



THE CITY OF WINNIPEG

TENDER

TENDER NO. 14-2019

**2019 GRANULAR RENEWAL PROGRAM: WAVERLEY STREET – GRANDMONT
BOULEVARD TO CITY LIMIT**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 2019 GRANULAR RENEWAL PROGRAM: WAVERLEY STREET – GRANDMONT BOULEVARD TO CITY LIMIT

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, June 12, 2019.
- 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 Tender, 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 Tender 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 Tender 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 Tender 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 Tender, 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.
- B5.3 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>
- B5.4 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.
- B5.5 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.
- B5.6 Notwithstanding B3, enquiries related to an Addendum may be directed to the Contract Administrator indicated in D3.

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Tender.
- 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 B17.
- 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; and
 - (c) Form G1: Bid Bond and Agreement to Bond.
- 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 Tender 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 Tender 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 Tender document, including the General Conditions, will be evaluated in accordance with B17.1(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; and
 - (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 13 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 (2) 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 Prices stated on Form B: Prices shall not include any costs which may be incurred by the Contractor with respect to any applicable funding agreement obligations as outlined in D29. Any such costs shall be determined in accordance with D29.
- B9.1.2 For the convenience of Bidders, and pursuant to B7.4.2 and B17.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Tender 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).

B9.5 Form B: Prices is organized into Parts: Part 1 of the Work and Part 2 of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Part 1 and Part 2.

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. CONFLICT OF INTEREST AND GOOD FAITH

B11.1 Bidders, by responding to this Tender, declare that no Conflict of Interest currently exists, or is reasonably expected to exist in the future.

B11.2 Conflict of Interest means any situation or circumstance where a Bidder or employee of the Bidder proposed for the Work has:

- (a) other commitments;
- (b) relationships;
- (c) financial interests; or
- (d) involvement in ongoing litigation;

that could or would be seen to:

- (i) exercise an improper influence over the objective, unbiased and impartial exercise of the independent judgment of the City with respect to the evaluation of Bids or award of the Contract; or
- (ii) compromise, impair or be incompatible with the effective performance of a Bidder's obligations under the Contract;
- (e) has contractual or other obligations to the City that could or would be seen to have been compromised or impaired as a result of its participation in the Tender process or the Work; or
- (f) has knowledge of confidential information (other than confidential information disclosed by the City in the normal course of the Tender process) of strategic and/or material relevance to the Tender process or to the Work that is not available to other bidders and that could or would be seen to give that Bidder an unfair competitive advantage.

B11.3 In connection with its Bid, each entity identified in B11.2 shall:

- (a) avoid any perceived, potential or actual Conflict of Interest in relation to the procurement process and the Work;
- (b) upon discovering any perceived, potential or actual Conflict of Interest at any time during the Tender process, promptly disclose a detailed description of the Conflict of Interest to the City in a written statement to the Contract Administrator; and
- (c) provide the City with the proposed means to avoid or mitigate, to the greatest extent practicable, any perceived, potential or actual Conflict of Interest and shall submit any additional information to the City that the City considers necessary to properly assess the perceived, potential or actual Conflict of Interest.

B11.4 Without limiting B11.3, the City may, in its sole discretion, waive any and all perceived, potential or actual Conflicts of Interest. The City's waiver may be based upon such terms and conditions as the City, in its sole discretion, requires to satisfy itself that the Conflict of Interest has been appropriately avoided or mitigated, including requiring the Bidder to put into place such policies,

procedures, measures and other safeguards as may be required by and be acceptable to the City, in its sole discretion, to avoid or mitigate the impact of such Conflict of Interest.

- B11.5 Without limiting B11.3, and in addition to all contractual or other rights or rights at law or in equity or legislation that may be available to the City, the City may, in its sole discretion:
- (a) disqualify a Bidder that fails to disclose a perceived, potential or actual Conflict of Interest of the Bidder or any of its employees proposed for the Work;
 - (b) require the removal or replacement of any employees proposed for the Work that has a perceived, actual or potential Conflict of Interest that the City, in its sole discretion, determines cannot be avoided or mitigated;
 - (c) disqualify a Bidder or employees proposed for the Work that fails to comply with any requirements prescribed by the City pursuant to B11.4 to avoid or mitigate a Conflict of Interest; and
 - (d) disqualify a Bidder if the Bidder, or one of its employees proposed for the Work, has a perceived, potential or actual Conflict of Interest that, in the City's sole discretion, cannot be avoided or mitigated, or otherwise resolved.
- B11.6 The final determination of whether a perceived, potential or actual Conflict of Interest exists shall be made by the City, in its sole discretion.

B12. QUALIFICATION

- B12.1 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.
- B12.2 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>
- B12.3 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;
 - (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).
- B12.4 Further to B12.3(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™) in the form of:
 - (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/>).

B12.5 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.

B12.6 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.

B13. BID SECURITY

B13.1 The Bidder shall provide bid security in the form of 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).

B13.1.1 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.

B13.1.2 All signatures on bid securities shall be original.

B13.1.3 The Bidder shall sign the Bid Bond.

B13.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B13.2 The bid security of the successful Bidder and the next two (2) 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 contract securities are furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B13.3 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 Tender.

B14. OPENING OF BIDS AND RELEASE OF INFORMATION

B14.1 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.

B14.1.1 Bidders or their representatives may attend.

B14.1.2 Bids determined by the Manager of Materials, or his/her designate, to not include the bid security specified in B13 will not be read out.

B14.2 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/>

- B14.3 After award of Contract, the name(s) of the successful Bidder(s), their address(es) 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/>
- B14.4 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).
- B14.4.1 To the extent permitted, the City shall treat as confidential information, those aspects of a Bid Submission identified by the Bidder as such in accordance with and by reference to Part 2, Section 17 or Section 18 or Section 26 of The Freedom of Information and Protection of Privacy Act (Manitoba), as amended.

B15. IRREVOCABLE BID

- B15.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B15.2 The acceptance by the City of any Bid shall not release the Bids of the next two (2) 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 contract securities have been 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.

B16. WITHDRAWAL OF BIDS

- B16.1 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.
- B16.1.1 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.
- B16.1.2 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 13 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B16.1.3 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 13 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B16.1.3(b), declare the Bid withdrawn.
- B16.2 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 B15.2 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.

B17. EVALUATION OF BIDS

B17.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Tender, or acceptable deviation therefrom (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B12 (pass/fail);
- (c) Total Bid Price; and
- (d) economic analysis of any approved alternative pursuant to B6.

B17.2 Further to B17.1(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.

B17.2.1 Any Bid with an apparent imbalance between the unit prices in Part 1 and Part 2 may be determined to be non-responsive and rejected by the Award Authority in its sole discretion, acting reasonably.

B17.3 Further to B17.1(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 qualified.

B17.4 Further to B17.1(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.

B17.4.1 Further to B17.1(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.

B17.4.2 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.

B18. AWARD OF CONTRACT

B18.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B18.2 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 qualified, and the Bids are determined to be responsive.

B18.2.1 Without limiting the generality of B18.2, 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.

B18.3 If funding for the Work is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, Bidders are advised that the terms of D29 shall immediately take effect upon confirmation of such funding, regardless of when funding is confirmed.

- B18.4 Where an award of Contract is made by the City, the award shall be made to the qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B17.
- B18.4.1 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.
- B18.5 As noted in D2 and identified in Form B: Prices, the Work of Part 2 will be contingent upon Council approval of the 2020 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 all or any portion of Part 2 of the Contract.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2019-01-15) 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 Tender 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 two (2) parts:

- (a) Part 1 – City Funded Work 2019; and
- (b) Part 2 – City Funded Work 2020.

Part 1 – City Funded Work 2019

D2.2 Part 1 – City Funded Work 2019 shall consist of:

- (a) Granular Road Renewal:
 - (i) Waverley Street from Grandmont Boulevard to Rue Des Trappistes; and
 - (ii) Waverley Street from Rue Des Trappistes to 3900 Waverley Street .

Part 2 – City Funded Work 2020

D2.3 Part 2 – City Funded Work 2020 shall consist of:

- (a) Granular Road Renewal :
 - (i) Waverley Street from 3900 Waverley Street to City Limit.

