



**THE CITY OF WINNIPEG**

# **TENDER**

**TENDER NO. 191-2021**

**WOLSELEY WALK BIKE PROJECT – 2021 CONSTRUCTION**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 WOLSELEY WALK BIKE PROJECT – 2021 CONSTRUCTION

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, April 16, 2021.

B2.2 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 D4.1.

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.

B3.6 Any enquiries concerning submitting through MERX should be addressed to:  
MERX Customer Support  
Phone: 1-800-964-6379  
Email: merx@merx.com

### **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 MERX website at [www.merx.com](http://www.merx.com).
- B5.4 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the MERX 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/Proposal. 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 D4.

## **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;
  - (c) Form G1: Bid Bond and Agreement to Bond.
- B7.2 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.
- B7.3 The Bid shall be submitted electronically through MERX at [www.merx.com](http://www.merx.com).
- B7.3.1 Bids will **only** be accepted electronically through MERX.
- B7.4 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).

## **B8. BID**

- B8.1 The Bidder shall complete Form A: Bid/Proposal, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid/Proposal shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid/Proposal, 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/Proposal 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;

- (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/Proposal should be entered below such signatures.

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

## **B9. PRICES**

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

B9.1.1 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 D31. Any such costs shall be determined in accordance with D31.

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 The Bidder shall enter the Total Bid Price from Form B: Prices into the Total Bid Price field in MERX.

B9.5.1 Bidders are advised that the calculation indicated in B17.4 will prevail over the Total Bid Price entered in MERX.

## **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 Further to C3.2, 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 <https://www.winnipeg.ca/matmgt/Templates/files/debar.pdf>
- 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; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba).
- 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 include in its Bid Submission bid security in the form of a digital 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 Form G1: Bid Bond and Agreement to Bond, available on The City of Winnipeg, Corporate Finance, Materials Management Division website at <https://www.winnipeg.ca/MatMgt/templates/files/eBidsecurity.pdf>.
- B13.2 Bid security shall be submitted in a digital format meeting the following criteria:

- (a) The version submitted by the Bidder must have valid digital signatures and seals;
- (b) The version submitted by the Bidder must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
- (c) The version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
- (d) The verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
- (e) The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding B13.2(a).

B13.3 Bonds failing the verification process will not be considered to be valid and the bid shall be determined to be non-responsive in accordance with B17.1(a).

B13.4 Bonds passing the verification process will be treated as original and authentic.

B13.4.1 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.

B13.5 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly formed with 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.

B13.6 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 not be opened publicly.

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 MERX website at [www.merx.com](http://www.merx.com).

B14.3 After award of Contract, the name(s) of the successful Bidder(s) and their Contract amount(s) will be available on the MERX website at [www.merx.com](http://www.merx.com).

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/Proposal.

B15.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly formed 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/Proposal.

**B16. WITHDRAWAL OF BIDS**

B16.1 A Bidder may withdraw his/her Bid without penalty prior to the Submission Deadline.

**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;
- (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.

B17.3 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 may determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B17.4.2 Bidders are advised that the calculation indicated in B17.4 will prevail over the Total Bid Price entered in MERX.

**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 The Work of this Contract is contingent upon Council approval of sufficient funding in the 2021 Capital Budget. If the Capital Budget approved by Council does not include sufficient funding for the Work, the City will have no obligation to award a Contract.

- B18.4 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 D31 shall immediately take effect upon confirmation of such funding, regardless of when funding is confirmed.
- B18.5 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.
- B18.5.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

## PART C - GENERAL CONDITIONS

### C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2020-01-31) 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](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. FORM OF CONTRACT DOCUMENTS**

D2.1 Notwithstanding C4.1(c) and C4.4, the Contract Documents will be provided to the Contractor electronically and there will be no requirement for execution and return to the City by the Contractor. Accordingly, the provisions under C4.4(a) and C4.4(b) are no longer applicable.

#### **D3. SCOPE OF WORK**

D3.1 The Work to be done under the Contract shall consist of:

- (a) Construction of Protected Bike Path - Westminster Ave. / Young St. / Balmoral St. / Granite Way – from Walnut Street to Osborne Street North
  - (i) Pavement Rehabilitations
  - (ii) Asphalt Bike Path Construction
  - (iii) Adjustable Pre-Cast Bike Lane Curb Installation

D3.2 The major components of the Work are as follows:

- (a) Construction of Protected Bike Path (including pavement rehabilitation, asphalt bike path, construction and adjustable pre-cast bike lane curb installation)
  - (i) Removal of existing trees
  - (ii) Removal and Installation of curb and gutter inlets, catch basins, catch pits and connection pipe
  - (iii) Insulation of catch basins and catch pits as required
  - (iv) Connections to existing sewers
  - (v) Connections to existing catch basins and existing services
  - (vi) Adjustment of existing manholes
  - (vii) Adjustment of valves and curb stop boxes
  - (viii) Removal of existing pavement
  - (ix) Excavation
  - (x) Compaction of existing sub-grade
  - (xi) Placement of base course or levelling course materials
  - (xii) Placement of non-woven geotextile fabric and geogrid
  - (xiii) Full depth concrete repairs of joints and slabs
  - (xiv) Construction of monolithic concrete median slabs
  - (xv) Planing existing asphalt pavement
  - (xvi) Removal of existing concrete curb and concrete sidewalk (where applicable)
  - (xvii) Renewal of existing concrete barrier, modified barrier and ramp curbs
  - (xviii) Removal and construction of new concrete barrier, modified barrier and ramp curbs for geometry changes
  - (xix) Construction of new 150mm reinforced concrete pavement (parking zones, loading zones, back lanes, approaches, geometric improvements)
  - (xx) Renewal of existing 100mm concrete sidewalk

- (xxi) Construction of new 100mm concrete sidewalk c/w paving stone band and detectable surface warning tiles (where applicable)
- (xxii) Placement of asphalt overlay (Type 1A, average thickness 50 mm, 75mm for new bike lane construction)
- (xxiii) Supply and placement of interlocking paving stones
- (xxiv) Supply and installation of amenities (bike racks, etc.)
- (xxv) Placement of new trees
- (xxvi) Boulevard Restoration
- (xxvii) Supply and installation of Pre-cast adjustable bike lane curb with drainage channel (complete with two 450mm 15M deformed bars)
- (xxviii) Supply and installation of Pre-cast adjustable bike lane curb end unit (complete with three 450mm 15M deformed bars)
- (xxix) Supply and installation of polyethylene spacers between pre-cast curbs
- (xxx) Supply and install green poly-posts
- (xxxi) Installation of green bike lane treatment (including the Maryland and Broadway intersection and Maryland and Wolseley intersection, see sketch in Appendix A – Sketches)

#### **D4. CONTRACT ADMINISTRATOR**

D4.1 The Contract Administrator is AECOM Canada Ltd., represented by:

Thomas Findlay  
Transportation Engineer

Telephone No.: 204-390-1464

Email Address: Thomas.findlay@aecom.com

D4.2 At the pre-construction meeting, Thomas Findlay will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

#### **D5. CONTRACTOR'S SUPERVISOR**

D5.1 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.

D5.2 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 D5.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

#### **D6. NOTICES**

D6.1 Except as provided for in C22.4, 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/Proposal.

D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator identified in D4.

- D6.3 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:

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

#### **D7. FURNISHING OF DOCUMENTS**

- D7.1 Upon award of the Contract, the Contractor will be provided with 'issued for construction' Contract Documents electronically, including Drawings in PDF format only.

#### **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 Documents, if applicable.
- 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>
- D9.3 Notwithstanding B12.4 at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated COR Certificate or Annual Letter of good Standing. A Contractor, who fails to provide a satisfactory COR Certificate or Annual Letter of good Standing, will not be permitted to continue to perform any Work.

#### **D10. INSURANCE**

- D10.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
  - (b) Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
  - (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.



- D10.2 The Contractor shall ensure that any subcontractors hired in connection with the works provide and maintain comparable insurances to that as outlined in D10.1 (a) and (b). And if applicable. D10.1 (c).
- D10.3 Deductibles shall be borne by the Contractor.
- D10.4 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 Documents, as applicable.
- D10.5 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

## **D11. 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.
- D11.1.1 Where the contract security is a performance bond, it may be submitted in hard copy or digital format. If submitted in digital format the contract security must meet the following criteria:
- (a) the version submitted by the Contractor must have valid digital signatures and seals;
  - (b) the version submitted by the Contractor must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
  - (c) the version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
  - (d) the verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
  - (e) the results of the verification must provide a clear, immediate and printable indication of pass or fail regarding D11.1(b).
- D11.1.2 Digital bonds failing the verification process will not be considered to be valid and may be determined to be an event of default in accordance with C18.1. If a digital bond fails the verification process, the Contractor may provide a replacement bond (in hard copy or digital format) within seven (7) Calendar Days of the City's request or within such greater period of time as the City in its discretion, exercised reasonably, allows.
- D11.1.3 Digital bonds passing the verification process will be treated as original and authentic.
- 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 an award letter 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 Documents, if applicable.
- 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 Documents, if applicable.

## **D13. DETAILED WORK SCHEDULE**

- D13.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the General Conditions for the return of the executed Contract Documents, as applicable .
- D13.2 The detailed work schedule shall consist of the following:
- (a) a critical path method (C.P.M.) schedule for the Work; and
  - (b) a Gantt chart for the Work based on the C.P.M. schedule all acceptable to the Contract Administrator.
- D13.3 Further to D13.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:
- (a) Commencement Date
  - (b) Substantial Performance Date
  - (c) Total Performance Date
  - (d) Milestone Dates for Critical Stages of Work
  - (e) Work by Others
- D13.4 Further to D13.2(b), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

## **SCHEDULE OF WORK**

### **D14. COMMENCEMENT**

- D14.1 The Contractor shall not commence any Work until he/she is in receipt of an award letter from the Award Authority authorizing the commencement of the Work.
- D14.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D8;
    - (ii) evidence of the workers compensation coverage specified in C6.15;
    - (iii) the twenty-four (24) hour emergency response phone number specified in D5.2.
    - (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; and
  - (viii) the detailed work schedule specified in D13.
- (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D14.3 The Contractor shall not commence the Work on the Site before June 7, 2021, and shall commence the Work on Site no later than June 21, 2021, as directed by the Contract Administrator and weather permitting. Prior to commencing construction work the Contractor must remove all trees as noted on the Construction Drawings.
- D14.4 The Contractor shall not commence work on Westminster Avenue, Young Street or Balmoral Street between the blocks of Furby Street and Spence Street prior to July 5, 2021, the ending of the 2020/2021 school year.
- D14.5 The Contractor shall not commence work on Granite Way between Colony Street and Osborne Street prior to Working Day 20 and shall work with organizers of the beer garden event to maintain access to the beer garden during construction, see D17 for further detail.
- D14.6 The City intends to award this Contract by May 14, 2021.
- D14.6.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

#### **D15. WORKING DAYS**

- D15.1 Further to C1.1(tt)
- D15.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his/her assessment. On a weekly basis the Contract Administrator will provide the Contractor with a record of the Working Days assessed for the preceding week. The Contractor shall sign each report signifying that he/she agrees with the Contract Administrator's determination of the Working Days assessed for the report period.
- D15.1.2 Work done to restore the Site to a condition suitable for Work, shall not be considered "work" as defined in the definition of a Working Day.

