described in this Specification.

E13.7 Payment of “Concrete Spillway” shall include all base course bedding material, concrete, reinforcing steel, labour, superintendence and all other incidental items necessary to complete the work described in this Specification.

E13.8 Measurement for length of spillway will be made horizontally at grade above the centerline of the spillway from the back of curb to the end of the spillway.

E14. ASPHALT SWALE

E14.1 Asphalt swales shall consist of 150 mm of base course supplied and installed in accordance with CW 3110 and 50 mm of uncompacted Type 1A asphalt pavement placed with a raked

finish between removable forms and shaped in a “V” to the grades provided by the Contract Administrator.

- E14.2 The Unit Price per square metre for “Asphalt Swale” will be payment in full for constructing an asphalt swale, as described above and for performing all work necessary or incidental thereto.

E15. CSP BAR SCREENS

DESCRIPTION

- E15.1 This Specification shall cover all operations relating to the supply and installation of CSP bar screens.
- E15.1.1 The work to be done by the Contractor under this Specification shall include the supply of all materials and the furnishings of all superintendence, overhead, labour, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all work as hereinafter specified.

MATERIALS

- E15.2 As per construction drawings.

CONSTRUCTION METHODS

- E15.3 Contractor to install CSP bar screen as indicated on the construction drawings.

MEASUREMENT AND PAYMENT

- E15.4 The supply and installation of CSP bar screens will be measured on a unit basis and paid for at the Contract Unit Price per unit for “Supply and Installation of CSP Bar Screens”. The number of units to be paid for will be the total number of CSP bar screens supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator.

E16. INSTALLATION OF CULVERTS

DESCRIPTION

- E16.1 General
- E16.1.1 This specification shall amend and supplement City of Winnipeg Standard Construction Specification CW 3610-R3 “Installation of Culverts”, and shall cover supply and installation of culverts.
- E16.1.2 Referenced Standard Construction Specifications
- (a) CW 2030 – Excavation Bedding and Backfill
 - (b) CW 3610 – Installation of Culverts
- E16.1.3 Referenced Standard Detail
- (a) SD 002 – Standard Trench and Excavation Backfill Classes.

MATERIALS

- E16.2 Bedding and Backfill
- E16.2.1 Bedding and initial backfill material shall consist of 20 mm limestone base, as specified in CW 2030, placed on a prepared subgrade and compacted to the thickness and density herein specified.

CONSTRUCTION METHODS

E16.3 Beveled Ends

E16.3.1 Further to CW 3610, all CSP culvert ends shall be beveled as shown on the Drawings.

E16.4 Bedding and Backfill

E16.4.1 The backfilling for corrugated steel pipe installed under proposed pavements and private approaches shall be Class 2 as shown in Standard Detail SD-002 and specified in CW 2030, except as noted below.

E16.4.2 The following revisions for bedding and initial backfill apply to Class 2 and Class 4 backfill:

- (a) Limestone base material as previously specified shall be used for bedding and initial backfill as opposed to sand.
- (b) A minimum thickness of 225 mm of compacted 20 mm limestone bedding shall be placed on the prepared subgrade. A 75 mm blanket of loose uniform bedding material shall then be placed on the compacted bedding to provide fill for the corrugations in the invert.
- (c) The backfill material shall be placed in layers not exceeding 300 mm. Backfilling shall be carried out in such a manner as to obtain uniform compaction without soft spots. Compaction shall be 95% of the Standard Proctor Density.
- (d) Manual placing and compaction of material shall be used to build up the backfill to encompass the lower part of the pipe. Backfill material shall be placed under the haunches by shovel and compacted firmly by power compaction ("jumping jack") equipment. Valleys of the corrugations and the area immediately next to the pipe must be compacted by hand operated methods. At no time shall heavy compaction equipment be brought closer than 1 m from the CSP.
- (e) Backfill shall be so placed and mechanically compacted that the fill rises equally and simultaneously on both sides, including handwork next to the pipe. Layers shall be placed with equipment running parallel to the structure.
- (f) When the fill on both sides of the pipe approaches the crown of the pipe, the same techniques of spreading shallow layers and compacting thoroughly shall be followed as the backfill covers the pipe. Light tamping equipment shall be used for the initial layers over the pipe.
- (g) No distortion of the structure greater than 2% of the span or rise shall be allowed.
- (h) No traffic of any sort shall be permitted over the structure until cover of a minimum depth of 300 mm is properly compacted in place. If the Contractor requires crossings by heavy construction equipment, a minimum of 1.2 m of compacted cover over a length of at least 7.3 m of the structure shall be provided at no extra cost to the City.
- (i) All compaction equipment used shall be subject to the approval of the Contract Administrator.