D2.4 The City currently has no approved funding in the Capital Budget for Part 2 of the Work. Part 2 of the Work is contingent upon the Council approving sufficient funding.

D2.4.1 If approval of sufficient funding is not received, the City shall have the right to not award all or any portion of Part 2.

D2.4.2 If all or any portion of Part 2 is not awarded, the time periods stipulated in D20 for Substantial Performance of the Work and in D21 for Total Performance of the Work will be reduced proportionally by the Contract Administrator acting reasonably.

D2.5 The major components of the Work are as follows:

- (a) Granular Road Renewal:
 - (i) Clearing and grubbing;
 - (ii) Stripping and stockpiling topsoil;
 - (iii) Excavation of existing ditch alignments;
 - (iv) Removal and disposal of existing culverts;
 - (v) Installation of new culverts;
 - (vi) Removal of existing granular surface;
 - (vii) Excavation of existing roadway;
 - (viii) Placement of suitable site fill material (where required);
 - (ix) Compaction of existing subgrade;
 - (x) Placement of separation fabric;
 - (xi) Placement of sub-base material;
 - (xii) Placement of base course material;

- (xiii) Final restoration of private approaches;
- (xiv) Ditch grading;
- (xv) Construction of chipseal surface, and;
- (xvi) Final restorations, top soil and seeding.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Dillon Consulting Limited, represented by:

Brad Cook, P.Eng.
Project Manager

Telephone No. (204) 453-2301

Email Address bcook@dillon.ca

D3.2 At the pre-construction meeting, D3.1 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

D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator identified in D3.

- D6.3 Notwithstanding C21, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following:

The City of Winnipeg
Attn: Chief Financial Officer
Office of the Chief Administrative Officer
Susan A. Thompson Building
2nd Floor, 510 Main Street
Winnipeg MB R3B 1B9

- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:

The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: (204)-947-9155

- D6.5 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 Tender. If the Contractor requires additional sets of the Tender, 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 five million dollars (\$5,000,000.00) 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 two million dollars (\$2,000,000.00) 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.

D10.5 All policies shall be taken out with insurers duly licenced to carry on business in the Province of Manitoba.

D11. CONTRACT SECURITY

D11.1 The Contractor shall provide and maintain the performance bond and the labour and material payment bond 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; and
- (b) a labour and material payment bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H2: Labour and Material Payment Bond), in an amount equal to fifty percent (50%) of the Contract Price.

D11.2 The Contractor shall provide the City Solicitor with the required performance and labour and material payment bonds within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D11.3 The Contractor shall, as soon as practicable after entering into a contract with a Subcontractor:

- (a) give the Subcontractor written notice of the existence of the labour and material payment bond in D11.1(b); and
- (b) post a notice of the bond and/or a copy of that bond in a conspicuous location at the Site of the Work.

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. EQUIPMENT LIST

D13.1 The Contractor shall provide the Contract Administrator with a complete list of the equipment which the Contractor proposes to utilize (Form K: Equipment 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.

D14. DETAILED WORK SCHEDULE

D14.1 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.

D14.2 If, prior to submitting the Detailed Work Schedule, the Contractor does not receive notification pursuant to D15.4 that all or some portion of Part 2 of the Work may be commenced, he/she shall complete the Detailed Work Schedule for only Part 1 of the Work. The time periods stipulated in D20 for Substantial Performance of the Work and in D21 for Total Performance of the Work will be reduced proportionally by forty-five (45) Working Days by the Contract Administrator acting reasonably.

D14.3 If, after submitting the Detailed Work Schedule, the Contractor receives notification that all or any portion of Part 2 of the Work may be commenced, he/she shall submit a revised Detailed Work Schedule no later than two (2) Business Days from receipt of the notification.

D14.4 The detailed work schedule shall consist of the following:

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

D14.5 Further to D14.4(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

D15. COMMENCEMENT

D15.1 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.

D15.2 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 contract security specified in D11;
 - (vii) the subcontractor list specified in D12;
 - (viii) the equipment list specified in D13; and
 - (ix) the detailed work schedule specified in D14.
- (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.
- (c) the Contractor has provided equipment loading information to the Contract Administrator to confirm compliance to the *TransCanada Pipelines Crossing Agreement*.

D15.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D15.4 The Contractor shall not commence Part 2 of the Work as described in D2 and identified in Form B: Prices, unless Council approves the 2020 Capital budget for the Work of Part 2 and he/she is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work of Part 2.

D16. WORKING DAYS

D16.1 Further to C1.1(ii);

D16.1.1 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.

D16.1.2 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.

D16.1.3 The definition of a Working Day shall be amended to include Saturdays. Further to D17.1, if a Contractor receives permission from the Contract Administrator for work to be performed on Saturdays, each Saturday worked will be considered a Working Day.

D17. RESTRICTED WORK HOURS

D17.1 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.

D18. WORK BY OTHERS

D18.1 Work by others on or near the Site will include but not necessarily be limited to:

(a) Manitoba Hydro

(i) Relocation of existing Hydro poles south of Rue des Trappistes to south project limit; and

(ii) Relocation of existing street lighting at Rue des Trappistes.

(b) BellMTS

(i) Relocation of existing infrastructure south of Rue des Trappistes.

(c) TransCanada PipeLines Limited

(i) Geotechnical borehole testing on east side of Waverley Street south of Rue des Trappistes.

D19. SEQUENCE OF WORK

D19.1 Further to C6.1, the sequence of work shall be as follows:

D19.1.1 The Work shall be divided into two (2) Parts. Each part shall be subdivided into stages. Stages are further subdivided into major items of work.

D19.1.2 Part I – City Funded Work 2019

(a) **Stage I** – Waverley Street – Grandmont Boulevard to Rue des Trappistes:

(i) Ditch Clearing and Stripping and Stockpiling Topsoil;

(ii) Ditch Excavation;

(iii) Culvert Replacement;

- (iv) Roadway Excavation;
- (v) Subgrade Compaction and Placement of Geotextile;
- (vi) Placement of Fill, Sub-Base and Base Course;
- (vii) Private Approach Restoration;
- (viii) Ditch Grading; and
- (ix) Topsoil and Seeding.

(a) **Stage II**– Waverley Street – Rue des Trappistes to 3900 Waverley Street:

- (i) Ditch Clearing and Stripping and Stockpiling Topsoil;
- (ii) Ditch Excavation;
- (iii) Culvert Replacement;
- (iv) Roadway Excavation;
- (v) Subgrade Compaction and Placement of Geotextile;
- (vi) Placement of Fill, Sub-Base and Base Course;
- (vii) Private Approach Restoration;
- (viii) Ditch Grading; and
- (ix) Topsoil and Seeding.

D19.1.3 Part II – City Funded Work 2020

(a) **Stage III** – Waverley Street – 3900 Waverly Street to City Limit:

- (i) Ditch Clearing and Stripping and Stockpiling Topsoil;
- (ii) Ditch Excavation;
- (iii) Culvert Replacement;
- (iv) Roadway Excavation;
- (v) Subgrade Compaction and Placement of Geotextile;
- (vi) Placement of Fill, Sub-Base and Base Course;
- (vii) Private Approach Restoration;
- (viii) Ditch Grading;
- (ix) Topsoil and Seeding; and
- (x) Construction of Chipseal Surface – Grandmont Boulevard to City Limit.

D20. SUBSTANTIAL PERFORMANCE

- D20.1 The Contractor shall achieve Substantial Performance within one hundred twenty (120) consecutive Working Days of the commencement of the Work as specified in D15.
- 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 one hundred twenty-five (125) consecutive Working Days of the commencement of the Work as specified in D15.

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 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) Substantial Performance - Two thousand six hundred and ninety dollars (\$2,690.00);
- (b) Total Performance - One thousand two hundred and seventy dollars (\$1,270.00).

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) Seeding as specified in CW3520.

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

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 B12.4, 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 B12.4.

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 Substantial 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.

