



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 444-2009**

**THE CITY OF WINNIPEG TRANSIT DEPARTMENT – ON STREET TRANSIT  
PRIORITY IMPROVEMENTS – PHASE 3**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 The City of Winnipeg Transit Department – On Street Transit Priority Improvements – Phase 3

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 28, 2009.

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

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

### **B3. ENQUIRIES**

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B3.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B3.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B3.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B4. ADDENDA**

B4.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.

B4.2 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.

B4.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>

B4.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B4.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

### **B5. SUBSTITUTES**

B5.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.

- B5.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B5.3 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.
- B5.4 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.
- B5.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B5.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B5.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B5.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B5.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.
- B5.9 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.
- B5.10 Notwithstanding B5.2 to B5.9, in accordance with B6.6, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

## **B6. BID COMPONENTS**

- B6.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices, hard copy;

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

B6.2 Further to B6.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B5.

B6.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B6.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B6.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.

B6.4.2 A hard copy of Form B: Prices must be submitted with the Bid. If there is any discrepancy between the Adobe PDF version of Form B: Prices and the Microsoft Excel version of Form B: Prices, the PDF version shall take precedence.

B6.5 Bidders are advised not to include any information/literature except as requested in accordance with B6.1.

B6.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B14.1(a).

B6.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B6.8 Bids shall be submitted to:

The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

## **B7. BID**

B7.1 The Bidder shall complete Form A: Bid, making all required entries.

B7.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B7.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.

B7.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

- B7.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, shall be affixed;
  - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B7.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B7.5 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.

## **B8. PRICES**

B8.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B8.2 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.

B8.3 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.

B8.4 Prices from Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B8.5 Form B: Prices is organized into Parts: Part A through G of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Parts A through G.

## **B9. QUALIFICATION**

B9.1 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.

B9.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

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

B9.3 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).

B9.4 Further to B9.3(c), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>)

B9.5 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.

B9.6 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.

## **B10. BID SECURITY**

B10.1 The Bidder shall provide bid security in the form of:

- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
- (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
- (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B10.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B10.1.2 All signatures on bid securities shall be original.

B10.1.3 The Bidder shall sign the Bid Bond.

B10.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B10.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.



- B10.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B10.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
- B10.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.
- B10.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

## **B11. OPENING OF BIDS AND RELEASE OF INFORMATION**

- B11.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.
- B11.1.1 Bidders or their representatives may attend.
- B11.1.2 Bids determined by the Manager of Materials, or his designate, to not include the bid security specified in B10 will not be read out.
- B11.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>
- B11.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>
- B11.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

## **B12. IRREVOCABLE BID**

- B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B12.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

## **B13. WITHDRAWAL OF BIDS**

- B13.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B13.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B13.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

- B13.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
  - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.

B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

## **B14. EVALUATION OF BIDS**

B14.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B9 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B5.

B14.2 Further to B14.1(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.

B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.

B14.4 Further to B14.1(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.

B14.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B14.4.2 Further to B14.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

## **B15. AWARD OF CONTRACT**

B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B15.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B15.2.1 Without limiting the generality of B15.2, 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.

**B15.3** Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B14.

**B15.3.1** Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

## PART C - GENERAL CONDITIONS

### C0. GENERAL CONDITIONS

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

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

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

#### **D2. SCOPE OF WORK**

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

- (a) On Street Transit Priority Improvements - Phase 3
  - (i) Part A: Portage Corridor – Portage Avenue @ St. James Street
  - (ii) Part B: Portage Corridor – Portage Avenue @ Canora Street
  - (iii) Part C: Portage Corridor – Portage Avenue @ St. Mary Avenue
  - (iv) Part D: Portage Corridor – Portage Avenue, Memorial Boulevard to Vaughan Street
  - (v) Part E: Main Corridor – Main Street @ Smithfield Avenue
  - (vi) Part F: Marion/Goulet Corridor – Goulet Street @ Tache Avenue
  - (vii) Part G: All Corridors – Vehicle Detector Loops and Miscellaneous Restorations