#### **D16. RESTRICTED WORK HOURS**

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

#### **D17. WORK BY OTHERS**

- D17.1 Work by others on or near the Site will include but not necessarily be limited to:
- (a) Winnipeg Transit – Removal of bus shelters, operation of bus routes on Westminster Avenue, Young Street and Balmoral Street;
  - (b) City of Winnipeg Traffic Services – Erection and maintenance of temporary traffic control (in accordance with E5), line painting and removal/reinstallation of traffic signage;
  - (c) City of Winnipeg Traffic Signals – Removal, modification and installation of new and existing traffic signals infrastructure. Installation of RRFBs (Rectangular Rapid Flashing Beacons) for pedestrian crossings at the east side of Westminster Avenue and Langside Street, and the east side of Balmoral Street and Spence Street.
  - (d) Manitoba Hydro – Relocation of existing hydro poles on Westminster Avenue west of Maryland and on Balmoral Street south of Granite Way electrical supply and/or inspection of electrical hardware.

- (e) Manitoba Hydro Underground Power – providing materials for the adjustment of manhole(s) frames and covers as required.
- (f) WPS and Nelson River Construction – construction of sidewalk in the northeast corner of Westminster and Maryland, contact Mark Vogt.
- (g) Beer Garden Event - Beer Gardens planned on the park located on the south side of Granite Way, on the east side of the Granite Curling Club parking lot, Contact Neal McDonald prior to commencing construction on Granite Way east of Colony Street to review access requirements. Safe pedestrian access to the Beer Gardens to be always maintained .

D17.2 Further to D17.1 the Contractor shall cooperate and coordinate all activities with all parties performing required Work by Others. The Contractor must include the Work By Others identified in D17.1 in their construction schedule as per D13 and accommodate the necessary area on site required for the Work By Others.

## **D18. CO-OPERATION WITH OTHERS**

D18.1 The Contractor's attention is directed to the fact that other Contractors, Events, the personnel of Utilities and the staff of the City may be working within the project limits, approach roadways, adjacent roadways or rights-of-way. The activities of these agencies may coincide with the Contractor's execution of the Work, and it will be the Contractor's responsibility to cooperate to the fullest extent with the other personnel working in the area, and such cooperation is an obligation of the Contractor under the terms of the Contract.

## **D19. SEQUENCE OF WORK**

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

- D19.1.1 Work on Westminster Avenue, Young Street and Balmoral Street between Furby Street and Spence Street shall not commence before July 5, 2021.
- D19.1.2 Work on Granite Way between Colony Street and Osborne Street shall not commence before Working Day 20 of the contract.
- D19.1.3 Construction activity is to be limited to one direction of travel at a time. No construction shall commence on the subsequent lane until all work is completed on the first side.
- D19.1.4 Placement of the final lift of asphalt for the roadway and bike lanes shall be completed in one operation.
- D19.1.5 Installation of pre-cast adjustable bike lane curbs and end units shall be installed after the completion of all other construction works on the roadway.
- D19.1.6 Immediately following the completion of the pre-cast adjustable curb installation, the Contractor shall clean up the Site and remove all plant, surplus material, waste and debris, other than that left by the City or other Contractors.

## **D20. CRITICAL STAGES**

D20.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Lane closures related to the Raised Crossing on eastbound Granite Way at Osborne Street must be completed within Five (5) consecutive Working of the commencement of the work related to the construction of the Raised Crossing. See CT-09 for additional details

D20.2 When the Contractor considers the Work associated with Lane closures related to the Raised Crossing to be completed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Completion. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the

earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

- D20.3 The date on which the Lane closures related to the Raised Crossing Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of Lane closures related to the Raised Crossing has been achieved.

## **D21. SUBSTANTIAL PERFORMANCE**

- D21.1 The Contractor shall achieve Substantial Performance within Forty (40) consecutive Working Days of the commencement of the Work as specified in D14.
- D21.2 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.
- D21.3 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.

## **D22. TOTAL PERFORMANCE**

- D22.1 The Contractor shall achieve Total Performance within Forty Five (45) consecutive Working Days of the commencement of the Work as specified in D14.
- D22.2 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.
- D22.3 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.

## **D23. LIQUIDATED DAMAGES**

- D23.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:
- (a) Lane closures related to the Raised Crossing on eastbound Granite Way at Osborne Street – One Thousand and Five Hundred dollars (\$1,500);
  - (b) Substantial Performance – Two Thousand and Three Hundred dollars (\$2,300);
  - (c) Total Performance – One Thousand and Five Hundred dollars (\$1,500).
- D23.2 The amounts specified for liquidated damages in D23.1 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.
- D23.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **D24. COVID-19 SCHEDULE DELAYS**

- D24.1 The City acknowledges that the schedule for this Contract may be impacted by the COVID-19 pandemic. Commencement and progress of the Work shall be performed by the Contractor with due consideration to the health and safety of workers and the public, directives from health authorities and various levels of government and in close consultation with the Contract Administrator.
- D24.2 If the Contractor is delayed in the performance of the Work by reason of the COVID-19 pandemic, the Work schedule may be adjusted by a period of time equal to the time lost due to such delay and costs related to such delay will be determined as identified herein.
- D24.3 A minimum of seven (7) Calendar Days prior to the commencement of Work, the Contractor shall declare whether COVID-19 will affect the start date. The Contractor shall provide sufficient evidence that the delay is directly related to COVID-19, including but not limited to evidence related to availability of staff, availability of Material or work by others.
- D24.4 For any delay related to COVID-19 and identified after Work has commenced, the Contractor shall within seven (7) Calendar Days of becoming aware of the anticipated delay declare the additional delay and shall provide sufficient evidence as indicated in D24.3. Failure to provide this notice will result in no additional time delays being considered by the City.
- D24.5 The Work schedule, including the durations identified in D20 to D22 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator. No additional payment will be made for adjustment of schedules except where seasonal work, not previously identified in the Contract, is carried over to the following construction season.
- D24.6 Where Work not previously identified is being carried over solely as a result of delays related to COVID-19, as confirmed by the Contract Administrator, the cost of temporary works to maintain the Work in a safe manner until Work recommences, will be considered by the Contract Administrator. Where the Work is carried over only partially due to COVID-19, a partial consideration of the cost of temporary works will be considered by the Contract Administrator.
- D24.7 Any time or cost implications as a result of COVID-19 and in accordance with the above, as confirmed by the Contract Administrator, shall be documented in accordance with C7.

## **D25. SCHEDULED MAINTENANCE**

- D25.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Reflective Crack Maintenance as specified in CW3250;
  - (b) General Maintenance of Plant Material as specified in E22;
  - (c) Sod Maintenance as specified in CW3510.
- D25.2 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**

### **D26. JOB MEETINGS**

- D26.1 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.

D26.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

**D27. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D27.1 Further to C6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

**D28. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS**

D28.1 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**

**D29. PAYMENT**

D29.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**WARRANTY**

**D30. WARRANTY**

D30.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D30.2 Notwithstanding C13.2, the warranty period for the Green Bike Lane Treatment shall begin on the date that the Green Bike Lane Treatment is accepted as completed by the Contract Administrator and shall expire two (2) years thereafter for the Green Bike Lane Treatment, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

**THIRD PARTY AGREEMENTS**

**D31. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS**

D31.1 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.

D31.2 Further to D31.1, in the event that the obligations in D31 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.

D31.3 For the purposes of D31:

- (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.

#### D31.4 Modified Insurance Requirements

- D31.4.1 If not already required under the insurance requirements identified in D10, the Contractor will be required to provide wrap-up liability insurance in an amount of no less than two million dollars (\$2,000,000) inclusive per occurrence. Such policy will be written in the joint names of the City, Contractor, Consultants and all sub-contractors and sub-consultants and include twelve (12) months completed operations. The Government of Manitoba and its Ministers, officers, employees, and agents shall be added as additional insureds.
- D31.4.2 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.
- D31.4.3 The Contractor shall obtain and maintain third party liability insurance with minimum coverage of two million dollars (\$2,000,000.00) 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.
- D31.4.4 Further to D10.4, 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.
- D31.4.5 All policies must be taken out with insurers licensed to carry on business in the Province of Manitoba.

#### D31.5 Indemnification By Contractor

- D31.5.1 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.

#### D31.6 Records Retention and Audits

- D31.6.1 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.
- D31.6.2 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 D31.6.1 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.

#### D31.7 Other Obligations

- D31.7.1 The Contractor consents to the City providing a copy of the Contract Documents to the Government of Manitoba and/or the Government of Canada upon request from either entity.
- D31.7.2 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.
- D31.7.3 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.
- D31.7.4 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.
- D31.7.5 The Contractor represents and warrants that no current or former public servant or public office holder, to whom the Value and Ethics Code for the Public Sector, the Policy on Conflict of Interest and Post Employment, or the Conflict of Interest Act applies, shall derive direct benefit from this Contract, including any employment, payments, or gifts, unless the provision or receipt of such benefits is in compliance with such codes and the legislation.
- D31.7.6 The Contractor represents and warrants that no member of the House of Commons or of the Senate of Canada or of the Legislative Assembly of Manitoba is a shareholder, director or officer of the Contractor or of a Subcontractor, and that no such member is entitled to any benefits arising from this Contract or from a contract with the Contractor or a Subcontractor concerning the Work.

**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. 191-2021

WOLSELEY WALK BIKE PROJECT – 2021 CONSTRUCTION

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. 191-2021

WOLSELEY WALK BIKE PROJECT – 2021 CONSTRUCTION

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
  - (i) 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;

- (ii) 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;
  - (iii) 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 J: SUBCONTRACTOR LIST**  
 (See D12)

**WOLSELEY WALK BIKE PROJECT – 2021 CONSTRUCTION**

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
<i>SURFACE WORKS</i>		
<i>Supply of Materials</i>		
Concrete		
Asphalt		
Base Course & Sub-base		
Geotextile Fabrics		
Sod		
Pre-Cast Adjustable Bike Lane Curbs		
<i>Installation / Placement</i>		
Concrete		
Asphalt		
Base Course and Sub-base		
Sod/Seed/Plant Material		
Joint Sealant		
Green Bike Lane Treatment		
Pre-Cast Adjustable Bike Lane Curbs		
<i>UNDERGROUND WORKS</i>		
<i>Supply of Materials</i>		
Sewer Service Pipe / Land Drainage Pipe		
Catchbasins / Catchpits / Manholes		
Frames and Covers		
<i>Installation/Placement</i>		
Catchbasins / Catchpits / Manholes and Associated works		

## 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>
CT-00	Cover Sheet	A1
CT-01	Plan Drawing: Westminster Avenue – Walnut Avenue to Station 0+150	A1
CT-02	Plan Drawing: Westminster Avenue – Station 0+150 to Station 0+280	A1
CT-03	Plan Drawing: Westminster Avenue – Station 0+280 to Station 0+410	A1
CT-04	Plan Drawing: Westminster Avenue – Station 0+410 to Station 0+560	A1
CT-05	Plan Drawing: Young Street – Station 0+560 to Station 0+690	A1
CT-06	Plan Drawing: Balmoral Street – Station 0+690 to Station 0+820	A1
CT-07	Plan Drawing: Balmoral Street – Station 0+820 to Station 0+920	A1
CT-08	Plan Drawing: Granite Way – Station 0+920 to Station 1+070	A1
CT-09	Plan Drawing: Granite Way – Station 1+070 to Osborne Street North	A1
CT-10	Paint and Signage: Westminster Avenue – Walnut Avenue to Station 0+150	A1
CT-11	Paint and Signage: Westminster Avenue – Station 0+150 to Station 0+280	A1
CT-12	Paint and Signage: Westminster Avenue – Station 0+280 to Station 0+410	A1
CT-13	Paint and Signage: Westminster Avenue – Station 0+410 to Station 0+560	A1
CT-14	Paint and Signage: Young Street – Station 0+560 to Station 0+690	A1
CT-15	Paint and Signage: Balmoral Street – Station 0+690 to Station 0+820	A1
CT-16	Paint and Signage: Balmoral Street – Station 0+820 to Station 0+920	A1
CT-17	Paint and Signage: Granite Way – Station 0+920 to Station 1+070	A1
CT-18	Paint and Signage: Granite Way – Station 1+070 to Osborne Street North	A1
CT-19	Standard Construction Details	A1
CT-20	Standard Construction Details / Alignment Coordinates	A1

#### E2. MOBILIZATION AND DEMOBILIZATION PAYMENT

##### DESCRIPTION

- E2.1 This Specification shall cover all operations relating to the mobilization and demobilization of the Contractor to the project location(s).