MEASUREMENT AND PAYMENT

E16.5 Beveled Ends

E16.5.1 There shall be no measurement or payment for beveled ends. Beveled ends shall be included in the payment for the supply and installation of CSP culverts.

E16.5.2 The supply and installation of culverts will be measured and paid for in accordance with CW 3610.

E17. INSTALLATION OF STRAW WATTLES

DESCRIPTION

E17.1 Straw wattles are required to be installed as erosion control measures to mitigate any deleterious materials from entering the Land Drainage System. At a minimum, these locations

will include the perimeter of all riprap located at: ditch catchbasins, subdrain outfalls, and ditch bottom pads.

MATERIALS

E17.2 The straw wattles shall be Stenlog or other biodegradable straw wattles.

CONSTRUCTION METHODS

E17.3 Install 300mm Stenlog or other straw wattle sediment control material in accordance with the manufacturer's specifications around all riprap areas related to drainage inlets and outlets, and catchbasins within seeded areas.

E17.4 Install straw wattles so that no gaps exist between the soil and the bottom of the wattle, and the ends of adjacent wattles are overlapped 150mm minimum to prevent water and sediment passing. Achieve a tight seal between the wattle segments.

E17.5 Dogleg terminal ends of straw wattle up the slope to prevent channeling of sedimentation.

E17.6 Use 300mm wooden stakes to fasten straw wattle to the soil. Place stakes on each side of the straw wattle, lying across the natural fibre twine, spaced 1200mm on centre. Leave 30 to 50 mm of wood stake exposed above the wattle.

E17.7 Avoid damage to wattles. Damaged areas of wattles should be cut and tied off, then treated as terminal ends.

E17.8 At the direction of the Contract Administrator, the straw wattle shall be removed after seeding has established and before the end of the Warranty Period.

MEASUREMENT AND PAYMENT

E17.9 Installation of straw wattles will be measured on a length basis and paid for at the Contract Unit Price for "Installation of Straw Wattle". The length to be paid for will be the total number of linear metres of straw wattles installed in accordance with this Specification, accepted and measured by the Contract Administrator.

E18. REMOVAL OF EXISTING PIPES

E18.1 Description

E18.1.1 This Specification shall amend and supplement Specification CW 2130 and CW 3210.

E18.2 Construction Methods

E18.2.1 Removal of existing pipes shall consist of existing catch basin or curb inlet leads which are to be removed in order to facilitate the installation of new catch basins or catch pits.

E18.3 Measurement and Payment

E18.3.1 The removal of existing pipes by excavating, removing and disposing of existing pipe will be measured on a length basis. The length to be paid for shall be the total number of linear metres of pipe removed from the specified area measured horizontally at grade. Removal of existing pipes will be paid for at the Contract Unit Price or "Removal of Existing Pipes", which price shall be payment in full for the supply of all materials and for performing all operations required to complete the work as specified.

E19. INTERLOCKING PAVING STONES

DESCRIPTION

E19.1 General

- E19.1.1 This specification shall cover the removal, disposal and installation of interlocking paving stones on lean concrete base.
- E19.1.2 Referenced Standard Construction Specifications
(a) CW 3335 – Installation of Interlocking Paving Stones on a Lean Concrete Base

MATERIALS

- E19.2 Interlocking Paving Stones
- E19.2.1 Paving stones shall be Barkman Concrete Holland Stone Pavers (100 x 200). All pavers to be “Charcoal” in colour.
- E19.2.2 Paving stones shall conform to the requirements of CAN3-A231.2, Precast Concrete Pavers.
- E19.2.3 Further to CAN3-A231.2.6.1.1, where concrete pavers are shipped for installation before the pavers are twenty-eight (28) days old, the average compressive strength of these pavers at the time of delivery to the work site shall be not less than 40 MPa.

MEASUREMENT OF PAYMENT

- E19.3 Removal and Disposal of Interlocking Paving Stones
- E19.3.1 Removal and disposal of interlocking paving stones shall be measured on an area basis. The amount to be paid for shall be the total number of square metres of paving stones removed and disposed of in accordance with this Specification and the Drawings and accepted by the Contract Administrator. Removal and disposal of interlocking paving stones shall be paid for at the Contract Unit Price for “Removal and Disposal of Interlocking Paving Stones”, which price shall be payment in full for the supply of all materials and for performing all operations required to complete the work as specified.
- E19.4 Supply and Installation of Paving Stones
- E19.4.1 Supply and installation of interlocking paving stones shall be measured on an area basis. The amount to be paid for shall be the total number of square metres of paving stones supplied and installed in accordance with this Specification and the Drawings and accepted by the Contract Administrator. Supply and Installation of interlocking paving stones shall be paid for at the Contract Unit Price for “Interlocking Paving Stones”, which price shall be payment in full for the supply of all materials and for performing all operations required to complete the work as specified.
- E19.4.2 No measurement or payment will be made for bedding sand. Bedding sand shall be included in the price paid for “Interlocking Paving Stones”.