D2.1 The major components of the Work for all Parts generally include the following:

- (a) All Parts - General
  - (i) Excavation of existing boulevard, traffic island, private approaches, etc.
  - (ii) Adjustment, relocation, replacement of drainage inlets, water valves and other pavement appurtenances
  - (iii) Full depth concrete lane construction (sometimes tinted concrete at grade, sometimes overlaid with asphalt)
  - (iv) Construction of concrete curbs, sidewalks, medians, and other miscellaneous concrete slabs
  - (v) Installation of preformed or sawcut installed vehicle detector loops
  - (vi) Boulevard grading and sodding
  - (vii) Asphalt planning and placement of asphalt mainline, tie-ins, and patching as necessary

D2.2 Additional specific components of the Work for each Part include the following:

- (a) Part A: Portage Corridor – Portage Avenue @ St. James Street
  - (i) General – Cutting back WB traffic island to create Transit queue jump lane
  - (ii) Tinted at grade concrete lane adjacent to island
- (b) Part B: Portage Corridor – Portage Avenue @ Canora Street
  - (i) General – Build out EB sidewalk
  - (ii) Removal of existing pavement under new sidewalk
- (c) Part C: Portage Corridor – Portage Avenue @ St. Mary Avenue
  - (i) General – Replace existing concrete lane next to island with tinted concrete
- (d) Part D: Portage Corridor – Portage Avenue, Memorial Boulevard to Vaughan Street
  - (i) General – Build out EB sidewalk and upgrade bus stop
  - (ii) The Hudson's Bay Company (HBC) department store basement extends under the existing sidewalk. The existing sidewalk surface is the roof of the basement. Alterations to the structural sidewalk are included in the scope.
  - (iii) Spot concrete repairs and modifications to existing structural sidewalk.

- (iv) Installation of new sidewalk and paving stones overtop the HBC structural sidewalk.
  - (v) Extension of the sidewalk to build out over existing traffic lane.
  - (vi) Bus stop upgrade items including new shelter base, signage bases, and installation of power supply conduit.
- (e) Part E: Main Corridor – Main Street, Smithfield Avenue to Rupertsland Boulevard
- (i) General – Geometric realignment to better facilitate curb lane conversion to diamond lane (by others).
  - (ii) Removal of existing pavement under new boulevard
- (f) Part F: Marion/Goulet Corridor – Goulet Street @ Tache Avenue
- (i) General – Removal of traffic islands to make continuous third lane through intersection
  - (ii) Reconstruction involves geometric changes to roadway and sidewalk.
  - (iii) Bus stop upgrade of a new flag foundation and paving stones.
- (g) Part G: All Corridors – Vehicle Detector Loops and Miscellaneous Restorations
- (i) General – Vehicle Detector Loop installation and concrete restorations after Traffic Signals Branch work in various locations on the corridors other than those shown on drawings. Sites expected to include those listed in Parts A – F as well as Portage @ Spence; Main @ Euclid; and Main @ Redwood.
  - (ii) General – Concrete restorations after Traffic Signals Branch work in various locations on the corridors other than those shown on drawings.
  - (iii) General – Miscellaneous concrete repairs in the vicinity of Work areas listed in Parts A – F such as full depth partial slab patches.

### **D3. CONTRACT ADMINISTRATOR**

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

David Wiebe, P.Eng  
Project Manager  
Suite 200 – 895 Waverley Street  
Telephone No. (204) 453-2301  
Facsimile No. (204) 452-4412

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

### **D4. CONTRACTOR'S SUPERVISOR**

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

D4.2 At least two (2) business days prior to the commencement of any Work on the Site, the Contractor shall provide the Contract Administrator with a phone number where the supervisor identified in D4.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

## **D5. NOTICES**

- D5.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.
- D5.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:
- The City of Winnipeg  
Chief Financial Officer  
Administration Building, 3rd Floor  
510 Main Street  
Winnipeg MB R3B 1B9  
Facsimile No.: (204) 949-1174
- D5.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:
- The City of Winnipeg  
Internal Services Department  
Legal Services Division  
Attn: City Solicitor  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1  
Facsimile No.: (204) 947-9155