E2.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

E2.3 The inclusion of a payment item for the Work under this Specification shall not release or reduce the responsibilities of the Contractor under any other specification in this Contract.

#### SCOPE OF WORK

E2.4 Further to C12 of the General Conditions, where Mobilization and Demobilization is included as a bid item, it shall consist of the following, as applicable:

(a) Mobilization shall include, but not be limited to:

- (i) All activities and associated costs for transportation of the Contractor's personnel, equipment, and operating supplies to the site, and/or sites, and/or between sites;
- (ii) Establishment of offices, buildings, other necessary general facilities and equipment parking/staging areas for the Contractor's operations at the site or sites;
- (iii) Premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable;
- (iv) General cleanup and housekeeping needed maintain a neat and orderly project site and/or sites;
- (v) Other job related items.

(b) Demobilization shall include, but not be limited to:

- (i) All activities and costs for transportation of personnel, equipment, and supplies not used in the project from the site, and/or sites, and/or between sites;
- (ii) Disassembly, removal, and site cleanup and restoration of offices, buildings, and other facilities assembled on the site and/or sites;
- (iii) Repair of access roads, temporary haul roads, and equipment parking areas leaving the project site in the same or better condition than at the start of the project;
- (iv) General cleanup and housekeeping needed to restore a neat and orderly project site.

E2.5 Access to the site, equipment parking, and staging areas are limited to that shown on the drawings or as approved by the Contract Administrator.

#### MEASUREMENT AND PAYMENT

E2.6 The lump-sum price for the Mobilization and Demobilization bid item shall not exceed five percent (5.00%) of the total bid price for the Contract.

E2.6.1 Further to B9, B17, C12 and E2.6, should the lump sum price exceed 5% of the Total Bid Price the lump sum price will be reduced to 5% of the Total Bid Price, the Total Bid Price will be determined using the reduced lump sum price and payment will be based on the reduced lump sum price.

E2.7 Payment for Mobilization:

- (a) 60% of the lump-sum price will be paid to the contractor for Mobilization on the first Progress Estimate for the Contract.

E2.8 Payment for Demobilization:

- (a) The remaining 40% of the lump-sum price will be paid upon:
  - (i) Restoration of the site and/or sites to the satisfaction of the Contract Administrator;
  - (ii) Distribution of the Declaration of Total Performance.

E2.9 Mobilization and Demobilization will be paid only once (to a maximum of 100%), regardless of the number of times the Contractor mobilizes to the site and/or sites.



### **E3. PROTECTION OF EXISTING TREES**

- E3.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
  - (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
  - (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
  - (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
  - (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.
- E3.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his/her designate.
- E3.3 No separate measurement or payment will be made for the protection of trees.
- E3.4 Except as required in clause E3.1(c) and E3.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

### **E4. TREE REMOVAL**

- E4.1 Further to CW 3010 – Clearing and Grubbing, tree removal including the roots shall be measured on a unit basis for the number of trees (larger than 75 mm in diameter) removed in accordance with CW 3010. Payment shall be at the Contract Unit Price bid for "Tree Removal" measured as specified herein for the total number of trees removed in accordance with this Specification, accepted and measured by the Contract Administrator.
- E4.2 The Contractor shall identify trees that may be affected by Work and inform the Contract Administrator of trees that need to be removed. No trees shall be removed from the project without written approval from the Contract Administrator.
- E4.3 Prior to commencement of construction noted trees must be removed using a qualified contractor and following the guidelines noted in the link below
- (a) [https://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/Homeowner\\_Tree\\_Maintenance\\_Guidelines.stm](https://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/Homeowner_Tree_Maintenance_Guidelines.stm)

### **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 asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. Payment shall be in accordance with CW3410.

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

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:

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

E6.1.1 The Contractor shall maintain a minimum of one lane of traffic in each direction on Westminster Avenue, Young Street, Balmoral Street and Granite Way during their respective construction times, including during paving and milling operations, with the exception of Granite Way during the Raised Crossing construction. When no work is being performed on site, non-essential lane closures will not be permitted. Contractor to maintain all existing turning movements.

E6.1.2 During construction of the Raised Crossing on eastbound Granite Way at Osborne Street the contractor may close Granite Way to eastbound traffic on the east side of Balmoral Street. The Contractor must install "Road Closed Local Access Only" signs at the Balmoral Street/Granite Way intersection to inform public of the closure. Access must be maintained to all approaches and lanes on Granite Way east of Balmoral during this period. Contractor to place and maintain a "Road Closed" sign for eastbound Granite Way traffic on the east side of the Granite Way Curling Club approach. This closure may only remain in place for five (5) consecutive Working Days, any additional closures will be in accordance with D20. Granite Way westbound must stay open to traffic during this period.

- E6.1.3 The Contractor shall install and maintain snow fence between the construction area and the park to the south during construction east of the Granite Way Curling Club. The snow fence will provide a pedestrian safety barrier between the beer garden event and construction. Contractor is to stage sidewalk construction at Granite Way and Osborne Street to ensure pedestrian access is maintained.
- E6.1.4 Contractor is to maintain bike traffic between Osborne Street and Granite Way throughout construction using polyposts to the satisfaction of the Contract Administrator.
- E6.1.5 Any additional closures will require approval from the contract administrator in consultation with the Traffic Management Branch.
- E6.1.6 The Contractor shall maintain access to all side streets, lanes and private approaches at all times, any disruptions require approval from the contract administrator and the Contractor must advise the property owner.
- E6.1.7 The Contractor shall always maintain longitudinal pedestrian access along at least one side of the street. The Contractor shall maintain a minimum of one pedestrian crossing in the east/west and north/south directions in each intersection at all times.
- E6.1.8 Flag persons may be necessary to maintain the flow of traffic during certain work operations, including during placement of pre-cast adjustable bike lane curbs and asphalt paving.
- E6.1.9 The Contractor shall install and maintain signage in accordance with the Manual of Temporary Traffic Control.
- E6.1.10 Should the Contractor be unable to maintain pedestrian or vehicular access to a residence or business, he/she shall review the planned disruption with the business or residence and the Contract Administrator, and take reasonable measures to minimize the impact. The Contractor shall provide a minimum of 48 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.
- E6.1.11 Ambulance/emergency vehicle access must be maintained at all times.

## **E7. REFUSE AND RECYCLING COLLECTION**

- E7.1 Contractor shall maintain back lane and private lot access and coordinate with private refuse and/or recycling collection vehicles. If 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 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 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 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. ADJUSTMENT OF UTILITY MANHOLE FRAMES**

### DESCRIPTION

#### E11.1 General

- E11.1.1 This specification covers the adjustment of utility manhole frames which works include but are not limited to picking up the materials, removing the existing frame, making any required changes to the structure to accommodate new frame installation, reinstalling the existing frame or installing a new frame/cover, installing supplied lifter rings and constructing any required temporary asphalt ramps.
- E11.1.2 Utility manhole frames to be adjusted include but are not limited to Manitoba Hydro and BellMTS.
- E11.1.3 Pavement removal and replacement will be in accordance with Specifications CW 3100 and CW 3230.
- E11.1.4 The Contractor is to provide a minimum 48 hour notice to the utility and the Contract Administrator prior to undertaking any of the proposed works on the utility manholes.
- E11.1.5 The Contractor to make arrangements through the utility for watch personnel to be present during construction of the required works to the utility manholes.
- E11.1.6 Referenced Standard Construction Specifications
- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction;
  - (b) CW 3230 – Full-Depth Patching of Existing Slabs and Joints.

### MATERIALS

#### E11.2 Manhole Frames, Covers and Riser Rings

E11.2.1 Utility manhole frames and covers shall be provided by the utility. The Contractor shall arrange to pick up materials from the particular utility's storage yard.

### CONSTRUCTION METHODS

#### E11.3 Removal of Existing Pavement

- E11.3.1 Remove complete concrete slab surrounding utility manhole in accordance with Specification CW 3110.
- E11.3.2 Removal procedures to be done in a manor not to damage utility manhole structure.

#### E11.4 Removal of Manhole Frame and Cover

E11.4.1 Remove the required concrete embedding the frame and remove the frame and cover. Utility Watch personnel to approve construction method prior to proceeding. The Contractor is to provide opportunity for the utility to collect the old frame and cover if applicable, otherwise the old frame and covers are to be disposed of off-site as directed by the Contract Administrator.

E11.5 Removal and Installation of New Frame and Cover

E11.5.1 Install new or existing frame and cover as specified herein and or on the drawings, if applicable. Existing frames identified as being in good condition are to be reused.

E11.5.2 The Contractor shall set the frame and cover to the proposed grade utilizing shims and a form inside the manhole frame to prevent concrete from spilling into the interior of the manhole and produce a neat finished surface inside the frame. The Contractor shall then pour concrete around the outside of the frame to secure it to the manhole.

E11.6 Installation of Lifter Rings

E11.6.1 Install new lifter rings as specified herein and or on the drawings, if applicable.

E11.6.2 The Contractor shall check prior to installation to ensure that the riser ring will fit into the existing frame, if existing frame does not accommodate the proposed riser ring, then a new frame and cover will be installed.

E11.6.3 The Contractor shall remove the existing cover, clean the existing frame, install required riser ring and reinstall the cover.

E11.7 Construct temporary asphalt ramp

E11.7.1 Where required for re-opening lane to traffic, construct temporary asphalt ramp to the grades as noted on the drawings and as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

E11.8 Removal and Installation of Utility Frame and Cover

E11.8.1 Removal and Installation of Utility Frame and Covers will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Removal and Installation of Utility Frame and Covers". The number of units to be paid for will be the total number of manhole frames and covers installed in accordance with this specification, accepted and measured by the Contract Administrator.

E11.9 Installation of Utility Manhole Riser Rings

E11.9.1 Installation of Utility Manhole Riser Rings will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of Utility Manhole Riser Rings". The number of units to be paid for will be the total number of riser rings installed in accordance with this specification, accepted and measured by the Contract Administrator.

E11.10 Concrete Pavement removal and replacement will be measured and paid for in accordance with Specification CW 3230.

**E12. PORTLAND CEMENT CONCRETE SIDEWALK WITH BLOCK OUTS FOR INDICATOR SURFACES**

DESCRIPTION

E12.1 This specification shall supplement CW 3325-R5 "Portland Cement Concrete Sidewalks".

CONSTRUCTION METHODS

E12.2 Add the following to section 9 :

E12.2.1 As shown on the drawings and as directed by the Contract Administrator, construct sidewalk with block outs and/or monolithic curb and sidewalk with block outs, to allow for the installation of indicator surfaces.

E12.2.2 Verify dimensions of paving stones (indicator surface) prior to construction of the block-outs. Gaps between paving stones and concrete pavement shall not exceed five (5) millimetres.

- E12.2.3 Concrete curbs for monolithic curb and sidewalk with block outs shall be constructed in accordance with CW 3240.

#### MEASUREMENT AND PAYMENT

- E12.3 Add the following to section 12 :

- E12.3.1 Construction of concrete sidewalks with block outs for indicator surfaces will be measured on surface area basis. The surface area to be paid for shall be the number of square metres constructed in accordance with this specification and accepted by the Contract Administrator, as computed by measurements made by the Contract Administrator.