THIRD PARTY AGREEMENTS

D29. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

- D29.1 In the event that funding for the Work of the Contract is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, the following terms and conditions shall apply, as required by the applicable funding agreements.
- D29.2 Further to D29.1, in the event that the obligations in D29 apply, actual costs legitimately incurred by the Contractor as a direct result of these obligations ("Funding Costs") shall be determined by the actual cost to the Contractor and not by the valuation method(s) outlined in C7.4. In all other respects Funding Costs will be processed in accordance with Changes in Work under C7.
- D29.3 For the purposes of D29:
- (a) **"Government of Canada"** includes the authorized officials, auditors, and representatives of the Government of Canada; and
 - (b) **"Government of Manitoba"** includes the authorized officials, auditors, and representatives of the Government of Manitoba.
- D29.4 Modified Insurance Requirements
- D29.4.1 If not already required under the insurance requirements identified in D10, the Contractor will be required to provide general liability insurance in an amount of no less than five million dollars (\$5,000,000) inclusive per occurrence. Such policy will add the City and the Government of Manitoba and its Ministers, officers, employees, and agents shall be added as additional insureds. The Contractor will be required to provide Certificates from his subcontractors with all of the above requirements but may reduce the limit of liability to two million dollars (\$2,000,000) depending on the work being performed.
- D29.4.2 If not already required under the insurance requirements identified in D10, the Contractor will be required to provide builders' risk insurance (including boiler and machinery insurance, as applicable) providing all risks coverage at full replacement cost, or such lower level of insurance that the City may identify on a case-by-case basis, such as an installation floater.

- D29.4.3 The Contractor shall obtain and maintain third party liability insurance with minimum coverage of five million dollars (\$5,000,000.00) per occurrence on all licensed vehicles operated at the Site. In the event that this requirement conflicts with another licensed vehicle insurance requirement in this Contract, then the requirement that provides the higher level of insurance shall apply.
- D29.4.4 Further to D10.3, insurers shall provide satisfactory Certificates of Insurance to the Government of Manitoba prior to commencement of Work as written evidence of the insurance required. The Certificates of Insurance must provide for a minimum of thirty (30) days' prior written notice to the Government of Manitoba in case of insurance cancellation.
- D29.4.5 All policies must be taken out with insurers licensed to carry on business in the Province of Manitoba.
- D29.5 Indemnification By Contractor
- D29.5.1 In addition to the indemnity obligations outlined in C17 of the General Conditions for Construction, the Contractor agrees to indemnify and save harmless the Government of Canada and the Government of Manitoba and each of their respective Ministers, officers, servants, employees, and agents from and against all claims and demands, losses, costs, damages, actions, suit or other proceedings brought or pursued in any manner in respect of any matter caused by the Contractor or arising from this Contract or the Work, or from the goods or services provided or required to be provided by the Contractor, except those resulting from the negligence of any of the Government of Canada's or the Government of Manitoba's Ministers, officers, servants, employees, or agents, as the case may be.
- D29.6 Records Retention and Audits
- D29.6.1 The Contractor shall maintain and preserve accurate and complete records in respect of this Contract and the Work, including all accounting records, financial documents, copies of contracts with other parties and other records relating to this Contract and the Work during the term of the Contract and for at least six (6) years after Total Performance. Those records bearing original signatures or professional seals or stamps must be preserved in paper form; other records may be retained in electronic form.
- D29.6.2 In addition to the record keeping and inspection obligations outlined in C6 of the General Conditions for Construction, the Contractor shall keep available for inspection and audit at all reasonable times while this Contract is in effect and until at least six (6) years after Total Performance, all records, documents, and contracts referred to in D29.6.1 for inspection, copying and audit by the City of Winnipeg, the Government of Manitoba and/or the Government of Canada and their respective representatives and auditors, and to produce them on demand; to provide reasonable facilities for such inspections, copying and audits, to provide copies of and extracts from such records, documents, or contracts upon request by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada and their respective representatives and auditors, and to promptly provide such other information and explanations as may be reasonably requested by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada from time-to-time.
- D29.7 Other Obligations
- D29.7.1 The Contractor consents to the City providing a copy of the Contract to the Government of Manitoba and/or the Government of Canada upon request from either entity.
- D29.7.2 If the Lobbyists Registration Act (Manitoba) applies to the Contractor, the Contractor represents and warrants that it has filed a return and is registered and in full compliance with the obligations of that Act, and covenants that it will continue to comply for the duration of this Contract.
- D29.7.3 The Contractor shall comply with all applicable legislation and standards, whether federal, provincial, or municipal, including (without limitation) labour, environmental, and human rights laws, in the course of providing the Work.

D29.7.4 The Contractor shall properly account for the Work provided under this Contract and payment received in this respect, prepared in accordance with generally accepted accounting principles in effect in Canada, including those principles and standards approved or recommended from time-to-time by the Chartered Professional Accountants of Canada or the Public Sector Accounting Board, as applicable, applied on a consistent basis.

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

TENDER NO. 14-2019

2019 GRANULAR RENEWAL PROGRAM: WAVERLEY STREET – GRANDMONT BOULEVARD TO CITY LIMIT

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: LABOUR AND MATERIAL PAYMENT BOND
(See D11)

KNOW ALL MEN BY THESE PRESENTS THAT

his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Principal"), and

his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), for the use and benefit of claimants as herein below defined, in the amount of

_____ dollars (\$_____)

of lawful money of Canada, for the payment whereof we, the Principal and the Surety jointly and severally bind ourselves firmly by these presents.

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

TENDER NO. 14-2019

2019 GRANULAR RENEWAL PROGRAM: WAVERLEY STREET – GRANDMONT BOULEVARD TO CITY LIMIT

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 promptly make payment to all claimants as hereinafter defined, for all labour, service and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect subject, however, to the following conditions:

- (a) A claimant is defined as one having a direct contract with the Principal for labour, service and material, or any of them, used or reasonably required for use in the performance of the contract, labour, service and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment (but excluding rent of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract;
- (b) The above-named Principal and Surety hereby jointly and severally agree with the Obligee that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work, labour or service was done or performed, or materials were furnished by such claimant, may sue on this bond, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon;
- (c) No suit or action shall be commenced hereunder by any claimant
 - (ii) unless claimant shall have given written notice to the Principal and the Surety above-named, within one hundred and twenty (120) days after such claimant did or performed the last of the work, labour or service, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work, labour or service was done or performed. Such notice shall be served by mailing the same by registered mail to the Principal, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the Province of Manitoba;

- (iii) after the expiration of one (1) year following the date on which Principal ceased work on said Contract; including work performed under the guarantees provided in the Contract;
 - (iv) other than in a court of competent jurisdiction in the Province of Manitoba.
- (d) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.
- (e) The Surety shall not be liable for a greater sum than the specified penalty of this bond.

The Principal and Surety hereby agree that The Guarantors' Liability Act (Manitoba) shall apply to this Bond.

IN TESTIMONY WHEREOF, the Principal has hereunto set its hand affixed its seal, and the Surety has caused these presents to be sealed and with its corporate seal duly attested by the authorized signature of its signing authority this

_____ 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 K: EQUIPMENT
(See D13)

2019 GRANULAR RENEWAL PROGRAM: WAVERLEY STREET – GRANDMONT BOULEVARD TO CITY LIMIT

<p>1. Category/type: Ditch – Clearing and Grubbing, Grading, Topsoil and Seeding</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>2. Category/type: Roadway – Excavation and Reconstruction</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>3. Category/type: Chipseal</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>

FORM K: EQUIPMENT
(See D13)

2019 GRANULAR RENEWAL PROGRAM: WAVERLEY STREET – GRANDMONT BOULEVARD TO
CITY LIMIT

<p>4. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>5. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>6. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>

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 Tender shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6. In every instance where a brand name or design specification is used, the City will also consider approved equals and/or approved alternatives in accordance with B6.
- E1.4 The following are applicable to the Work:

<u>Drawing No.:</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
	14-2019_Drawing_Cover Sheet-R0	A1
P-3506-2019-02	14-2019_Drawing_P-3506-2019_02-R0	A1
P-3506-2019-03	14-2019_Drawing_P-3506-2019_03-R0	A1
P-3506-2019-04	14-2019_Drawing_P-3506-2019_04-R0	A1
P-3506-2019-05	14-2019_Drawing_P-3506-2019_05-R0	A1
P-3506-2019-06	14-2019_Drawing_P-3506-2019_06-R0	A1
P-3506-2019-07	14-2019_Drawing_P-3506-2019_07-R0	A1
P-3506-2019-08	14-2019_Drawing_P-3506-2019_08-R0	A1
P-3506-2019-09	14-2019_Drawing_P-3506-2019_09-R0	A1
P-3506-2019-10	14-2019_Drawing_P-3506-2019_10-R0	A1
P-3506-2019-11	14-2019_Drawing_P-3506-2019_11-R0	A1
P-3506-2019-12	14-2019_Drawing_P-3506-2019_12-R0	A1
P-3506-2019-13	14-2019_Drawing_P-3506-2019_13-R0	A1
P-3506-2019-14	14-2019_Drawing_P-3506-2019_14-R0	A1
P-3506-2019-15	14-2019_Drawing_P-3506-2019_15-R0	A1
P-3506-2019-16	14-2019_Drawing_P-3506-2019_16-R0	A1
P-3506-2019-17	14-2019_Drawing_P-3506-2019_17-R0	A1
P-3506-2019-18	14-2019_Drawing_P-3506-2019_18-R0	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. OFFICE FACILITIES

- E3.1 The Contractor shall supply office facilities meeting the following requirements:
- (a) the field office shall be for the exclusive use of the Contract Administrator;
 - (b) the building shall be conveniently located near the Site;
 - (c) the building shall have a minimum floor area of twenty (20) square metres, a height of 2.4 metres with two (2) windows for cross ventilation and a door entrance with a suitable lock;
 - (d) the building shall be suitable for all weather use. It shall be equipped with an electric heater and air conditioner so that the room temperature can be maintained between either sixteen (16) to eighteen (18) degrees Celsius or twenty-four (24) to (25) degrees Celsius;
 - (e) the building shall be adequately lighted with fluorescent fixtures and have a minimum of three wall outlets;
 - (f) the building shall be furnished with one (1) desk, one (1) drafting table and six (6) chairs;
 - (g) a portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City; and
 - (h) the field office building and the portable toilet shall be cleaned on a weekly basis immediately prior to each site meeting. The Contract Administrator may request additional cleaning when he/she deems it necessary.
- E3.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.
- E3.3 The office facilities will be provided from the date of the commencement of the Work to the date Total Performance is completed.
- E3.4 On a one time basis, where directed by the Contract Administrator, the Contractor shall relocate the office facilities to a location more convenient for the remaining Work.

E4. PROTECTION OF EXISTING TREES

- E4.1 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 two (2) metres of trees;
 - (b) trees identified to be at risk by the Contract Administrator are to be strapped with twenty-five (25) by one hundred (100) by twenty-four hundred (2400) millimetres 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 one and a half (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 drip line 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 drip lines of trees. The drip line 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; and
 - (e) Work on the 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.

- E4.2 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.
- E4.3 No separate measurement or payment will be made for the protection of trees.
- E4.4 Except as required in clause E4.1(c) and E4.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

E5. TRAFFIC CONTROL

- E5.1 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 granular ramps to alleviate vertical roadway obstructions such as driveway and asphalt tie-in 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.
- E5.2 Notwithstanding E5.1, 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.
- E5.2.1 An exception to E5.2 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.
- E5.2.2 Further to E5.2, 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.

E6. TRAFFIC MANAGEMENT

- E6.1 Further to clause 3.7 of CW 1130:
- E6.1.1 The Contractor shall schedule construction activities to meet the following:
- (a) During Stage I – Waverley Street – Grandmont Boulevard to Rue des Trappistes, Waverley Street will be closed to through traffic. Local access traffic shall be

maintained at all times. The Contractor shall sign the street "Road Closed – No Exit" in accordance with the *Manual of Temporary Traffic Control*.

- (b) During Stage II – Waverley Street – Rue des Trappistes to 3900 Waverley Street, the Contractor is to construct and maintain a temporary one (1)-lane road on the east side of Waverley Street to provide access to residences and businesses during construction. The temporary road will operate as a one-way southbound roadway and be limited to local access only with through traffic not permitted. The Contractor shall sign the street with "One Way" and "Do Not Enter" signs in accordance with the *Manual of Temporary Traffic Control*.
- (c) During Stage III – Waverley Street – 3900 Waverley Street to City Limit, the Contractor is to construct and maintain a temporary one (1)-lane road on the east side of Waverley Street to provide access to residences and businesses during construction. The temporary road will operate as a one-way southbound roadway and be limited to local access only with through traffic not permitted. The Contractor shall sign the street with "One Way" and "Do Not Enter" signs in accordance with the *Manual of Temporary Traffic Control*.
- (d) Private approach access shall be maintained at all times.
- (e) Roadway surface shall be maintained during construction to allow for local access.

E6.1.2 Should the Contractor be unable to maintain an existing 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 twenty-four (24) hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.

E6.1.3 Flag persons may be necessary to maintain the flow of traffic during certain work.

E6.1.4 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

E6.1.5 No separate measurement and payment will be made for traffic management.

E7. REFUSE AND RECYCLING COLLECTION

E7.1 While access to refuse and/or recycling collection vehicles is restricted, on collection day(s) the Contractor shall move all of the affected property owners refuse and/or recycling materials to a nearby common area, prior to an established time, in accordance with E7.2 to permit the normal collection vehicles to collect the materials. Immediately following recycling collection the Contractor shall return recycling receptacles to the addresses marked on the receptacles.

E7.2 Collection Schedule:

Waverley Street from Grandmont Boulevard to the City Limit

Collection Day(s): **Wednesday B**

Collection Time: **07:00 – 18:00**

E7.3 No measurement or payment will be made for the Work associated with this Specification.

E8. WATER OBTAINED FROM THE CITY

E8.1 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.

E9. SURFACE RESTORATIONS

E9.1 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.

E10. INFRASTRUCTURE SIGNS

E10.1 The Contractor shall obtain infrastructure signs from the Traffic Services Sign Shop at 421 Osborne Street. The Contractor shall mount each sign securely to a rigid backing material approved by the Contract Administrator. The Contractor shall fasten each sign to a suitable support and erect and maintain one (1) sign at each street as directed by the Contract Administrator. When the Contract Administrator considers the Work on the street complete, the Contractor shall remove and dispose of the signs and supports. No measurement for payment will be made for performing all operations herein described and all other items incidental to the work described.

E11. MACHINE CONTROL AND LAYOUT OF WORK

E11.1 Description

E11.1.1 This Specification covers the use of Global Positions Systems (GPS) machine controls.

E11.1.2 The Contractor shall utilize grading equipment equipped with GPS machine controls to carry out the excavation, embankment and construction of final surface grades for the Work as indicated on the plans.

E11.1.3 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.

E11.2 Materials and Equipment

E11.2.1 The Contractor shall provide all required equipment to perform GPS machine control grading, including equipment required to verify the Work, and competent personnel to perform and generate end results as indicated on the plans.

E11.2.2 The Contractor may utilize any type of reliable GPS machine control equipment, technologies and software systems that result in achieving the grading requirements for the Work as indicated in the contract documents. The Contractor shall be responsible to manage, modify, apply and convert all data provided by the Contract Administrator into the format required by their machine control systems for all aspects of the Work. The Contract Administrator shall only provide the data outlined in E11.3 and no additional data will be provided.

E11.3 Construction Methods

E11.3.1 The Contract Administrator shall provide the basic centrelines and an initial vertical and horizontal benchmark on the Site as well as specific coordinate system information as indicated on the plans. If the Contractor requires additional control points they shall be established by the Contractor and traversed from control points, provided by the Contract Administrator, and verified to be accurate by conventional surveying techniques. The correctness of all addition control points established by the Contractor and correctness of all subsequent work is the sole responsibility of the Contractor.

E11.3.2 All electronic data and information provided to the Contractor shall not be considered a representation of actual conditions to be found in the field. The information provided does not exempt the Contractor from the responsibility of investigating and verifying conditions to be encountered. Any assumption the Contractor makes from this electronic information shall be at their own risk. The Contractor assumes sole responsibility for all cost, liability, accuracy and delays of any digital model they develop.