## **D6. FURNISHING OF DOCUMENTS**

- D6.1 Upon award of the Contract, the Contractor will be provided with three (3) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

## **SUBMISSIONS**

### **D7. AUTHORITY TO CARRY ON BUSINESS**

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

### **D8. SAFE WORK PLAN**

- D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.2 The Safe Work Plan 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. INSURANCE**

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
  - (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
  - (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in the C4.1 for the return of the executed Contract.
- D9.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

## **D10. PERFORMANCE SECURITY**

- D10.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
  - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
  - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D10.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D10.2 If the bid security provided in his Bid was not a certified cheque or draft pursuant to B10.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site and in no event later than the date specified in the C4.1 for the return of the executed Contract.



## **D11. SUBCONTRACTOR LIST**

D11.1 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.

## **D12. EQUIPMENT LIST**

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

## **D13. DETAILED WORK SCHEDULE**

D13.1 The Contractor shall provide the Contract Administrator with a detailed work schedule (Form L: 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.

## **SCHEDULE OF WORK**

### **D14. COMMENCEMENT**

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

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 D7;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
  - (iv) the Safe Work Plan specified in D8;
  - (v) evidence of the insurance specified in D9;
  - (vi) the performance security specified in D10;
  - (vii) the subcontractor list specified in D11;
  - (viii) the equipment list specified in D12;
  - (ix) the Detailed Work Schedule specified in D13; and
- (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D14.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D14.4 The City intends to award this Contract by August 17, 2009

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

## **D15. WORKING DAYS**

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

D15.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his 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 agrees with the Contract Administrator's determination of the Working Days assessed for the report period.

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

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

## **D16. RESTRICTED WORK HOURS**

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

## **D17. WORK BY OTHERS**

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

- (a) Part A: Portage Corridor – Portage Avenue @ St. James Street
  - (i) Traffic signal poles and pit relocations by Traffic Signals Branch
  - (ii) Hydro watch during project excavation around 115 kV high pressure oil filled power line.
- (b) Part B: Portage Corridor – Portage Avenue @ Canora Street
  - (i) Transit Department removing shelter prior to sidewalk reconstruction. Reinstallation after Site complete.
  - (ii) MTS Raising manhole to match new sidewalk
- (c) Part C: Portage Corridor – Portage Avenue @ St. Mary Avenue
  - (i) No major work expected by others
- (d) Part D: Portage Corridor – Portage Avenue, Memorial Boulevard to Vaughan Street
  - (i) Transit Department removing shelter prior to construction. Installation of new shelter and site furniture after site complete.
  - (ii) Traffic signal poles and pit relocations by Traffic Signals Branch
- (e) Part E: Main Corridor – Main Street, Smithfield Avenue to Rupertsland Boulevard
  - (i) Traffic signal poles and pit relocations by Traffic Signals Branch
- (f) Part F: Marion/Goulet Corridor – Goulet Street @ Tache Avenue
  - (i) Traffic signal poles and pit relocations by Traffic Signals Branch
  - (ii) MB Hydro raising manhole to match new sidewalk
  - (iii) Transit Department installing bus stop flag after site complete.
- (g) Part G: All Corridors – Vehicle Detector Loops and Miscellaneous Restorations
  - (i) Traffic signal pole, controller, and underground conduit installation by Traffic Signals Branch. Restorations by Contractor to be performed after this work complete.