#### BASIS OF PAYMENT

- E12.4 Add the following to section 13 :

- E12.4.1 Construction of concrete sidewalks with block outs for indicator surfaces will be paid for at the Contract Unit Price per square meter for the "Items of Work" listed here below, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this specification.
- E12.4.2 Items of Work:  
(a) 100 mm Sidewalk with Block Outs
- E12.4.3 Concrete thickness greater than the specified sidewalk thickness as a result of shaping the base material to accommodate the block outs is incidental to the listed Items of Work.

### **E13. PAVING STONES FOR INDICATOR SURFACES**

#### DESCRIPTION

- E13.1 This specification shall supplement CW 3330-R5 "Installation of Interlocking Paving Stones"

#### MATERIALS

- E13.2 Add the following to section 5 :

- E13.2.1 Paving Stones for indicator surfaces shall be:  
  
Barkman Concrete paving stones -  
Charcoal Holland Paver (60mm X 210 mm X 210 mm)  
<https://www.barkmanconcrete.com/>

#### CONSTRUCTION METHODS

- E13.3 Add the following to section 9.2 "Preparation of Sub-grade, Sub-base and Sand-base" :
- E13.3.1 Preparation of Sand-Base for Paving Stones in Sidewalk Block Outs.
- E13.3.2 Place a 15mm layer of bedding sand in the blocked out sidewalk areas.
- E13.3.3 The bedding sand shall be spread and levelled so that the paving stones when installed are 5 mm higher than the finished grade.
- E13.3.4 No more sand shall be spread than can be covered in with paving stone on the same day.
- E13.3.5 The bedding sand shall not be compacted or disturbed prior to laying the paving stones.
- E13.4 Add the following to section 9.3 "Installation of Paving Stones" :
- E13.4.1 For indicator surface paving stones, commence installation of paving stones against the long edge of the block out to obtain the straightest possible course of installation.

#### MEASUREMENT AND PAYMENT

E13.5 Add the following to section 12 :

E13.6 Supply and Installation of Paving Stones for Indicator Surfaces

E13.6.1 Paving stones for indicator surfaces will be measured on surface area basis. The surface area to be paid for shall be the number of square metres constructed in accordance with this specification and accepted by the Contract Administrator, as computed by measurements made by the contract Administrator.

#### BASIS OF PAYMENT

E13.7 Add the following to section 13 :

E13.7.1 The supply and installation of paving stones for indicator surfaces will be paid for at the Contract Unit Price per square meter for "Paving Stone Indicator Surface", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this specification.

E13.7.2 Concrete thickness greater than the specified sidewalk thickness as a result of shaping the base material to accommodate the block outs is incidental to the listed Items of Work.

### **E14. INSTALLATION OF TRAFFIC SERVICES SIGN CLAMPS**

#### DESCRIPTION

E14.1 General

E14.1.1 This Specification covers all operations relating to the Installation of Traffic Services Sign Clamps.

E14.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labor, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

#### MATERIALS

E14.2 Traffic Services Sign Clamps

E14.2.1 The Contract Administrator will arrange for Traffic Service to have the sign clamps delivered to site. The Contractor is to store the Sign Clamps in a secure location until the material is ready for installation.

#### CONSTRUCTION METHODS

E14.3 Installation

E14.3.1 Installation of Traffic Services Sign Clamps is to be done in conjunction with the Installation of the 100mm Concrete Sidewalk and placed into the fresh concrete at locations determine by Traffic Services. The Base Course material is to be prepared at each location to accommodate the Installation of Traffic Services Sign Clamps.

#### MEASUREMENT AND PAYMENT

E14.3.2 Installation of Traffic Services Sign Clamps will be incidental to the Installation of sidewalks. No measurement and payment will be made for these Items of Work.

## **E15. SUPPLY AND INSTALLATION OF PAVEMENT REPAIR FABRIC**

### DESCRIPTION

#### E15.1 General

E15.1.1 This specification covers the supply and installation of pavement repair fabrics for reinforcement of asphalt layers, distribution of loads, and reducing reflective cracking distresses.

#### E15.2 Definitions

E15.2.1 Pavement Repair Fabric composed of fiberglass strands coated with an elastomeric polymer and formed into a grid structure.

E15.2.2 Minimum Average Roll Value (MARV) is Property value calculated as typical minus two standard deviations. It shall yield a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed the value reported.

E15.2.3 Apertures are the open spaces formed between the interconnected network of longitudinal and transverse ribs of a fabric.

E15.2.4 Type A Pavement Repair Fabric will be used for full width asphalt reinforcement by allowing asphalt particles to penetrate through the fabric to achieve high interlock and effective bonding of the two asphalt lifts.

E15.2.5 Type B Pavement Repair Fabric is high strength fabric in the cross-machine direction and will be used for localized repair reinforcement (*i.e.* at joints and cracks) to minimize both thermal and stress related reflective cracking.

#### E15.3 Referenced Standard Construction Specifications

E15.3.1 CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.

E15.3.2 CW 3410 – Asphaltic Concrete Pavement Works.

E15.3.3 Approved Products for Surface Works.

### MATERIALS

#### E15.4 Approved Products

E15.4.1 Use only those materials listed as Approved Products for Surface Works. The Approved Products are available at the City of Winnipeg, Corporate Finance, Material Management Internet site at:

[https://www.winnipeg.ca/finance/findata/matmgt/std\\_const\\_spec/current/Docs/Approved\\_Products\\_Surface\\_Works.pdf](https://www.winnipeg.ca/finance/findata/matmgt/std_const_spec/current/Docs/Approved_Products_Surface_Works.pdf)

#### E15.5 Material Identification

E15.5.1 Pavement Repair Fabric shall be labelled in accordance with ASTM D4873/D4873M, and must clearly show the manufacturer name, product style number and roll number. Products without proper identification or labelling, mislabelling, or misrepresentation of materials shall be rejected.

#### E15.6 Storage and Handling

E15.6.1 Pavement Repair Fabric rolls shall be elevated off the ground and adequately covered to protect them from site construction damage, precipitation, any contamination of dirt or dust and any other deleterious materials.

E15.6.2 Pavement Repair Fabric rolls shall be protected from extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical properties of the fabric.



E15.6.3 Store and handle the Pavement Repair Fabric in accordance with the manufacturer's recommendations. Manufacturer's data sheets shall include preparation instructions and recommendations as well as storage and handling requirements and recommendations.

E15.7 Certification

E15.7.1 The Contractor shall provide Manufacturer's Mill Certificate and MARV Roll Data to the Contract Administrator prior to installation. The Certification shall state that the Pavement Repair Fabric meets MARV requirements as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer. The Pavement Repair Fabric shall be annually tested by accredited a third party testing facility.

E15.7.2 The Contractor shall provide a letter to the Contract Administrator stating the product name, manufacturer, style number, and other pertinent information to fully describe the Pavement Repair Fabric.

E15.7.3 All testing and data shall be in accordance with approved ASTM standards. Data reported in accordance with other standards will not be accepted.

E15.8 Pavement Repair Fabric Properties

E15.8.1 Pavement Repair Fabric shall consist of a high strength, fiberglass grid custom knitted and coated with an elastomeric polymer and self-adhesive glue with square or rectangular opening configurations.

E15.8.2 The axis with the least strength will be taken as the ultimate strength of the fabric for any given property.

E15.8.3 Type A Pavement Repair Fabric shall meet the requirements in Table CW 3140.1.

**Table CW 3140. 1 – Type A Pavement Repair Fabric Property Requirements**

Physical Property	Machine Direction	Cross-Machine Direction	Test Method
Tensile Strength, Minimum	100 kN/m	100 kN/m	ASTM D 6637
Tensile Strength @ 2% Strain, Minimum	80 kN/m	80 kN/m	ASTM D 6637
Secant Stiffness EA at 2% Strain	4,000 kN/m	4,000 kN/m	ASTM D 6637
Elongation at Break, Maximum	3%		ASTM D 6637
Coating Softening Point, Minimum	150 °C		ASTM D 36
Coating Melting Point, Minimum	350 °C		ASTM D 276
Glass Melting Point, Minimum	820 °C		ASTM D 338
Mass/Unit Area, Minimum	420 g/m <sup>2</sup>		ASTM D 5261

E15.8.4 Type B Pavement Repair Fabric shall meet the requirements in Table CW 3140.2

**Table CW 3140. 2 – Type B Pavement Repair Fabric Property Requirements**

Physical Property	Machine Direction	Cross-Machine Direction	Test Method
Tensile Strength, Minimum	100 kN/m	200 kN/m	ASTM D 6637
Tensile Strength @ 2% Strain, Minimum	80 kN/m	160 kN/m	ASTM D 6637

Secant Stiffness EA at 2% Strain	4,000 kN/m	8,000 kN/m	ASTM D 6637
Elongation at Break, Maximum	3%		ASTM D 6637
Coating Softening Point, Minimum	150 °C		ASTM D 36
Coating Melting Point, Minimum	350 °C		ASTM D 276
Glass Melting Point, Minimum	820 °C		ASTM D 338
Mass/Unit Area, Minimum	420 g/m <sup>2</sup>		ASTM D 5261

E15.8.5 All physical property requirements are Minimum Average Roll Values (MARV) determined in accordance with ASTM 4759. Values not labelled as MARV will not be accepted.

E15.8.6 Aperture Sizes shall be as follows:

- (a) Between 10 mm and 14 mm for pavement repair fabric immediately below or within Type 1A asphalt layer.
- (b) Between 19 mm and 25.4 mm for pavement repair fabric immediately below or within Type III asphalt layer.

E15.8.7 If the fabric has a rectangular aperture size, the smaller dimension shall be used to establish the suitable Pavement Repair Fabric.

#### CONSTRUCTION METHODS

E15.9 Pavement Repair Fabric shall not be placed when weather conditions, in the opinion of the Contract Administrator, are not suitable for installation including heavy rainfall, extreme cold or frost conditions, or extreme heat.

E15.10 Make all repairs as required prior to placement of Pavement Repair Fabric. Seal cracks and fill holes using a method that provides a proper level surface. Receiving surface shall be smooth, with the existing cracks pretreated.

E15.11 Surfaces shall be mechanically cleaned by sweeping and vacuuming and be free of oil, vegetation, sand, dirt, water, gravel, and other contaminants prior to placement of Pavement Repair Fabric.

E15.12 Pavement Repair Fabric placement should not be undertaken if rain is likely to fall prior to covering the fabric with an asphalt mat overlay. Pavement Repair Fabric that is placed and will not adhere due to moisture shall be removed and replaced at the Contractor's expense.

E15.13 Pavement Repair Fabric shall be laid out by mechanical means or by hand using sufficient pressure to eliminate ripples. Remove any ripples by pulling the fabric tight. Cutting of the fabric may be permitted on tight radii to prevent ripples.

E15.14 Transverse joints shall be overlapped 75 mm or as recommended by the manufacturer, whichever is greater. Longitudinal joints shall be overlapped 37.5 mm or as recommended by the manufacturer, whichever is greater.

E15.15 Prior to the asphalt topping placement, the fabric shall be inspected by the Contract Administrator for damage during installation. Damaged fabric shall be removed and replaced at the Contractor's expense.

E15.16 Activate self-adhesive glue by rolling with a rubber coated drum roller or a pneumatic tire roller. In no instance shall steel-wheeled or vibratory rollers be used. Rolling shall continue until the adhesive is activated and the fabric is bonded to the leveling course.

E15.17 Roller tires shall be kept clean to the satisfaction of the Contract Administrator.