- E11.3.3 The Contractor shall be responsible for the true and proper layout of the Work and for the correctness of the location, levels, dimensions, and alignment of all aspects of the Work. The Contractor shall provide the Contract Administrator with cross-sections, layout data or other proof, acceptable to the Contract Administrator, verifying the correctness of all layouts prior to the commencement of the ensuing Work, at the Contractor's expense.
- E11.3.4 The Contract Administrator shall be notified at least two (2) Business Days prior to any Work being commenced in order to have the option to check and review all elevations and layouts at their discretion.
- E11.3.5 Should any error appear or arise in location, levels, dimensions, and/or alignments during the course of the Work, the Contractor shall promptly rectify such errors to the satisfaction of the Contract Administrator, at their own expense.
- E11.3.6 The Contractor shall carefully protect and preserve all benchmarks, check stakes, and other items of the basic data supplied by the Contract Administrator. Any such benchmarks or stakes removed or destroyed by the Contractor, without the consent of the Contract Administrator, shall be replaced by the Contract Administrator at the expense of the Contractor. The Contract Administrator shall be notified at least two (2) Business Days prior to the required need of any such destroyed or removed benchmarks or stakes to be re-established or replaced by the Contract Administrator, at the Contractor's expense.
- E11.4 Measurement and Payment
- E11.4.1 All costs in connection with machine control and the layout of work are incidental to the Contract.

E12. STRIPPING AND STOCKPILING TOPSOIL

- E12.1 Description
- E12.1.1 Further to the latest version of the City of Winnipeg Standard Construction Specification Stripping and Stockpiling Topsoil CW 3110 and Earthworks and Grading CW 3170, this Specification shall cover the removal of organic materials necessary for the preparation and construction of the proposed roadway embankment.
- E12.1.2 Roadway embankment construction shall be understood to mean the placing of suitable earth fill to obtain the required cross-sections shown on the drawings.
- E12.2 Referenced the latest version of the City of Winnipeg Standard Construction Specifications
- (a) CW 3110 – Stripping and Stockpiling Topsoil.
 - (b) CW 3170 – Earthworks and Grading.
- E12.3 Construction Methods
- E12.3.1 Excavation
- (a) All organic material shall be stored on the Site as directed by the Contract Administrator.
 - (b) The organic material shall be excavated until acceptable in situ material for the embankment construction is exposed.
- E12.3.2 Disposal
- (a) The Contractor shall locate a legal stockpile site for the suitable organic material for the intended purpose of reusable fill material for embankment and ditch construction.
 - (b) Any material dropped or spilled on any streets during the hauling operation shall be promptly cleaned up by and at the expense of the Contractor, to the satisfaction of the Contract Administrator.

E12.3.3 Preparation of Existing Ground Surface

- (a) Once all organic material has been stripped, as directed by the Contract Administrator, the ground surface shall be prepared for earthworks and grading as per CW 3170.

E12.4 Measurement

- E12.4.1 Stripping and stockpiling topsoil will be measured on a square metre basis. The area to be paid for shall be the total number of square metres that are removed in accordance with this Specification and as shown on the Drawings acceptable to the Contract Administrator, as computed from measurements made by the Contract Administrator. No payment will be made for material removed outside of the limits of excavation.

E12.5 Payment

- E12.5.1 Stripping and stockpiling topsoil will be paid for at the Contract Unit Price per square metre for "Stripping and Stockpiling Topsoil", measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the work included in this Specification.

E13. BENCH CUT STEPPED EXCAVATION

E13.1 Description

- E13.1.1 Further to the latest version of the City of Winnipeg Standard Construction Specification for Sub-Grade, Sub-Base and Base Course Construction CW 3110, this Specification covers bench cut stepped excavation.

E13.2 Referenced the latest version of the City of Winnipeg Standard Construction Specifications

- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.
- (b) CW 3170 – Earthworks and Grading.

E13.3 Construction Methods

E13.3.1 Bench Cut Stepped Excavation

- (a) Bench cut stepped excavation to be completed as shown on drawings and/or as directed by Contract Administrator.
- (b) Bench cuts shall consist of excavating horizontal cuts into the slopes of the existing roadway embankment prior to the placement of widening material thereon. Bench cuts shall be made at vertical intervals of half (0.5) metre, with the base of the initial bench cut being approximately half (0.5) metres above the toe of the existing slope. The base of each bench cut shall extend into the existing slope a minimum of two (2) metres. Suitable material resulting from the bench cut shall be incorporated and compacted into the new embankment. Unsuitable material shall be disposed of as directed by the Contract Administrator.

E13.3.2 Placing suitable site material in bench cut areas

- (a) Compact the sub-grade in accordance with CW 3110 after the bottom of the excavation has been approved by the Contract Administrator.
- (b) Suitable site material shall be placed and compacted in layers as per CW3170 to the satisfaction of the Contract Administrator.
- (c) The subgrade and ditch surfaces shall be prepared for earthworks and grading as per CW 3110.

E13.4 Measurement and Payment

E13.5 Bench cut stepped excavation will be measured on a linear metre basis along the centerline of the proposed roadway. One (1) bench cut, or multiple bench cuts on one (1) slope will be considered as a single bench cut for purposes of measurement.

E13.6 Bench cut stepped excavation shall be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre for "Bench Cut Stepped Excavation", which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification and accepted by the Contract Administrator.

E14. EXCAVATION AND FILL MATERIAL

E14.1 Description

E14.1.1 Further to the latest version of the City of Winnipeg Standard Construction Specification for Sub-Grade, Sub-Base and Base Course Construction CW 3110 and for Earthwork and Grading CW 3170, this Specification shall cover the removal, relocation and provision of excavation and fill material within the Site or as directed by the Contract Administrator in accordance with this specification and as shown on the drawings.

E14.2 Referenced the latest version of the City of Winnipeg Standard Construction Specifications

- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.
- (b) CW 3170 – Earthwork and Grading.

E14.3 Materials

E14.3.1 As per CW 3170.

E14.4 Construction Methods

E14.4.1 Excavation

- (a) As per CW 3110.

E14.4.2 Ditch Excavation

- (a) As per CW 3110.

E14.4.3 Supply of Fill Material

- (a) As per CW 3170.
- (b) Placing Suitable Site Material for Fill shall be prioritized over Imported Material. Imported Material shall only be used if the Site material is determined to be unsuitable by the Contract Administrator. No Imported Material shall be used without approval by the Contract Administrator.
- (c) Suitability of Site fill material will be determined on-Site by the Contract Administrator. Fill material will be obtained from that excavated on-Site as part of "Stripping and stockpiling topsoil", suitable "Ditch Excavation" and suitable "Roadway Excavation". Remaining excess excavation material shall be hauled off-site and disposed of by the Contractor.
- (d) No additional payment will be made for double handling of material, or hauling of material within the project limit.

E14.5 Measurement and Payment

E14.5.1 Excavation

- (a) As per CW 3110

E15. INSTALLATION OF STEP BEVELED CULVERT ENDS

E15.1 Description

E15.1.1 Further to the latest version of the City of Winnipeg Standard Construction Specification for Installation of Culverts CW 3610, this specification shall cover the beveled ends of culverts as indicated on the plans.

E15.1.2 Step beveled ends retain or closely match the slope of the embankment at the inflow and outflow of the culvert. They are designed to improve hydraulic efficiency, erosion control, and minimize impact dangers with errant vehicles.

E15.2 Construction Methods

E15.2.1 Contractor shall supply culverts with pre-cut ratio of four to one (4:1) sloped ends. Contractor shall provide shop drawings for each culvert diameter size required for the project as indicated on the plans. All proposed shop drawings are subject to review and approval by the Contract Administrator at the Contractor's expense.

E15.3 Measurement and Payment

E15.3.1 Measurement and Payment as per CW 3610.

E15.3.2 Measurement of step beveled culverts will be taken from the longest section of the culvert.

E16. INSTALLATION OF GRATED CULVERT END ASSEMBLY

E16.1 Description

E16.1.1 Further to the latest version of the City of Winnipeg Standard Construction Specification for Installation of Culverts CW 3610, this specification shall cover grated culvert end assemblies as indicated on the plans.

E16.1.2 Grated end assemblies shall be installed to securely cover the culvert ends on all culverts on the project with a diameter of one thousand (1000) millimetres or greater

E16.2 Reference the latest version of the City of Winnipeg Standard Construction Specifications

(a) CW 3610 - Installation of Culverts.