E20. CONCRETE WORKS

DESCRIPTION

- E20.1 This Specification shall supplement and amend CW 3310-R15 – “Portland Cement Concrete Pavement Works”.

MATERIALS

- E20.2 Skewed dowel assemblies shall be supplied with a longitudinal to transverse shew of 1:6 while positioning the 28.6 mm epoxy coated dowels parallel to the longitudinal joint.

CONSTRUCTION METHODS

- E20.3 Skewed Joints
- E20.3.1 Skewed transverse joints, where shown on the Drawings, shall be constructed on a longitudinal to transverse shew of 1:6. The dowels for the skewed joint shall be centered

on the joint, and be placed parallel to the longitudinal joint. All other joints shall be constructed perpendicular to the direction of traffic.

MEASUREMENT AND PAYMENT

E20.4 Skewed Dowel Assemblies

E20.4.1 Supply and installation of skewed dowel assemblies will be paid for at the Contract Unit Price per metre for "Supply and Installation of Skewed Dowel Assemblies (1:6 Skew)", measured as specified herein, which price shall be payment in full for all materials and performing all operations herein described and all other items incidental to the work included in this Specification.

E21. SUBDRAIN CONNECTIONS

E21.1 Connecting new subdrain pipe to existing subdrain pipe shall be constructed and paid for in accordance with CW 2130 "Connecting New Sewer Service to Existing Sewer Service" utilizing couplings in accordance with CW 3120

E22. REMOVAL AND SALVAGE OF GARBAGE RECEPTACLE

E22.1 The existing garbage receptacles shall be carefully removed from their existing locations without damage. Any damage to the receptacles that was not identified prior to removal will be repaired or replaced at the Contractor's cost.

E22.2 The garbage receptacles shall be salvaged and stored in a secure location at the Site.

E22.3 Removal of the existing concrete pad under the garbage receptacle will be paid for as concrete pavement removal in accordance with CW 3310.

E22.4 The proposed concrete pad under the garbage receptacle will be paid for per square meter for 150 mm reinforced concrete pavement in accordance with CW 3310.

E22.5 The reinstallation of the garbage receptacles will be handled by others.

E22.6 Removal and salvage of garbage receptacles will be paid for at the Contract Unit Price per unit for "Relocation of Garbage Receptacle", which price shall be payment in full for all materials and performing all operations herein described and all other items incidental to the work included in this Specification.

E23. TREE REMOVALS

DESCRIPTION

E23.1 This Specification shall cover the removal of trees designated for removal by the Contract Administrator.

CONSTRUCTION METHODS

E23.2 Tree Removal

E23.2.1 Before commencement of any work, the Contractor shall consult with the Contract Administrator as to which trees and/ or shrubs shall be removed. All other trees and shrubs shall be protected against damage from all construction activity in accordance with E3. Protection of Existing Trees.

E23.2.2 Tree removals must be performed by a qualified contractor pre-approved by the City of Winnipeg, which can be found at the following link:
http://www.winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/Homeowner_Tree_Maintenance_Guidelines.stm

- E23.2.3 Trees to be removed are to be felled so as to land within the limits of the works. The Contractor shall take all precautions to prevent damage to traffic, structures, pole lines, adjacent property and to trees and shrubs designated to be saved, and he shall be liable for any damages occurring in the performance of this work.
- E23.2.4 The Contractor shall cut down all trees and shrubs designated for removal and grub out all stumps and roots. The Contractor shall load and haul all trees, stumps, roots, logs, brush, rubbish and all other surface litter from the site and dispose of these materials at dumps located by the Contractor and approved by the Contract Administrator.
- E23.2.5 Trees to be removed are Poplar (diameter at breast height between 19 cm and 32 cm) or American elms (diameter at breast height of 15 cm).

MEASUREMENT AND PAYMENT

- E23.2.6 Removal of Trees will be measured on a unit basis and paid for at the Contract Unit Price for "Tree Removal" for each tree removed, which price shall be payment in full for removing and disposing all tree materials and for completing all operations herein described and all other items incidental to the work included in this Specification.