- E15.18 If bonding of the fabric is not readily achieved, it shall be removed and replaced at the Contractor's expense.
- E15.19 Pavement Repair Fabric shall be laid and rolled over ironworks (e.g., manhole covers). Once the fabric has been rolled, those portions covering the ironworks shall be removed by cutting the fabric with a utility knife or other methods approved by the Contract Administrator.
- E15.20 Protect the Pavement Repair Fabric until placement of the finished asphalt topping.
- E15.21 Where a tack coat or emulsified asphalt is specified, the approved tack coat/emulsion and dose should be used as recommended by the manufacturer in conjunction with the Pavement Repair Fabric. Tack coat or emulsified asphalts shall not be diluted. Unless otherwise recommended by the manufacturer, apply tack coat or emulsified asphalt at the rate of 0.35 liters per square meter of surface area.
- E15.22 Where tack coat or emulsified asphalt is placed prior to the fabric, it must fully cure prior to placement of the fabric. Where tack coat or emulsified asphalt is placed after the fabric, it must fully cure prior to construction traffic, including paving, travelling on the surface.
- E15.23 Prevent spattering of tack coat or emulsified asphalt when placed adjacent to curbs, gutters, structures and other adjacent surfaces. Clean any surfaces where it has been contaminated by the tack coat or emulsified asphalt.
- E15.24 Leveling course or overlay layer shall be a minimum thickness of 40 mm. Place and compact asphalt over the Pavement Repair Fabric in accordance with CW 3410.

#### QUALITY ASSURANCE TESTING

- E15.25 The Contract Administrator shall test the adhesion for pavement repair fabric in field during construction is as follows:
- E15.25.1 Place approximately 1 m<sup>2</sup> of fabric on a prepared surface that is representative of the project conditions.
- E15.25.2 Activate self-adhesive glue by rolling with a rubber-tired roller or by applying adequate pressure to fully activate the pressure-sensitive adhesive.
- E15.25.3 Use a calibrated spring balance by inserting the hook of the balance under the centre of the fabric and pulling upward until the fabric starts to pull away from the surface.
- E15.25.4 A 9 kg pull is required without pulling the grid free or creating ripples in the fabric.
- E15.26 The minimum frequency shall be one test, then test every 2000 square meters.

#### MEASUREMENT AND PAYMENT

- E15.27 Supply and installation of Pavement Repair Fabric will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Supply and Install Pavement Repair Fabric i) Type A". The area to be paid for will be the total number of square metres of Pavement Repair Fabric, supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- E15.28 Only material placed within the designated limits will be included in the payment for "Supply and Install Pavement Repair Fabric i) Type A".
- E15.29 No measurement or payment will be made for Pavement Repair Fabric removed and replaced due to improper installation or damaged materials.
- E15.30 No measurement or payment will be made for transverse and longitudinal overlap.

## **E16. GREEN BIKE LANE TREATMENT**

### DESCRIPTION

#### E16.1 General

- E16.1.1 This Specification covers all operations relating to the supply and installation of green bike lane treatment at cycling corridor conflict points, as noted on the drawings.
- E16.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labor, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

### MATERIALS

#### E16.2 Green Bike Lane Treatment

- E16.2.1 The Green Bike Lane Treatment shall be Cycle Grip MMAX by Ennis-Flint color to be EF Bike Lane Green or equivalent, in accordance with B6 as approved by the Contract Administrator. A link to the manufacturer's specifications is provided: [www.ennisflintamericas.com/downloads/dl/file/id/83/product/945/product\\_data\\_sheet\\_cycle\\_gripmmax.pdf](http://www.ennisflintamericas.com/downloads/dl/file/id/83/product/945/product_data_sheet_cycle_gripmmax.pdf).

### SUBMITTALS

- E16.3 Prior to construction submit the following to the Contract Administrator
- E16.3.1 Material data sheets for the product proposed to be supplied and installed.

### CONSTRUCTION METHODS

#### E16.4 Surface Preparation

- E16.4.1 Surface Preparation to be in accordance with Manufacturer's instructions.

#### E16.5 Masking

- E16.5.1 Masking of the edges of all green bike lane treatment areas to be in accordance with Manufacturer's instructions.

#### E16.6 Paint Mixing

- E16.6.1 Mix paint in accordance with manufacturer's instructions.

#### E16.7 Installation of Green Bike Lane Treatment

- E16.7.1 Install Green Bike Lane Treatment in accordance with Manufacturer's instructions.
- E16.7.2 Any damage done to the Green Bike Lane Treatment prior to completion of each marking area shall be rectified at the Contractor's expense.

### MEASUREMENT AND PAYMENT

- E16.7.3 Supply and Installation of Green Bike Lane Treatment shall be measured on an area basis and will be paid for at the contract Unit Price per square metre for "Supply and Installation of Green Bike Lane Treatment" supplied and installed in accordance with this specification and accepted and measured by the Contract Administrator.

## **E17. SUPPLY AND INSTALLATION OF PRECAST ADJUSTABLE BIKE LANE CURBS**

### DESCRIPTION

#### E17.1 General

- E17.1.1 This Specification covers all operations relating to the pickup, delivery and installation of precast adjustable bike lane curbs.
- E17.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labor, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

#### MATERIALS

- E17.2 Precast Adjustable Bike Lane Curbs with Drainage Channels
- E17.2.1 The precast adjustable bike lane curbs with drainage channels shall be manufactured as per the construction drawings and in accordance with the requirements hereinafter specified.
- (a) Reinforced with two 10M deformed rebar;
  - (b) Have two 19mm holes constructed to accommodate 15M Deformed Galvanized Rebar Dowels
  - (c) Manufactured in accordance with/as per CSA A23.1;
  - (d) SCC concrete with integral waterproofing (50 MPa); and
  - (e) Conform to concrete exposure class C-1.
- E17.3 Precast Adjustable Bike Lane Curb End Sections
- E17.3.1 The precast adjustable bike lane curb end sections shall be manufactured as per the construction drawings and in accordance with the requirements hereinafter specified.
- (a) Reinforced with two 10M deformed rebar;
  - (b) Have two 19mm holes constructed to accommodate 15M Deformed Galvanized Rebar Dowels;
  - (c) Manufactured in accordance with/as per CSA A23.1;
  - (d) SCC concrete with integral waterproofing (50 MPa); and
  - (e) Conform to concrete exposure class C-1.
- E17.3.2 Sign clamps, to be provided by Public Works, are to be cast into the precast adjustable bike lane curb end sections.
- E17.4 15 M Deformed Galvanized Rebar Dowels
- E17.4.1 The 15M Deformed Galvanized Rebar Dowels shall be manufactured as per the CW 3230 and in accordance with the requirements hereinafter specified.
- (a) 450mm in length.
- E17.5 Neoprene Spacers
- E17.5.1 The neoprene spacers shall be ¼ inch thick and shall be cut to match the shape of the precast adjustable bike lane curbs.

#### SUBMITTALS

- E17.6 Prior to construction, submit the following to the Contract Administrator.
- E17.6.1 Shop drawings for the precast adjustable bike lane curbs with drainage channels and precast adjustable bike lane curb end sections to be supplied and installed.
- E17.6.2 The Contractor is to provide a sample of the neoprene spacers to the Contract Administrator for approval.

#### CONSTRUCTION METHODS

## E17.7 Installation

E17.7.1 Installation of precast adjustable bike lane curbs with drainage channel and precast adjustable bike lane curb end sections to be completed using a flat bed truck with a crane arm following the process described below:

- (a) Place the precast adjustable bike lane curb with drainage channel or precast adjustable bike lane curb end section into final position as directed by the Contract Administrator.
- (b) Place the ¼ inch neoprene spacer between each precast adjustable bike lane curb. Neoprene spacer to be secured in place using adhesive material acceptable to the Contract Administrator.
- (c) Drill two pilot holes into pavement for 15M deformed galvanized rebar dowels.
- (d) Place next precast adjustable bike lane curb with drainage channel or precast adjustable bike lane curb end section (if applicable).
- (e) Install 15M deformed galvanized rebar dowels and hammer the dowels flush to the top of the unit.
- (f) Countersink the 15M deformed galvanized rebar dowels approximately 15mm below the top of the unit.
- (g) Place sealant at the top of the hole.

E17.7.2 The last precast adjustable bike lane curb with drainage channel or precast adjustable bike lane curb end section in each segment may not be at the exact location identified on the drawings. Contract Administrator to confirm location.

### MEASUREMENT AND PAYMENT

E17.8 Supply and installation of precast adjustable bike lane curbs with drainage channel and precast adjustable bike lane curb end sections shall be measured on a unit basis and will be paid for at the contract Unit Price for the number of "Supply and Installation of Precast Adjustable Bike Lane Curbs with Drainage Channels" and "Supply and Installation of Precast Adjustable Bike Lane Curb End Sections" supplied and installed in accordance with this specification and accepted and measured by the Contract Administrator.

## E18. POLYPOSTS

### DESCRIPTION

E18.1 General

E18.1.1 This Specification covers all operations relating to the supply and installation of permanent surface mount polyposts for delineation of cycling corridors.

E18.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labor, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

### MATERIALS

E18.2 Polyposts

E18.2.1 Polyposts shall be PEXCO, Flexi-Guide, FG 300, Model EFX Green in color, or equivalent in accordance with B6 as approved by the Contract Administrator. A link to the manufacturer's website is provided:

- (a) <http://www.pexco.com/markets/industrial/traffic/bollards-and-channelizer-posts/fg-300-posts/>

### SUBMITTALS

E18.3 Prior to construction, submit the following to the Contract Administrator.

E18.3.1 Shop drawings for the type of polypost proposed to be supplied and installed.

#### CONSTRUCTION METHODS

E18.4 Surface Preparation

E18.4.1 Surface Preparation to be in accordance with Manufacturer's instructions.

E18.5 Installation

E18.5.1 Installation of Polyposts to be in accordance with Manufacturer's instructions and at the locations shown on the drawings.

#### MEASUREMENT AND PAYMENT

E18.6 Supply and Installation of Polyposts shall be measured on a unit basis and will be paid for at the contract Unit Price for the number of "Supply and Installation of Polyposts" supplied and installed in accordance with this specification and accepted and measured by the Contract Administrator.

### **E19. BICYCLE RACKS**

#### DESCRIPTION

E19.1 General

E19.1.1 This Specification covers all operations relating to the supply and installation of bicycle racks.

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

#### SUBMITTALS

E19.2 Contractor shall submit shop drawing for review to Contract Administrator prior to purchase and installation.

#### MATERIALS

E19.3 General

E19.3.1 U-Style Bicycle Rack

(a) Bicycle rack to be U-Style Bicycle Rack – 50 mm x 50 mm (2" x 2") square tube, 813 mm (32") height, 915 mm (36") diameter, complete with mounting plate and black finish as shown on the Contract Drawings.

#### CONSTRUCTION METHODS

E19.4 U-Style Bicycle Rack

(a) Surface mount bicycle rack on concrete pad as indicated on the Contract Drawings. Location to be confirmed by the Contract Administrator.

#### MEASUREMENT AND PAYMENT

E19.5 U-Style Bicycle Rack

E19.5.1 Bicycle racks will be measured on a unit basis and paid for at the Contract Unit Prices per each for "Supply and Install U-Style Bicycle Rack", which price shall be payment in full for supplying and installing all materials and for completing all operations herein described and

all other items incidental to the work included in this Specification, accepted and measured by the Contract Administrator.

## **E20. TREES**

### **DESCRIPTION**

#### **E20.1 General**

E20.1.1 This specification covers all operations relating to the supply and installation of nursery-grown trees in areas indicated on the Drawings, including preparation, digging, transport and planting, and maintenance.

E20.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

#### **E20.2 Nomenclature**

E20.2.1 Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of Standardized Plant Names. The names of varieties not named therein are generally in conformity with the names accepted in the nursery trade.