## **D18. SEQUENCE OF WORK**

D18.1 Further to C6.1, the sequence of Work shall comply with the following:

- D18.1.1 Providing that the Work at each Site is completed in a similar order to the order that the Work was commenced in, the Contractor will be permitted to have a maximum of four (4) Sites under construction at any one time. Completion of a Site means that all of the necessary concrete and asphalt works are completed to the satisfaction of the Contract Administrator. Landscaping and boulevard restoration works can overlap with additional Sites if the contractor can show that progress is being made.
- (a) Part G is excluded from the sequence of Work as it is partially dependant upon Traffic Signals Branch work schedule.
- D18.1.2 Where the Contractor utilizes two (2) or more crews that work independently on the same major component of the Work as identified in D2, the Contract Administrator may approve an increase to the maximum number of streets under construction at any time.
- D18.1.3 The order of construction, based on necessary utility work, adjacent businesses, and completion requirements shall be as follows:
- (i) Part D: Portage Corridor – Portage Avenue, Memorial Boulevard to Vaughan Street
  - (ii) Part F: Marion/Goulet Corridor – Goulet Street @ Tache Avenue
  - (iii) Part E: Main Corridor – Main Street, Smithfield Avenue to Rupertsland Boulevard
  - (iv) Part B: Portage Corridor – Portage Avenue @ Canora Street
  - (v) Part C: Portage Corridor – Portage Avenue @ St. Mary Avenue
  - (vi) Part A: Portage Corridor – Portage Avenue @ St. James Street
  - (vii) Part G: All Corridors – Vehicle Detector Loops and Miscellaneous Restorations
- D18.1.4 The sequence of Work within Part D shall comply with the following:
- (i) The Hudson's Bay Company (HBC) store has doors at the southeast corner of Portage @ Memorial and southwest corner of Portage @ Vaughan. Only one of these doors shall be inaccessible to pedestrians at any one time.
  - (ii) The pedestrian island in the southwest corner of the Portage @ Memorial intersection shall not be reconstructed when the sidewalk and doors at the southeast corner of the Portage @ Memorial intersection are not accessible. This is to maintain pedestrian movements on one side of the intersection at all times.
- D18.1.5 The sequence of Work within Part E shall comply with the following:
- (i) The Work in the southbound median and left turn lane shall be completed prior to the curb lane realignment. This is to allow for two southbound lanes to be maintained in the subsequent curb lane realignment.
  - (ii) Asphalt planing of the curb lane area shall be completed prior to other construction in the curb lane. This is to provide visual guidance to drivers on the new alignment, and allow for curb to be pinned to the underlying concrete pavement.
- D18.1.6 The sequence of Work within Part F shall comply with the following:
- (i) The Work in the westbound curb lane shall be completed prior to the median (most southerly) median lane work. This is to allow for two westbound lanes to be maintained when working in the median lane.
  - (ii) Pedestrian access must be maintained on one side of the street or intersection at all times.
  - (iii) Place temporary asphalt ramps as necessary until the asphalt overlay is complete.

- (iv) Asphalt planing shall not be completed until all concrete work is complete, just prior to the placement of the asphalt overlay. This will require removing the existing asphalt overlay by other means where new curb will be placed over the underlying concrete pavement.

#### **D19. SUBSTANTIAL PERFORMANCE**

- D19.1 The Contractor shall achieve Substantial Performance within forty-five (45) consecutive Working Days of the commencement of the Work as specified in D14.
- D19.2 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.
- D19.3 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.

#### **D20. TOTAL PERFORMANCE**

- D20.1 The Contractor shall achieve Total Performance within forty-seven (47) consecutive Working Days of the commencement of the Work as specified in D14.
- D20.2 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.
- D20.3 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.

#### **D21. LIQUIDATED DAMAGES**

- D21.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City one thousand eight hundred dollars (\$1,800.00) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.
- D21.2 The amount specified for liquidated damages in D21.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.
- D21.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

#### **D22. SCHEDULED MAINTENANCE AND MISCELLANEOUS RESTORATIONS**

- D22.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
  - (a) Reflective Crack Maintenance (during one year warranty period) as specified in CW 3250;
  - (b) Sodding (Maintenance Period) as specified in CW 3510;
  - (c) Part G: Concrete restorations after Traffic Signals Branch installations within two weeks at each Site.

D22.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance and Part G Work identified herein. All scheduled maintenance and Part G shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance or Part G Work 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 or Part G Work.