E16.3 Materials and Equipment

E16.3.1 Contractor shall supply and install grated culvert end assemblies on each end of all culverts with a diameter of one thousand (1,000) millimetres or greater. Contractor shall provide shop drawings for each grated culvert end assembly diameter size required for the project as indicated on the plans. All proposed shop drawings are subject to review and approval by the Contract Administrator at the Contractor's expense.

E16.3.2 Grated culvert end assemblies shall be in accordance with the design requirements listed in:

(a) Transportation Association of Canada *Geometric Design Guide for Canadian Roads*, 2017 ed., Section 7.4.2.3 and Section 7.4.2.4.

E16.3.3 Additional design guidance is provided in: the National Corrugated Steel Pipe Association:

(a) National Corrugated Steel pipe Association *Corrugated Steel Pipe Design Manual*, 1st ed., pp. 114-126.

E16.4 Measurement and Payment

E16.4.1 Supply and installation of grated culvert end assemblies shall be paid at the Contract Unit Price for "Grated Culvert End Assembly" for each size of grated culvert end assembly required, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this specification to the satisfaction of the Contract Administrator.

E17. PRIVATE APPROACH APPURTENANCES

E17.1 Description

E17.1.1 This specification shall cover the removal/reinstallation and or supplied/installation of various private approach gates, concrete curbing, paving stones and culvert headwalls and or other items to be removed/reinstallation and or supplied/installation while restoring private approaches.

E17.2 Construction Methods

E17.2.1 The Contractor is responsible to remove, safely store and replace all private approach appurtenances to the satisfaction of the Contract Administrator once the project is complete.

E17.2.2 Materials shall be removed/reinstalled or supplied/installed as directed by the Contract Administrator.

E17.2.3 Supplied new materials shall be determined and approved by the Contract Administrator.

E17.3 Measurement and Payment

E17.3.1 No additional payment will be made to the Contractor as it relates to private approach appurtenances as described above, as this will be considered incidental to the Contract.

E18. CHIPSEAL SURFACE TREATMENT (CST)

E18.1 Description

E18.1.1 This Specification covers the supply and placement of chipseal surface treatment. The CST is the application of a thin surface treatment to a gravel roadway, on which base preparation and surface shaping has been completed. The CST consists of small graded aggregate placed on an asphalt emulsion, which has been sprayed on the road surface. The treatment provides an all-weather road surface that is sealed/waterproofed, is dust free and has good skid resistance. Although the treatment is expected to last four (4) to six (6) years, the length of effectiveness is dependent on the subgrade/base strength, weather conditions, and traffic volume and type.

E18.2 Materials

E18.2.1 Subgrade/surface preparation – limestone base course material that meets the requirements of CW 3110-R19.

E18.2.2 CST aggregate material – Chips

- (a) Aggregate material will be approved by the Contract Administrator.
- (b) Aggregate material shall be processed through a wash to remove fines and dust. The cost of the washing operation shall be included in the unit price of the aggregate material. CST aggregate material shall conform to the following grading requirements (dry weight passing each sieve):

Metric Sieve Size	CST Aggregate Material
25 000	
20 000	
16 000	
12 500	
10 000	100%
5000	30-85%

Metric Sieve Size	CST Aggregate Material
2500	0-20%
1250	0-10%
630	
80	0-<1%

- (c) Aggregate material when subjected to the abrasion test will have a loss of not more than thirty-five percent (35%) when tested in accordance with the grading B of ASTM C131, test for resistance to degradation of small size course aggregate by abrasion and impact in the Los Angeles Machine. As well, the aggregate retained on the No.5000 sieve will contain not less than thirty-five percent (35%) crushed aggregate as determined by actual particle count. Crushed aggregate will be considered as that aggregate having at least one fracture face.
- (d) The Contractor or Subcontractor shall demonstrate the ability to manufacture aggregate chips and shall have produced material of similar gradation within the last three (3) years. Upon a request from the Contract Administrator, the Bidder shall have three (3) Business Days to provide proof of ability and experience as per B12.3.

E18.2.3

Oil – HF 150S emulsion

- (a) HF 150S emulsion shall be of the type and grade specified and shall be supplied from a source approved by the Contract Administrator. Under no circumstances shall the source of supply or product be changed without prior written approval from the Contract Administrator.
- (b) References
 - (i) ASTM D140/D 140M- 09 Standard Practice for Sampling Bituminous Materials.
 - (ii) ASTM D 2939-03 Test Methods for Emulsified Bitumens Used.
 - (iii) CAN/CGSB-16.5-M84.
- (c) The emulsion shall consist of suitable paving asphalts dispersed in water and shall meet the requirements specified in the tables below. The addition of polymers or other additives after the manufacture of emulsified asphalt shall not be permitted.
- (d) Temperature for Spraying HF-150S shall be between sixty (60) degrees Celsius and eighty (80) degrees Celsius.

High Float Emulsified Asphalts

Requirements	Type	High Float														Test Method
	Grade	HFRS-2		HFMS-2(ON)		HF-100S		HF-150S		HF-250S		HF-150M		HF-1000M		
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
Tests on Emulsion																
Viscosity, Saybolt Furol Seconds at 50 °C		75	400	50	300	35	150	35	150	35	150	50	--	50	--	LS-219
Residue by Distillation, % by Mass		63	--	62	--	62	--	62	--	62	--	62	--	65	--	LS-226 LS-216
Demulsibility, % 35 ml 0.02 N CaCl ₂ 50 ml 0.10 N CaCl ₂ 50 ml 0.02 N CaCl ₂		60	--	--	--	--	--	75	--	75	--	--	--	--	--	LS-220
Oil Portion of Distillate, % by Volume/Mass		--	--	0.5	3	0.5	4	0.5	4	1	6	1	6	1	7	LS-217
Sieve Text, % by Mass		--	0.10	--	0.10	--	0.10	--	0.10	--	0.10	--	0.10	--	0.10	LS-223
Particle Charge		--		Negative		--		--		--		--		--		LS-218
Coating Ability and Water Resistance, %		--		90	--	90	--	90	--	90	--	Note 1		Note 1		LS-224
Storage Stability Test, 24 h, % by Mass		--	1.0	--	1.5	--	1.5	--	1.5	--	1.5	--	1.5	--	1.5	ASTM D 6930
Tests on Residue																
Penetration (at 25 °C, 100 g, 5 s), 0.1 mm		100	200	90	200	100	175	150	250	250	500	150	--	--	--	LS-226 LS-200
Ductility (at 25 °C, 5 cm/min), cm		40	--	--	--	--	--	--	--	--	--	--	--	--	--	LS-205
Solubility in Trichloroethylene, % by Mass		97.5	--	97.5	--	97.5	--	97.5	--	97.5	--	97.5	--	97.5	--	LS-204
Float Test at 60 °C, s		1200	--	1200	--	1200	--	1200	--	1200	--	1200	--	1200	--	LS-226 LS-207
Apparent Viscosity (at 60 °C), Pa·s		--	--	--	--	Requirements outlined on Figure 1						10	80 (Note 2)	2	8 (Note 2)	LS-226
Notes:																
<ol style="list-style-type: none"> Follow LS-224, except that the mixture of aggregate and emulsified asphalt shall be mixed vigorously for 5 min. then allowed to stand for 3 hours after which the mixture shall be capable of being mixed an additional 1 min. The mixture shall then be rinsed twice with approximately its own volume of tap water, without showing appreciable loss of bituminous film. After the second mixing the aggregate shall be at least 90% coated. Viscosity limits (at 60 °C at 1.0 s⁻¹) shown for mixing grades are tentative. Supplier to advise purchaser before delivery, if limits cannot be met. 																