#### **E20.3 Source Quality Control**

E20.3.1 All nursery stock supplied shall be nursery grown and of species and sizes as indicated on the Drawings. Nursery stock shall be No. 1 Grade material in accordance with the current edition of The Canadian Nursery and Landscape Association's (CNLA) "Canadian Standards for Nursery Stock".

E20.3.2 Any nursery stock dug from native stands, wood lots, orchards, or neglected nurseries, which have not received proper cultural maintenance, shall be designated as "collected plants". The use of "collected plants" will not be permitted unless approved by the Contract Administrator.

E20.3.3 The Contractor shall notify Contract Administrator of source of plant material at least seven (7) days in advance of shipment.

E20.3.4 Acceptance of plant material at source does not prevent rejection of same plant material on site prior to or after planting operations.

E20.3.5 Imported plant material must be accompanied with necessary permits and import licenses. Conform to federal and provincial regulations.

#### **E20.4 Shipment and Pre-Planting Care**

E20.4.1 Coordinate shipping of plants and excavation of holes to ensure minimum time lapse between digging and planting.

E20.4.2 Protect plant material against abrasion, exposure and extreme temperature change during transit. Avoid binding of planting stock with rope or wire, which would damage bark, break branches or destroy natural shape of plant. Give full support to root balls, especially of large trees, during lifting.

E20.4.3 Protect foliage and root balls to prevent loss of moisture during transit and storage.

E20.4.4 Remove broken and damaged roots with sharp pruning shears, making clean cuts.

E20.4.5 Keep roots moist and protect from sun and wind. Trees and shrubs shall be planted within 24 hours of delivery to site, water well.

#### **E20.5 Replacement**



E20.5.1 Tree plantings shall be warranted for a period of two (2) years from the time the tree stock and shrub plantings have been inspected and approved. Refer to Plant Material Warranty.

## MATERIALS

E20.6 General

E20.6.1 The Contractor shall be responsible for the supply, safe storage and handling of all materials set forth in this Specification. All materials supplied under this Specification shall be subject to inspection and acceptance by the Contract Administrator.

E20.7 Trees

E20.7.1 Trees shall be Dropmore Linden (50mm caliper) – *Tilia x flavescens* 'Dropmore'

E20.8 Water

E20.8.1 Water shall be potable and free of minerals that may be detrimental to plant growth.

E20.9 Trunk Protection and Tree Support

E20.9.1 Tree protection shall be a 100 x 600 mm long section of plastic weeping tile material.

E20.9.2 Tree support stakes shall be 50 mm round by 2400 mm long wood tree stake. Stakes shall be uniform in style and colour.

(a) Other products may be used with prior permission in writing from the Contract Administrator.

E20.9.3 Guying straps shall be of a material that is non-abrasive to the tree to prevent girdling injury:

(a) Accepted product: Arbortie or approved equal in accordance with B6.

E20.10 Root Ball Burlap

E20.10.1 Root ball burlap shall be 150 g Hessian burlap.

E20.11 Plant Material

E20.11.1 All plant material specified for this project shall be containerized and/or ball and burlap nursery stock and hardy to Canadian Plant Hardiness Zone 3a.

E20.11.2 Comply with latest edition of the The Canadian Nursery and Landscape Association's (CNLA) "Canadian Standards for Nursery Stock"

E20.11.3 Nursery stock shall be No. 1 grade trees, shrubs and vines.

E20.11.4 All containerized whips and herbaceous plant material shall have a minimum of one full year's growth. Roots shall be healthy, reaching the sides of the containers, and developed such that the root ball can be kept intact during transplanting. Roots shall not encircle each other to the extent of inhibiting plant growth.

E20.11.5 Use trees, shrubs and groundcovers with structurally sound, strong fibrous root systems, and free of disease, insects, defects or injuries, including rodent damage, sun scald, frost cracks, abrasions or scars to the bark. Plants must have been root pruned regularly, but not later than one growing season prior to arrival on site.

E20.11.6 All parts of the plants shall be moist and show live, green cambium tissue when cut.

E20.11.7 At least one (1) plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.

E20.12 Additional Plant Material Qualifications:

E20.12.1 Imported Plant Material

- (a) Plant material obtained from areas with milder climatic conditions from those of site acceptable only when moved to site prior to the breaking of buds in their original location and heeled-in in a protected area or placed in cold storage until conditions suitable for planting. Obtain Contract Administrator's approval to use imported plant material.

E20.12.2 Cold Storage

- (a) Approval required for plant material that has been held in cold storage.

E20.12.3 Container-Grown Stock

- (a) Acceptable if containers large enough for root development. Trees and shrubs must have grown in container for minimum of one growing season but not longer than two. Root system must be able to hold soil when removed from container. Plants that have become root bound are not acceptable. Container stock must have been fertilized with slow releasing fertilizer.

E20.12.4 Balled and Burlapped Plant Material

- (a) Balled and burlapped deciduous trees are to meet the standards of the most recent edition of The CNLA's "Canadian Standards for Nursery Stock"

E20.12.5 Tree Spade Dug Material

- (a) Obtain approval of the Contract Administrator for digging plant material with mechanized digging equipment, hydraulic spade or clam-shell type. This type of digging is typically not acceptable for boulevard tree plantings. Dig root balls to meet the standards of the most recent edition of The CNLA's "Canadian Standards for Nursery Stock".

E20.12.6 Substitutions

- (a) Substitutions to plant material as indicated on the Plant List will not be permitted unless written approval has been obtained as to type, variety and size prior to award of Contract. Plant substitutions must be of similar species and of equal size to those originally specified.

## CONSTRUCTION METHODS

E20.13 General

E20.13.1 Workmanship

- (a) The Contractor shall stake out location of trees as per the Drawings. Obtain Contract Administrator's approval prior to excavating.
- (b) The Contractor shall obtain clearances from all utilities, with respect to underground lines located in the areas to be excavated, prior to commencing planting operations.
- (c) The Contractor shall coordinate planting operations; keep the site clean and planting holes drained, and immediately remove soil or debris spilled onto pavement.

E20.13.2 Planting Time

- (a) Trees growing in containers/ball and burlap may be planted throughout growing season.
- (b) Plant only under conditions that are conducive to health and physical conditions of plants.
- (c) The Contractor shall provide the Contract Administrator with a planting schedule at least two weeks prior to planting operations. Extending planting operations over long period using limited crew will not be accepted.

E20.13.3 Excavations

- (a) Trees: excavate to depth such that the root flare is exposed and flush with finished grade, with a surface width of two times the diameter of the root ball. Backfill around trees with planting soil mixture.
- (b) The sides of all tree pits shall be scarified to the depth of one shovel blade.
- (c) Provide drainage for planting holes in heavy soil if natural drainage does not exist. Have method approved.
- (d) Protect the bottoms of excavations against freezing.
- (e) Remove water that enters excavations prior to planting. Ensure source of water is not ground water.

#### E20.13.4 Planting

- (a) Trees shall be placed on undisturbed soil and to a depth so that the root flare is exposed and flush with finished grade.
- (b) Trees shall be set plumb in planting hole. Orient plant material to give best appearance in relation to structures, roads and walkways.
- (c) Place plant material to depth equal to depth they were originally growing in nursery or in locations collected.
- (d) Ball and burlap root balls: once the tree has been set in its final position, burlap on the root ball shall be folded back from the top 1/3 of the root ball. Do not pull burlap or rope from under root ball. If a wire basket has been used, it shall be cut off from the top 1/3 of the root ball. All twine shall be removed from the root ball. With container stock, remove entire container without disturbing root ball. All non-biodegradable wrappings must be removed.
- (e) Tamp planting soil mixture around root system in layers of 150 mm eliminating air voids. Frozen or saturated planting soil is unacceptable. When 2/3 of planting soil has been placed, fill hole with water. After water has been completely penetrated into soil, complete backfilling.
- (f) Excavate 200 mm depth an additional 600 mm beyond planting pits around the perimeter of all tree planting pits, and fill with planting soil mixture.
- (g) Construct 75 mm deep saucers around the outer edge of planting pits to assist with maintenance watering.

#### E20.13.5 Pruning

- (a) Only prune trees to remove broken stems. Postpone pruning of those trees where heavy bleeding may occur, until in full leaf. Employ clean sharp tools and make cuts in accordance with the "ANSI A300 (Part 1)-2001 Pruning standards entitled, "Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Pruning)" (revision and re-designation of ANSI A300-1995) (includes supplements) or most recent versions as available and in accordance with "Best Management Practices: Tree Pruning" (2002), which is a companion publication to the ANSI A300, or more recent version as available".

#### E20.13.6 Trunk Protection and Tree Support

- (a) Slice open the plastic weeping tile material and place it around the base of each tree trunk.
- (b) Place tree supports as indicated on Landscape Detail Drawings.
- (c) The guying straps shall be attached in accordance with the Landscape Detail Drawings.

#### E20.13.7 Wood Chip Mulch

- (a) Wood chip mulch shall extend under all tree limbs but shall not be installed within 150 mm of the tree trunk.

- (b) The saucers of all trees not planted in beds shall be covered with a 75 mm depth of wood chip mulch.
- (c) .

#### E20.14 Maintenance

##### E20.14.1 Watering

- (a) Plant material shall be watered once a week for first four weeks following installation, and once every second week, thereafter. Ensure adequate moisture in root zone at freeze-up.

##### E20.14.2 Weeding

- (a) Keep tree saucers weed-free by manually removing weeds during the maintenance period.

##### E20.14.3 Insects and Diseases

- (a) Spray plants to combat pests and diseases. Use organic chemical insecticides approved by Agriculture Canada.

##### E20.14.4 Adjustments

- (a) Make adjustments requested by the Contract Administrator, including straightening trees, tightening guy wires and removing tree stakes.

##### E20.14.5 Maintenance Period

- (a) Maintain plant material for a period of two years following acceptance to start maintenance period of planting operations, as determined by the Contract Administrator.

### MEASUREMENT AND PAYMENT

#### E20.15 Trees

- E20.15.1 Supply and installation of trees will be measured on a unit price basis for each tree listed in the "Plant Material List", 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, accepted and measured by the Contract Administrator.

### **E21. PLANTING MEDIUM AND FINISHED GRADING**

#### DESCRIPTION

- E21.1 This Specification covers the supply and installation of planting medium.

#### REFERENCES

- E21.2 Agriculture and Agri-Food Canada

- E21.2.1 The Canadian System of Soil Classification, Third Edition, 1998.

- E21.3 Canadian Council of Ministers of the Environment (CCME) Guidelines.

- E21.4 The City of Winnipeg Standard Construction Specifications CW 1130 and CW 3540.

#### SUBMITTALS

- E21.5 Submit 0.5kg sample of topsoil to National Testing Laboratory, or approved alternate, and indicate present use and intended use. Prepare and ship sample in accordance with Provincial regulations and testing laboratory requirements.

- E21.6 Submit two (2) copies of soil analysis and recommendations for corrections to Contract Administrator.

## QUALITY ASSURANCE

- E21.7 Testing of planting medium to be carried out and paid for by Contractor. Prepare and ship planting medium samples to approved laboratory in accordance with Provincial regulations and laboratory requirements, indicating intended use on each sample.
- E21.8 Test planting medium for nutrients N, P, K, micronutrients, soluble salt content, pH value and OM (organic matter).
- E21.9 Acceptance of planting medium is subject to an inspection of material and confirmation of test results. Do not commence soft landscaping work until Contract Administrator has accepted planting medium.

## DELIVERY, STORAGE AND HANDLING

- E21.10 Store materials in a dry area, protected from freezing, sedimentation and contamination.
- E21.11 Deliver and store fertilizer in waterproof bags labeled with weight, analysis and name of manufacturer.