## **CONTROL OF WORK**

### **D23. JOB MEETINGS**

D23.1 Regular weekly job meetings will be held at one of the Sites.. 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.

D23.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

### **D24. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D24.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

## **WARRANTY**

### **D25. WARRANTY**

D25.1 Notwithstanding C13.2, the warranty period shall begin on the date of Substantial Performance and shall expire one (1) year thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D25.2 Notwithstanding C13.2 or D25.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Substantial Performance if:

- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D25.2.1 In such case the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

**FORM H1: PERFORMANCE BOND**  
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

\_\_\_\_\_ ,  
(hereinafter called the "Principal"), and

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

\_\_\_\_\_ dollars (\$\_\_\_\_\_)

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

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

BID OPPORTUNITY NO. 444-2009

The City of Winnipeg Transit Department – On Street Transit Priority Improvements – Phase 3 which is by reference made part hereof and is hereinafter referred to as the "Contract".

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

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

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

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

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

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**SIGNED AND SEALED**  
in the presence of:

\_\_\_\_\_  
(Witness as to Principal if no seal)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

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

\_\_\_\_\_  
(Date)

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

RE: PERFORMANCE SECURITY – BID OPPORTUNITY NO. 444-2009

The City of Winnipeg Transit Department – On Street Transit Priority Improvements – Phase 3

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

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

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

\_\_\_\_\_  
Canadian dollars.

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

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

Partial drawings are permitted.

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

\_\_\_\_\_  
(Address)

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



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

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

\_\_\_\_\_  
(Date)

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

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

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

\_\_\_\_\_  
(Name of bank or financial institution)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

Per: \_\_\_\_\_  
(Authorized Signing Officer)



**FORM K: EQUIPMENT**  
(See D12)

The City of Winnipeg Transit Department – On Street Transit Priority Improvements – Phase 3

**1. Category/type: Concrete (Pavers, Power Screeds)**

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

**2. Category/type: Asphalt (Planer/Miller, Pavers)**

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

**3. Category/type: Other (as necessary)**

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_

Registered owner: \_\_\_\_\_



## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
1	Cover Sheet	A1
2	Portage Corridor – Portage Avenue @ St. James Street	A1
3	Portage Corridor – Portage Avenue @ Canora Street	A1
4	Portage Corridor – Portage Avenue @ St. Mary Avenue	A1
5	Portage Corridor – Portage Avenue, Memorial Boulevard to Vaughan Street	A1
6	Main Corridor – Main Street, Smithfield Avenue to Rupertsland Boulevard	A1
7	Marion-Goulet Corridor – Goulet Street @ Tache Avenue	A1
8	Sections and Details (1 of 2)	A1
9	Sections and Details (2 of 2)	A1
10	Bus Stop Upgrade Details	A1

#### E2. PROTECTION OF EXISTING TREES

- E2.1 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:
- The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 m of trees.
  - Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400 mm wood planks, or suitably protected as approved by the Contract Administrator.
  - 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.
  - 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.
  - 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.

E2.2 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 designate.

E2.3 No separate measurement or payment will be made for the protection of trees.

E2.4 Except as required in clause E2.1(c) and E2.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

### **E3. TRAFFIC CONTROL**

E3.1 Further to clauses 3.6 and 3.7 of CW 1130-R1:

- (a) Where directed, 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, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Section of the City of Winnipeg to place all temporary regulatory signs. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by the Traffic Services Section of the City of Winnipeg in connection with the works undertaken by the Contractor.