Minimum Apparent Viscosity, HF-150S

Penetration at 25 °C 0.1 mm	Minimum Apparent Viscosity at 60 °C, Pa·s at 0.5 s ⁻¹	Penetration at 25 °C 0.1 mm	Minimum Apparent Viscosity at 60 °C, Pa·s at 0.5 s ⁻¹	Penetration at 25 °C 0.1 mm	Minimum Apparent Viscosity at 60 °C, Pa·s at 0.5 s ⁻¹
125	164	155	136	200 - 201	109
126	163	156 - 157	135	202 - 203	108
127	162	158	134	204 - 205	107
128	161	159	133	206 - 208	106
129	160	160 - 161	132	209 - 210	105
130	158	162	131	211 - 212	104
131	157	163 - 164	130	213 - 215	103
132	156	165	129	216 - 217	102
133	155	166 - 167	128	218 - 220	101
134	154	168	127	221 - 222	100
135	153	169 - 170	126	223 - 225	99
136	152	171	125	226 - 227	98
137	151	172 - 173	124	228 - 230	97
138 - 139	150	174 - 175	123	231 - 233	96
140	149	176	122	234 - 236	95
141	148	177 - 178	121	237 - 239	94
142	147	179 - 180	120	240 - 242	93
143	146	181	119	243 - 245	92
144	145	182 - 183	118	246 - 248	91
145	144	184 - 185	117	249 - 251	90
146	143	186 - 187	116	252 - 254	89
147 - 148	142	188 - 189	115	255 - 258	88
149	141	190 - 191	114	259 - 261	87
150	140	192 - 193	113	262 - 265	86
151	139	194 - 195	112	266 - 268	85
152 - 153	138	196 - 197	111	269 - 272	84
154	137	198 - 199	110	273 - 275	83

Notes:

A. This table is based on the apparent viscosity of 140 Pa·s at 0.5 s⁻¹ at 150 penetration, and 90 Pa·s at 0.5 s⁻¹ at 250 penetration.

Equipment

E18.2.4 The contractor shall ensure as a minimum, the following equipment is on site:

- (a) chipseal surface treatment oil distributor;
- (b) chipseal surface treatment aggregate material spreader;
- (c) steel drum roller – vibratory;
- (d) rubber tired wobbly roller – self-propelled;
- (e) loader; and
- (f) sweeper.

E18.2.5 The chipseal surface treatment oil distributor shall be equipped with:

- (a) A heating unit capable of maintaining the asphalt product in the tank at the required temperature;
- (b) A thermometer so placed as to accurately measure the temperature of the asphalt product in the tank;
- (c) A spray bar that can be adjusted in increments of point six (0.6) metres and capable of being raised or lowered;

- (d) Spray nozzles, with quick-acting positive shutoff, of a design which will ensure a uniform fan-shaped spray. The coverage produced from the application of asphalt product where the product from each bar nozzle overlaps the product application from the adjacent nozzle shall be at least one half (0.5);
- (e) A hose and nozzle attachment to be used for spraying, by hand, areas inaccessible to the distributor spray bar; and
- (f) A gauge to indicate volume of product in the distributor.

E18.3 Construction Methods

E18.3.1 CST application to be applied in weather conditions subject to the approval of the Contract Administrator.

E18.3.2 Surface Preparation

- (a) Ensure base course material is properly compacted and shaped and bladed to the satisfaction of the Contract Administrator. Final surface shall be crowned to provide proper drainage, shall be free of potholes and washboard and tight. The base course shall be well mixed with little segregation of coarse materials.
- (b) The CST shall not be applied when the roadway surface is moist, or when the weather is or may be detrimental to the CST application. Detrimental weather is defined as rain showers, cool temperatures, moist roadways, threat of rain showers, or other environmental factors which could affect the performance of the CST construction. No CST shall be applied if either the roadway surface or air temperature is below five (5) degrees Celsius and falling, but may be applied when both roadway surface and air temperatures are above five (5) degrees Celsius and rising.

E18.3.3 Chipseal Surface Treatment

- (a) Emulsion shall be applied at a temperature as specified in the manufacturer's requirements and at a rate of 1.35 litres per square metre. Emulsion shall not be sprayed wider than the width of which the aggregate will be placed in a single pass. Spraying of the emulsion shall not precede the distribution of chipseal surface treatment material by more than seven hundred and fifty (750) metres, and shall be applied on a clean dry surface on a day when the atmospheric temperature is not less than five (5) degrees Celsius.
- (b) Spread chipseal surface treatment material with a chip spreader at a uniform thickness immediately on the freshly placed oil. Aggregate shall be applied evenly to cover the emulsion to the approval of the Contract Administrator.
- (c) The Contractor shall roll the entire surface with a steel drum roller to embed the chips.
- (d) Finish rolling shall take place with rubber tired wobbly rollers to the satisfaction of the Contract Administrator.
- (e) Once the oil has cured, remove excess loose chips with sweeper as directed by the Contract Administrator. The minimum time between the final rolling and the sweeping of the road surface shall be no less than four (4) hours and may be as long as eight (8) hours. The decision to commence sweeping will be weather related and will be at the discretion of the Contract Administrator.
- (f) Two (2) lifts of chipseal surface treatment shall be placed, or as directed by the Contract Administrator.

E18.4 Measurement and Payment

E18.4.1 The supplying, placing, rolling, and finishing of the chipseal surface treatment will be measured on an area basis and paid for at the Contact Unit Price per square metre for "Construction of Chipseal Surface Treatment (CST) Road". The area to be paid for will be the total number of square metres of chipseal surface treatment placed in accordance with this Specification, accepted and measured by the Contract Administrator.

E18.4.2 CST application will be paid for at the Contract Unit Price per metre for two (2) CST applications, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work in this Specification.

E18.4.3 No measurement and payment will be made for material rejected by the Contract Administrator.

E19. SALT TOLERANT GRASS SEEDING

E19.1 Description

E19.1.1 Further to CW 3520 and CW3540, this specification shall cover sub-grade preparation and the supply and placement of Salt Tolerant Grass Seed.

E19.2 Materials

E19.2.1 Salt Tolerant Grass Seed

E19.2.2 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.

E19.3 Equipment

E19.3.1 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.

E19.4 Construction Methods

E19.4.1 Preparation of Existing Grade

- (a) Prior to placing topsoil, in areas to be seeded greater in width than six hundred (600) millimetres, prepare the existing sub-grade by scarifying to a minimum depth of seventy-five (75) millimetres and to a maximum depth of one hundred (100) millimetres to the satisfaction of the Contract Administrator.
- (b) 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).

E19.4.2 Salt Tolerant Grass Seeding

- (a) Salt Tolerant Grass Seed shall be sown at a rate of 2.2 kilograms per one hundred (100) square metres.

E19.5 Measurement and Payment

E19.5.1 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; and
- (b) remaining thirty five (35%) percent of quantity following termination of the Maintenance Period.

E20. TEMPORARY SUPPORT OF EXISTING HYDRO POLES

E20.1 Description

- E20.1.1 This Specification shall cover the requirements for excavation and backfilling operations in proximity to existing hydro poles.
- E20.1.2 Temporary support will be required if the following requirements are not achieved:
- (a) For excavation near poles, the minimum amount of undisturbed earth to be left around all poles shall be one (1) metre. The maximum slope angle of undisturbed earth shall be two to one (2:1) ratio until the desired depth is reached. The minimum separation for excavations deeper than half (0.5) metre shall be one and a half (1.5) metres. Excavations to be backfilled and tamped to maintain slope. See Appendix 'B' for additional information on Manitoba Hydro Pole Excavation Standards.
- E20.1.3 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of the Work as hereinafter specified. All materials supplied under this Specification shall be subject to inspection and acceptance by the Contract Administrator.

E20.2 Equipment

- E20.2.1 The Contractor shall supply a five (5) ton picker truck, or equivalent as approved by the Contract Administrator or Manitoba Hydro, for the purposes of supporting hydro poles while excavation and backfilling operations are performed in the area immediately adjacent to the poles.

E20.3 Construction Methods

- E20.3.1 The Contractor shall follow the directives of a Manitoba Hydro representative for all operations in regards to supporting hydro poles and performing excavation and backfilling operations immediately adjacent to the poles.

E20.4 Measurement and Payment

- E20.4.1 Temporary Support of Existing Hydro Poles will be measured on a time basis and paid for at the Contract Unit Price per hour for "Temporary Support of Existing Hydro Poles. The number of hours to be paid for will be the total number of hours required to support hydro poles during excavation and backfilling operations, as measured and accepted by the Contract Administrator.