## MATERIALS

### E21.12 Planting Medium Soil Mix

- E21.12.1 Planting Medium: In accordance with CW 3540 for topsoil except organic matter to be in the range of 5-10%.
- E21.12.2 Peatmoss: deliver from partially decomposed fibrous or cellular stems and leaves of species of sphagnum mosses. Elastic and homogeneous, brown in colour. Free of wood and deleterious material that could prohibit growth. Shredded particle minimum size: 5 mm.
- E21.12.3 Sand: hard fine silica sand, well washed and free of impurities, chemical or organic matter, coarse texture, and to the following gradation.

<u>Particle Size (mm)</u>	<u>% Passing through Screen</u>
2.0	100%
1.0	95 to 100%
0.5	80 to 100%
0.25	0 to 30%
0.15	0 to 8%
0.75	0 to 1%

- E21.12.4 Fertilizer: Synthetic start-up slow release fertilizer with a N-P-K analysis of 12-36-15 ratio at a rate of 4 kg per 100 sq.m. (8 pounds per 100 sq. ft).

## CONSTRUCTION METHODS

### E21.13 Excavation

- E21.13.1 Excavate tree vaults by hand unless otherwise directed by Contract Administrator. Dispose of all rock, clay soils and other deleterious materials off Site.
- Protect bottom of excavations against freezing.
  - Remove water that has entered the excavated tree pit prior to planting. Notify Contract Administrator if water source is groundwater.
  - Verify and obtain approval by Contract Administrator of tree vaults with geotextile prior to compacted soil mound and planting medium placement
- E21.13.2 Planting Medium Placement
- Place planting medium in uniform layers over approved, unfrozen sub-grade, to the depth indicated on the Drawings.
  - Eliminate rough spots and low areas, Prepare a loose, friable bed, boot firm and level

- E21.13.3 Soil Amendments
- (a) Apply lime, sulphur, or other soil amendment at a rate determined and recommended from planting medium sample test.
  - (b) Mix soil amendment well into full depth topsoil prior to application of fertilizer
- E21.13.4 Finished Grading
- (a) Per CW3540.
  - (b) Fine grade entire soil area to elevations as indicated on the Drawings. Eliminate rough spots and low areas. Leave surfaces smooth, uniform and firm against foot printing with a fine loose texture

#### SURPLUS MATERIAL

- E21.14 Dispose of unused planting medium off Site in accordance with CW1130.

#### CLEANING

- E21.15 Perform cleaning to remove accumulated environmental dirt from all paved surfaces of building faces. Remove surplus materials, rubbish, tools and equipment barriers

#### MEASUREMENT AND PAYMENT

- E21.16 Supply and installation of planting medium will be measured on a volume basis and paid for at the Contract Unit Price per cubic metre for "Supply and Install Planting Medium". The volume to be paid will be the total number of cubic metres installed in accordance with this specification, accepted and measured by the Contract Administrator

### **E22. LONG TERM SCHEDULED MAINTENANCE OF PLANT MATERIAL**

#### DESCRIPTION

- E22.1 This specification covers all operations relating to the maintenance of plant material following acceptance of the Work by the Contract Administrator.
- E22.1.1 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 Works as hereinafter specified.

#### E22.2 MATERIALS

##### E22.3 General

- E22.3.1 The Contractor shall be responsible for the supply, safe storage and handling of all materials set forth in this Specification. All materials supplied under this Specification shall be subject to inspection and acceptance by the Contract Administrator.
- E22.4 The Contractor shall provide all necessary materials and equipment including: additional topsoil, soil ameliorates, mulches, fertilizers and pesticides, and pruning tools, water trucks, hoses, water metres and any other items necessary for the maintenance of the areas indicated in this specification.

#### CONSTRUCTION METHODS

- E22.5 Provision of Maintenance Personnel
- E22.5.1 The Contractor shall provide all necessary personnel for the ongoing maintenance operations.
- E22.6 Capability of Personnel

- E22.6.1 Maintenance personnel should have at least one year of experience in arboriculture/maintenance and should be under the direction of a foreman, in all cases, with not less than five years of experience with similar maintenance operations.
- E22.6.2 The maintenance foreman shall be familiar with plant identification.
- E22.7 Maintenance Period
- E22.7.1 Maintain plantings for a period of two (2) years from the completion of the Maintenance for Establishment period, as determined by the Contract Administrator. Note: Completion shall not occur after October 30, or before May 15 of any year.
- E22.8 Maintenance Schedule
- E22.8.1 Provide the Contract Administrator a Schedule of Proposed Maintenance Activities for the two-year scheduled maintenance period, based on the requirements outlined herein. The scheduled maintenance period shall not commence until the schedule has been reviewed by the Contract Administrator.
- E22.9 Recording Maintenance Operations
- E22.9.1 The Contractor shall provide a detailed maintenance log, including but not limited to the following: hours of labour undertaken, number of personnel employed and equipment used. The log will itemize watering, spraying and any other maintenance work. Contractor shall submit logs monthly at regularly scheduled meetings with the Contract Administrator. Maintenance log will be included in payment for the maintenance work
- E22.10 Traffic
- E22.10.1 Do not conduct maintenance operations during peak traffic periods (Monday to Friday from 07:00 to 09:00 and from 15:30 to 17:30).
- E22.11 Maintenance of Trees
- E22.11.1 Maintain trees as indicated in Trees Specification - maintenance clause.
- E22.11.2 Watering Trees
- (a) Newly planted trees require water to become established; however, watering too often can kill a plant. During the summer, if temperatures are fairly high and there has been no rainfall, water approximately once a week.
  - (b) Contractor shall determine the need for watering by taking soil tests weekly with a one-inch auger. Take a test sample from both the planting soil and from the tree root balls by drilling to a minimum depth of 600 mm. The soil shall contain enough moisture to hold together when compressed in the hand, but shall not be muddy.
  - (c) Testing shall be undertaken at a minimum of 10 sites per week at a minimum of 10m between sites. The installed plant material and bioengineering shall not be allowed to dry out to the detriment of the viability of the plant material. Contractor shall monitor and submit lots to the Contract Administrator monthly. Contractor shall water-in plant material works in late fall during the scheduled maintenance period.
- E22.11.3 Fertilizing, Pruning and Spraying Deciduous Trees
- (a) Because of the specialized nature of such operations, employ a qualified local arborist.
- E22.11.4 Pruning Deciduous Trees
- (a) Prune in accordance with Trees Specification - pruning clause by thinning out unnecessary limbs or portions of limbs and by cutting back the terminal growth. Cut with pruning shears and with handsaws for limb-wood. When cutting the terminal growth, make the cuts one-quarter inch above the bud or lead twig. Where an entire limb is removed, make the cuts flush with the main stem or trunk.
- E22.11.5 Cultivation

- (a) Cultivate only as required to reconstruct planting beds or tree saucers, or to remove significant weed growth.
- (b) Do not cultivate around plants with a shovel or spade. The tendency is to penetrate too deeply and cause root injury. Cultivate with a hoe or similar tool. When using a hoe never penetrate soil more than 50 mm. Maintain natural elevation of the surrounding area when cultivating. Create a gentle saucer to contain water around the tree root zone.
- (c) Avoid pyramiding soil around the base of any plant as this causes water to drain away and will encourage undesirable top root growth.
- (d) The boundary between the adjacent sod and soil saucer should be crisp and well formed.
- (e) Restore wood chip mulch when cultivation completed.

E22.11.6 Spraying

- (a) Spray trees to control insect pests and diseases. Use horticultural compounds approved by Agriculture Canada, which are specific for the problem to be contained.

E22.11.7 Straightening

- (a) Straighten trees as required or as directed by the Contract Administrator.

E22.11.8 Mulching Wood Chip

- (a) Add wood chip mulch to planting areas as required to maintain an even fresh surface.

E22.11.9 Weeding

- (a) Hand weed and lightly rake a minimum of once per month, or as determined by the Contract Administrator, to remove competition for installed plant material/undesirable plant material. Dispose of undesirable material off-site.
- (b) The Contractor shall be responsible for any fines or weed control notices issued for the planting areas. All such notices shall be dealt with by the Contractor in a timely fashion. Copies of any fines and notices shall be provided to the Contract Administrator within five (5) working days of receipt by the Contractor.

E22.11.10 Dispose of waste material at a recognized solid waste disposal site.

**MEASUREMENT AND PAYMENT**

E22.12 General Maintenance of Trees

E22.12.1 Trees will be measured on a unit and paid for at the Contract Unit Price per annual for the "Items of Work" listed here below 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, accepted and measured by the Contract Administrator.

- (a) Items of Work
  - (i) General Maintenance of Plant Material
- (b) Two year general maintenance of trees including fertilizing, pruning, spraying for insects, disease control, cultivation, care of guy wires and turnbuckles, straightening, mulching and watering will be measured twice each season, typically in July and October, for a six month annual growing season from April 15 to October 15 each year.