### **E4. TRAFFIC MANAGEMENT**

E4.1 Further to clause 3.7 of CW 1130-R1:

E4.1.1 The Contractor may close the lane adjacent to the lane under construction to facilitate equipment staging and loading except as follows:

- (a) Part A: The adjacent westbound lane shall not be closed between 1530 – 1730 hours. The westbound right turn yield movement at the island shall be maintained at all times, except for short durations as approved by the Contract Administrator.
- (b) Part B: The existing eastbound curb lane will be closed permanently as sidewalk is placed overtop. The adjacent lane may be closed for the duration of placement of the at grade concrete bus pad. If the subsequent asphalt planing and asphalt overlay will not be completed immediately, the Contractor shall construct temporary asphalt ramps around the bus pad and shall not close the lane between 0700 - 0900 hours.
- (c) Part C: The adjacent eastbound lane shall not be closed between 0700 – 0900 hours. The eastbound right turn movement at the intersection shall be maintained between 0700 – 0900 and 1530 - 1730 and when the contractor is not working at the Site.
- (d) Part D: The existing eastbound curb lane will be closed permanently as sidewalk is placed overtop. The adjacent lane shall not be closed between 0700 – 0900 hours. Equipment and materials may be stored in the northbound curb lane of Memorial Boulevard. The eastbound right turn movement at the Memorial intersection shall be maintained at all times, except for short durations as approved by the Contract Administrator.
- (e) Part E: When reconstructing the southbound median and left turn lane, the adjacent southbound lane shall not be closed between 0700 – 0900 and 1530 – 1730 hours. When reconstructing the southbound curb lane, the adjacent lane shall not be closed between 0700 – 0900 and 1530 – 1730 hours. This will maintain two southbound lanes during peak hours.
- (f) Part F: The adjacent westbound lane shall not be closed between 0700 – 0900 hours. The adjacent northbound and southbound curb lanes may be closed. This will maintain one northbound and one southbound lane at any one time.
- (g) Part G: In general, do not perform Work in the eastbound lanes of Portage Avenue, the southbound lanes of Main Street, and westbound lanes of Goulet Avenue between 0700 – 0900 hours. Do not perform Work in the westbound lanes of Portage Avenue and the northbound lanes of Main Street between 1530 – 1730.

- E4.1.2 Part D: The Hudson's Bay Company (HBC) store has doors at the southeast corner of Portage @ Memorial and southwest corner of Portage @ Vaughan. Only one of these doors shall be inaccessible at any one time.
- E4.1.3 When no Work is being performed on a particular Part of the project and providing it is safe for vehicles, adjacent lane closures will not be permitted, unless written consent is given by the Contract Administrator. It is expected that most parts of the Work should have the adjacent lane open when no Work is being performed.
- E4.1.4 Intersecting street and private approach access shall be maintained at all times.
- E4.1.5 Should the Contractor be unable to maintain pedestrian or vehicular access to a residence or business, he shall review the planned disruption with the business or residence and the Contract Administrator, and take reasonable measures to minimize the impact. The Contractor shall provide a minimum of 24 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.
- E4.1.6 Ambulance/emergency vehicle access must be maintained at all times.
- E4.1.7 Pedestrian access must be maintained on one side of the street or intersection at all times.

## **E5. PEDESTRIAN SAFETY**

- E5.1 During the project, a temporary snow fence shall be installed if necessary in locations where open excavations are adjacent to pedestrian facilities.. The Contractor shall be responsible for maintaining the snow fence in a proper working condition. No measurement for payment shall be made for this Work.

## **E6. WATER USED BY CONTRACTOR**

- E6.1 Further to clause 3.7 of CW 1120-R1, the Contractor shall pay for all costs associated with obtaining water in accordance with the Waterworks By-law. Sewer charges will not be assessed for water obtained from a hydrant.

## **E7. SURFACE RESTORATIONS**

- E7.1 Further to clause 3.3 of CW 1130-R1, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

## **E8. CONSTRUCTION OF TINTED CONCRETE**

- E8.1 Description
- E8.1.1 General
- (a) This specification covers the construction of "red" tinted concrete pavement, intended to delineate Transit only lanes at various locations in this project. The tinted concrete is finished at grade and is the width of the travel lane. Care must be taken with consistency in water/cement ratio and finishing as the color can be affected load to load.
  - (b) Referenced Standard Construction Specifications
    - (i) CW 3310 – Portland Cement Concrete Pavement Works
- E8.2 Materials and Equipment
- E8.2.1 Concrete Materials