E21. TEMPORARY ACCESS ROAD

E21.1 Description

- E21.1.1 This Specification shall cover the requirements for the construction of a temporary road as on the east side of Waverley Street to provide local access to residents and businesses during construction for Stage II and Stage III of the Work as indicated in the Contract documents.

E21.2 Materials

- E21.2.1 The Contractor shall be responsible for the supply, safe storage and handling of all materials associated with this Work.

E21.3 Construction Methods

- E21.3.1 Temporary access roads, as described above, shall be constructed to support all anticipated loads as required by the Specifications and Drawings.
- E21.3.2 The Contractor shall construct the temporary access road in accordance with the drawings. Variations in the construction will not be permitted, unless such variations are accepted by

the Contract Administrator and the Contract Administrator is provided with revised shop drawings at the Contractor's expense.

- E21.3.3 Contractor shall use existing roadway excavation material and granular surface material to construct temporary access road surface. Drainage in the east ditch shall be maintained throughout construction until removal of the temporary access road.
- E21.3.4 Contractor shall maintain, compact and grade the temporary access road as required during construction to maintain one-way single-lane southbound operations.
- E21.3.5 Care shall be taken not to damage any portion of the permanent Work. Damage to the permanent Work during installation, maintenance or removal of the temporary works shall be repaired by the Contractor at their own expense to the satisfaction of the Contract Administrator.
- E21.3.6 The Contractor shall not disturb the embankment slopes beyond the limits shown on the Drawings unless authorized by the Contract Administrator. If permission is granted, the Contractor shall be responsible for restoring the embankment and slopes to the profile and compaction shown on the drawings or as directed by the Contract Administrator at the Contractor's expense.
- E21.4 Measurement and Payment
- E21.4.1 Design, supply, fabrication, installation, maintenance and removal of temporary access roads will not be measured and will be paid for on a Lump Sum Basis for "Construction of Temporary Detour Road", and no separate measurement will be made for this work.

E22. HYDRO EXCAVATION

E22.1 Description

- E22.1.1 This specification covers the removal of earthen material immediately adjacent to underground utilities infrastructure by means of high pressure water spray, and the recovery of evacuated material by vacuum type means or equivalent method as approved by the Contract Administrator.
- E22.1.2 Hydro excavation shall include but not be limited to the excavation of TransCanada Pipeline test stations cables as indicated on the plans. Cables that run from each test station to the TCP gas line shall be exposed through hydro excavation to ensure that ditching operations do not impact the cables.

E22.2 Equipment

- E22.2.1 Hydro Excavation unit shall be capable of maintaining a minimum working pressure of 10,000 psi, at a rate of 10 to 12 gallons per minute. Unit should be adjustable, so as to provide adequate pressure to remove earthen material identified by the Contract Administrator.
- E22.2.2 Spray head shall be equipped with a rotating nozzle, in order to provide a wider path of cut.

E22.3 Construction Methods

E22.3.1 Hydro-Removal of Earthen Material

- (a) Earthen material adjacent to utility entity shall be sprayed with high pressure water so as to remove all such material identified by the Contractor Administrator.

E22.3.2 Recovery of Excavated Material

- (a) The recovery of excavated material shall be done using a vacuum type method, or other type of method approved by the Contract Administrator.
- (b) The recovery of material shall follow immediately behind the excavation, to avoid excavated areas from filling with excavated material.
- (c) The use of mechanical sweepers will not be allowed.

(d) Dispose of material in accordance with Section 3.4 of CW 1130.

E22.3.3 Backfill of Hydro Excavated Hole

(a) The Contractor shall be responsible for the backfill of the hydro excavated hole upon the completion of the Work described herein, to the approval of the Contract Administrator.

E22.4 Measurement and Payment

E22.4.1 Hydro Excavation of earthen material will be measured on an hourly basis and paid for at the Contract Unit Price per hour for "Hydro Excavation". The hours to be paid for will be the total number of hours of Hydro Excavation in accordance with this Specification, accepted and measured by the Contract Administrator.

E23. TREE REMOVALS

E23.1 Description

E23.1.1 This specification shall amend the City of Winnipeg Standard Construction specification CW 3010 "Clearing and Grubbing", and shall cover the removal of trees as specified on the Contract Drawings. The City of Winnipeg, Forestry Branch must be contacted prior to removing any trees.

E23.2 Construction Methods

E23.2.1 Remove only trees marked and confirmed for removal in the field by the Contract Administrator.

E23.2.2 Remove trees in accordance with CW 3010.

E23.2.3 The Contractor shall arrange for any Elmwood to be disposed of by the City of Winnipeg.

E23.3 Measurement and Payment

E23.3.1 Removal of trees will be measured on a unit basis and paid for at the Contract Unit Price per unit item of "Tree Removal". The number to be paid for will be the total number of trees removed in accordance with this specification and accepted by the Contract Administrator.

E24. DUST CONTROL ABATEMENT

E24.1 Description

E24.1.1 Further to the City of Winnipeg Gravel Roads Maintenance Manual, this specification shall cover the approval, supply and application of chemicals used for dust control and stabilization on gravel roads.

E24.1.2 This Specification covers applying dust control surface treatment to the road within Stage 1 and Stage 2 before chipseal surface treatment is applied in Stage 3 for the entirety of the project.

E24.2 Referenced to the latest version of Manitoba Infrastructure Standard Construction Specifications

(a) City of Winnipeg Gravel Roads Maintenance Manual

E24.3 Materials

The dust suppressants materials shall be one of the following:

(a) Calcium Chloride (CaCl_2) in either a liquid or a solid state. The product shall contain 35 percent or more calcium chloride by weight for the liquid state or 77 percent or more calcium chloride by weight for the solid state.

(b) Magnesium Chloride (MgCl_2) in a liquid state. The product shall contain 30 percent or more magnesium chloride by weight.

- (c) Synthetic Polymer Emulsions with a minimum residue active solids content of 38 percent. The product shall have a specific gravity between 1.0 to 1.15 and a maximum absolute viscosity at 25 °C of 1000 cP.

E24.4 Application Rates

The dust suppressants materials shall be applied at the following rates:

Dust suppressant	Application rate (liter/m ²)
Liquid Calcium Chloride	1.0 – 1.1
Solid Calcium Chloride	One tonne shall be uniformly distributed over an area of 1480 to 1630 m ²
Liquid Magnesium Chloride	1.0 – 1.1
Lignosulphonate	3.0 – 4.2
Synthetic Polymer Emulsions	2.0 – 2.25

The dust suppressants materials shall be applied twice per season at a specified rate.

E24.5 Equipment

- E24.5.1 Motor grader, preferably equipped with “stinger” blades.
- E24.5.2 Wobbly rollers and tow tractor
- E24.5.3 Water truck, as required.
- E24.5.4 Dust Suppressant Supplier
- Apply dust suppressants that are miscible in water with distributor with a minimum capacity of 15,000 litres, equipped with a pressurized spray bar with a positive and instant on/off valve capable of spraying 3.0 metres in width at a constant and uniform pressure through spray nozzles set to provide a minimum of 50% overlap coverage of the adjacent spray nozzle.
 - Apply dust suppressant flakes to the surface using a spreader or spinner disk.
 - Distributor unit to be equipped with an electronic spray monitor and automatic rate controller system, which is visible and accessible to operator while driving and which is calibrated for the type of material being applied.

E24.6 Construction Methods

E24.6.1 Procedure

- Ensure roadway surface is shaped, graded, and compacted as per roadway construction specifications prior to application of the dust abatement treatment.
- Be careful not to float too much clay to the surface by over watering and over rolling.
- Order dust control product a minimum of 24 hours, preferably 48 hours, prior the date of application.
- Just prior to application of dust control product, lightly roughen surface with a grader.
- Ensure material is in a moist state and if too dry, lightly water.
- Maintain traffic control.
- Apply dust control product uniformly at the specified rate.
- Allow 30 minutes for penetration into the surface.

- (i) Roll the entire surface with wobbly rollers only once in order to seal the surface. Additional rolling has no benefit and may result in bringing too many fines to the surface

E24.7 Measurement and Payment

- E24.7.1 Supply, placement and maintenance of Dust Control Abatement will be paid for at the Contract Unit Price per square metre for "Dust Control Abatement", 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.