**E23. PLANT MATERIAL WARRANTY**

**DESCRIPTION**

E23.1 General



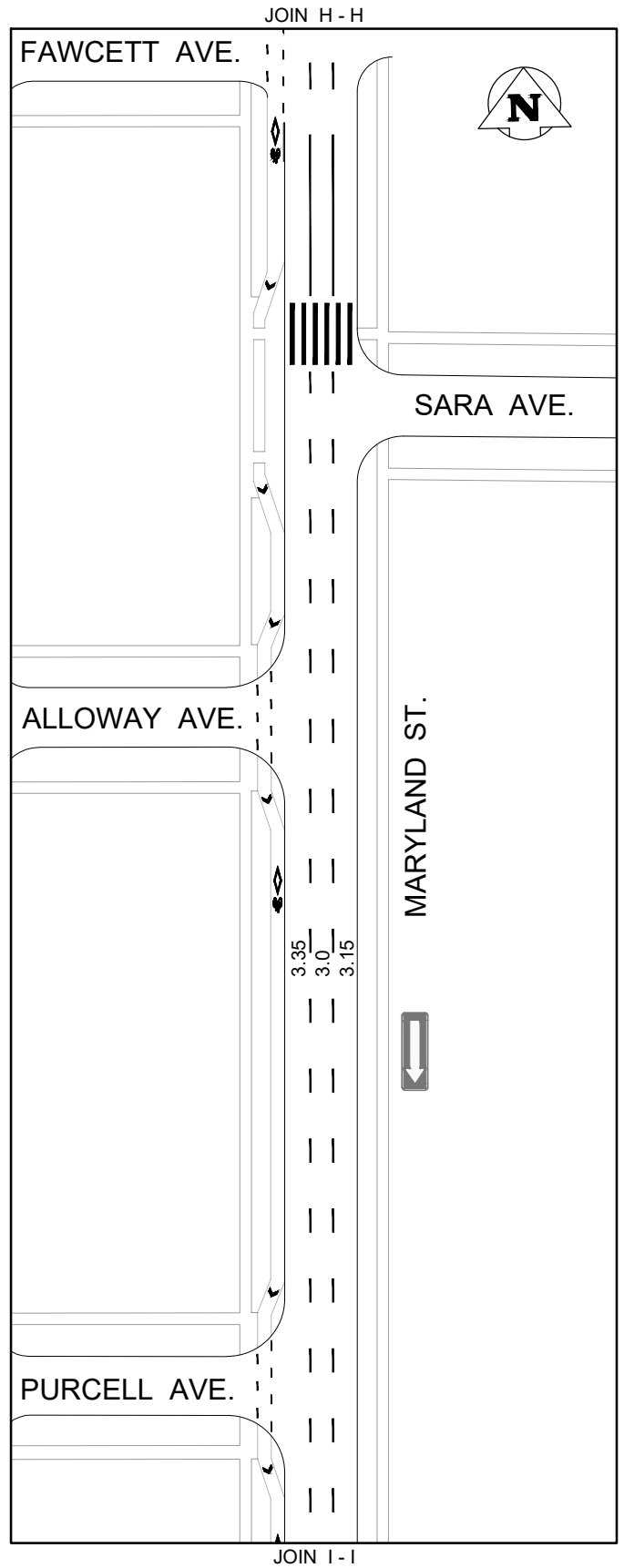
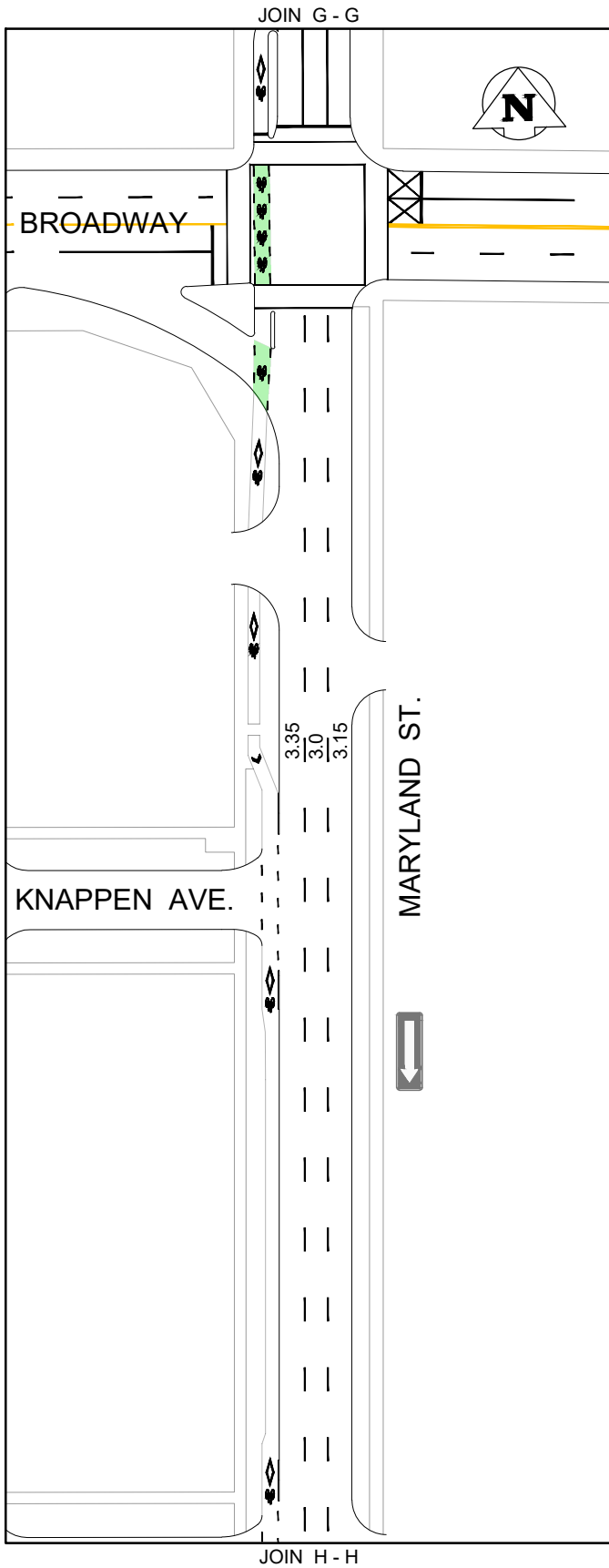
- E23.1.1 This Specification covers the provision of warranty for all plant material itemized on the Plant List:  
(a) Plant Material shall be under warranty for two full years.
- E23.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.
- E23.2 Timing
- E23.2.1 Warranty shall commence upon acceptance of installed plant material.
- E23.3 Warranty
- E23.3.1 The Contractor hereby warrants that the plant material as itemized on the Plant Lists and on the Drawings will remain free of defects for the maintenance period indicated for each area of the Contract.
- E23.4 End-of-Warranty Inspection
- E23.4.1 Contract Administrator reserves the right to extend the Contractor's warranty responsibilities for an additional year, at the end of the designated warranty period for the appropriate area, if at that time plant material leaf development and growth are not sufficient to ensure future survival.
- E23.5 Replacement
- E23.5.1 During the warranty period, remove from site any plant material that has died or failed to grow satisfactorily, as determined by the Contract Administrator and replace with healthy plant material of the same species and size.
- E23.5.2 Replace plant material in the following spring or fall as directed.
- E23.5.3 Extend warranty on replacement plant material for an additional period until the end of the specified warranty period or for one full growing season, whichever is the longer period.
- E23.5.4 Continue such replacement and warranty until plant material is acceptable.
- E23.5.5 Trees determined by the Contract Administrator to have been damaged by vandalism shall be replaced and such replacement trees will be paid for at the Contract Unit Prices for the species indicated on the Drawings.

#### MEASUREMENT AND PAYMENT

- E23.6 Warranties on Plant Material
- E23.7 Warranties on plant material will be incidental to the "Plant Material." No measurement and payment will be made for these Items of Work

# **APPENDIX 'A'**

## **SKETCHES**



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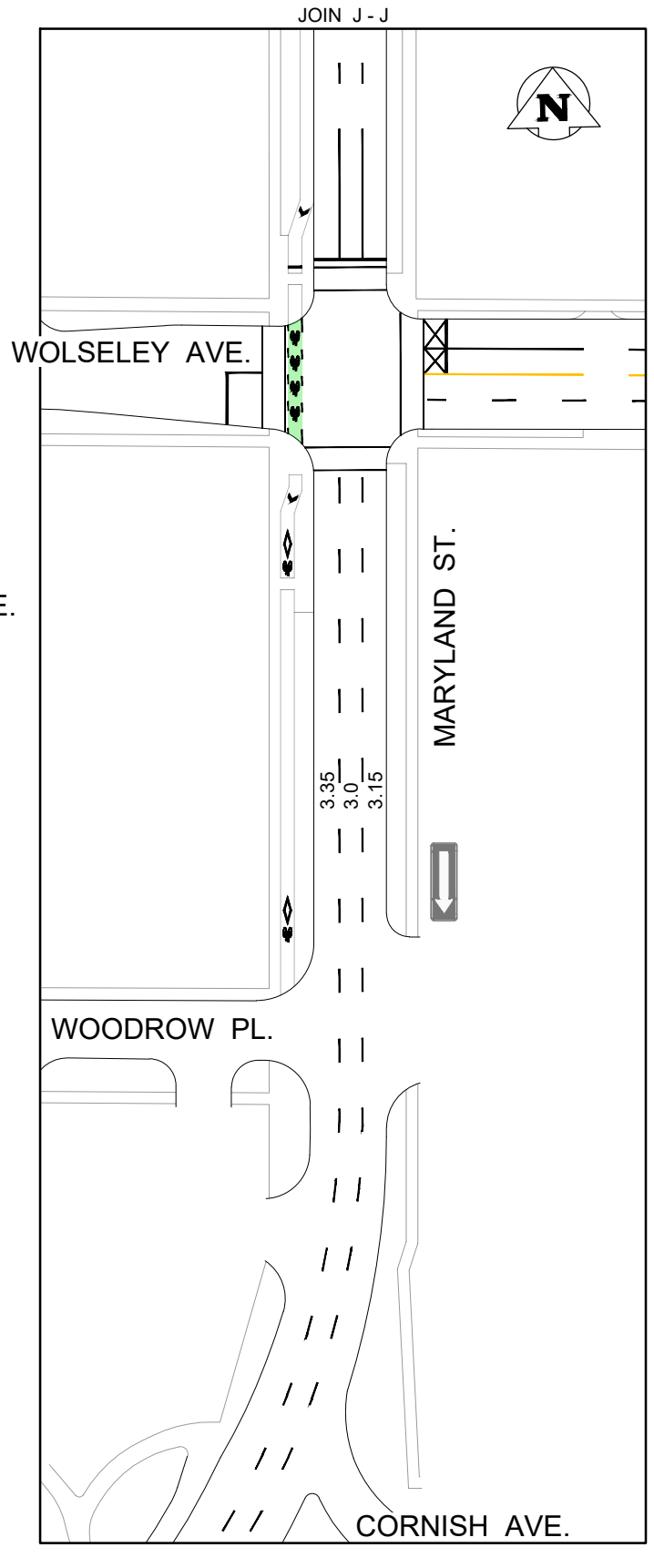
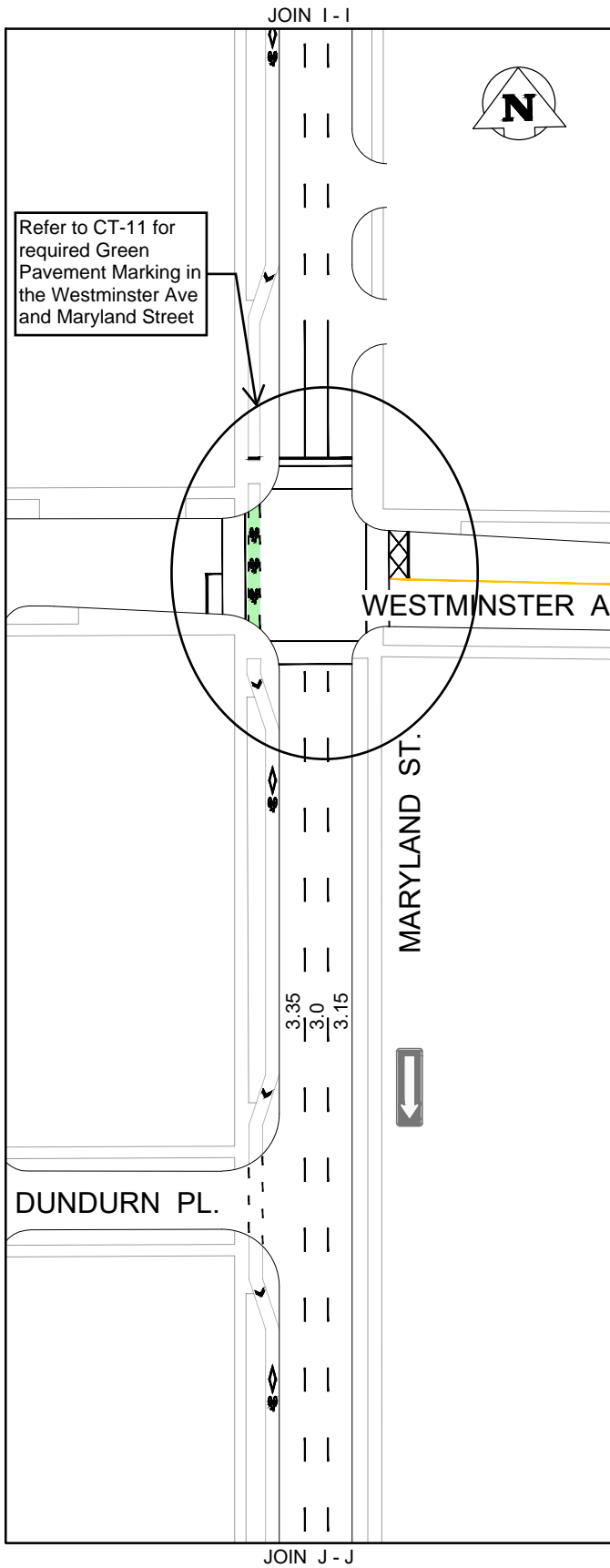
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THE CITY OF WINNIPEG  
PUBLIC WORKS DEPARTMENT  
TRANSPORTATION DIVISION


Maryland St.  
Notre Dame Ave. to  
Cornish Ave.

DRAWING NUMBER:  
**LB-13**  
5 of 6



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