- (a) The Contractor shall base the tinted concrete mix on a mix design that has been approved for the 2009 construction season by the City of Winnipeg Research and Standards Engineer.
- (b) The base mix design shall conform to section 6 of CW 3310 with the following alterations:
  - (i) Type 1 mix as per Section 6.2 of CW 3310
  - (ii) Slump for hand placement shall be 80 mm +/- 20 mm prior to adding superplasticizers (if needed) to facilitate finishing without adding water to the surface.
- (c) Alterations to the base mix design will be considered by the Contract Administrator if necessary to account for the concrete tint material and finishing operations.

#### E8.2.2 Concrete Tint

- (a) "Red" colored metal oxide pigment used to permanently color ready-mix concrete.
- (b) Approved Product List
  - (i) Lafarge Red (Premium) supplied through L.M. Scofield Company
  - (ii) SG160-2 Sunrise Red supplied through L.M. Scofield Company
- (c) Contractor to cast one colored concrete sample minimum 200 mm \* 200 mm in area using base concrete mix for approval by Contract Administrator.
- (d) Tinted concrete shall not be placed until sample color has been accepted by the Contract Administrator. The contractor shall demonstrate that the sample will achieve the approximate color advertised by the pigment supplier using local concrete mix materials.

#### E8.2.3 Superplasticizers

- (a) Superplasticizers shall conform to the requirements of CSA CAN3-A266.5 and CAN3-A266.6, but must be compatible with the air-entraining agent. The agent shall be free of chlorides and shall not affect the air-entraining agent's ability to produce a satisfactory air void system.

#### E8.2.4 Liquid Membrane-Forming Curing Compound

- (a) Curing Compound shall be clear (no pigment), and water based conforming to the requirements of ASTM C309.

#### E8.2.5 Other Materials

- (a) All other materials as per CW 3310

#### E8.2.6 Floating and Finishing Equipment

- (a) Use only wood or magnesium floats. Bull floats used for initial finishing shall be constructed of wood only.

#### E8.2.7 Other Equipment

- (a) All other equipment as per CW 3310

### E8.3 Construction Methods

#### E8.3.1 General

- (a) Concrete formwork, steel reinforcement, placement, curing, and joint sealing as per CW 3310 except as modified in the following clauses.
- (b) As shown on the drawings, construct formed 50 mm headers to define the lane edge and transverse termination of at-grade colored concrete where the adjacent pavement is to be asphalt overlaid.
- (c) Clean finishing tools and equipment and let dry prior to finishing. Wet tools will fade the coloring. Wetting of tools during finishing operation is not permitted.



- (d) Place concrete at a consistent slump. No water shall be added on Site. Superplasticizer may be added at a rate suggested by the concrete supplier if additional workability is needed.
- (e) No localized water spray or fogging is permitted to assist in finishing as this will locally fade the color.
- (f) Clear curing compound only shall be used. The use of water curing or plastic film is not allowed. Plastic film for insulation in cold weather must be approved by the Contract Administrator.

#### E8.4 Measurement and Payment

##### E8.4.1 Construction of Tinted Concrete

- (a) Construction of Tinted Concrete will be measured on an area basis and paid for at the Contract Unit Price per square meter for the "Items of Work" listed below. The area to be paid for will be the total number of square meters of tinted concrete supplied and placed at grade, or below an asphalt overlay in accordance with this specification and accepted by the Contract Administrator.

##### E8.4.2 Items of Work:

- (a) Concrete Pavements, Median Slabs, Bull-noses, and Safety Medians;
  - (i) Construction of 200 mm Concrete Pavement (Plain-Dowelled, Tinted).

### **E9. ASPHALT TIE-INS AND PATCHING ADJACENT TO AT GRADE TINTED CONCRETE**

#### E9.1 Description

##### E9.1.1 General

- (a) This specification alters the scope of tie-ins and approaches to include asphalt patching next to at-grade tinted concrete. This patching is required to restore the riding surface adjacent to headers constructed as shown in the drawings.
- (b) Referenced Standard Construction Specifications
  - (i) CW 3410 – Asphaltic Concrete Pavement Works

#### E9.2 Materials and Equipment

##### E9.2.1 Asphalt Materials

- (a) Type 1A as per Section 5 and 6 of CW 3410

##### E9.2.2 Equipment

- (a) Equipment as per Section 8 of CW 3410

#### E9.3 Construction Methods

##### E9.3.1 General

- (a) Placement of asphalt tie-ins as per Section 9 of CW 3410
- (b) Place asphalt overlay patches adjacent to at grade colored concrete using construction methods in Section 9 of CW 3410 in locations generally shown on the construction drawings.
- (c) Asphalt overlay patches shall be placed by hand methods and compacted with mechanical rollers.
- (d) Further to Section 9.3 of CW 3410, tie-ins include miscellaneous asphalt for temporary ramping, sidewalk in-fill, and isolations.

## E9.4 Measurement and Payment

### E9.4.1 Asphalt Tie-ins and Patching Adjacent to At Grade Tinted Concrete

- (a) Asphalt Tie-ins and Patching Adjacent to At Grade Tinted Concrete will be measured on a weight basis and paid for at the Contract Unit Price per tonne for "Tie-ins and Patches". The weight to be paid for will be the total number of tones of asphalt placed and compacted in accordance with this specification and accepted by the Contract Administrator, as measured on a certified weigh scale.

## E10. INSTALLATION AND TESTING OF VEHICLE DETECTOR LOOPS

### E10.1 Description

#### E10.1.1 General

- (a) The vehicle detector loop drawings in Appendix C of this Bid Opportunity shall supercede the drawings in The City of Winnipeg Standard Construction Specifications.
- (b) Further to CW 3620, Clause 8.13 "Saw Cutting and Sealing for Vehicle Detector Loops", the Contractor shall be responsible for the installation of the vehicle detector loop wire into the sawcut as shown in Drawings ST-62 and ST-144.
- (c) The Contractor shall be responsible for the installation of pre-formed vehicle detector loops as shown in Drawing ST-148
- (d) Referenced Standard Construction Specifications
  - (i) CW 3620 – Installation of Underground Traffic Signal Services

### E10.2 Materials and Equipment

#### E10.2.1 Loop Wire for Saw Cut Vehicle Detector Loops

- (a) Further to CW 3620, Clause 6, the loop wire material will be supplied by the City.

#### E10.2.2 Pre-Formed Vehicle Detector Loops

- (a) Further to CW 3620, Clause 6, the pre-formed loops and home run leads will be supplied by the City.

#### E10.2.3 Hot Poured Joint Sealer for Saw Cut Vehicle Detector Loops

- (a) As per City of Winnipeg Standard Construction Specifications, Division 4 – Surface Works – Approved Products for Surface Works, Section 20.

### E10.3 Construction Methods

#### E10.3.1 Saw Cut Vehicle Detector Loops

- (a) The Contract Administrator will layout the location of the detector loops for the Contractor.
- (b) Saw Cutting and Sealing as per Clause 8.13 of CW 3620, ST-62, and ST-144.
- (c) The detector loop shall consist of four (4) layers of insulated loop wire installed as a continuous piece containing no splices. The wire shall be adequately compacted to the bottom of the sawcut without damage to the wire's insulation.
- (d) The loop shall begin and end in the traffic signals service box connected to the loop lead in conduit. A minimum of two (2) meters at each end of the wire shall extend into the service box.
- (e) A minimum of three (3) non conductive, non organic retainers shall be placed above the loop wire evenly spaced in each section of the sawcuts to the satisfaction of the Contract Administrator.
- (f) Before sealing, the contractor shall ensure that the loop has a total inductance in the range of 100 to 200  $\mu$ H (Micro Henrys).

#### E10.3.2 Pre-Formed Vehicle Detector Loops

- (a) The Contract Administrator will layout the location of the detector loops for the Contractor.
- (b) Construction as per ST-148.
- (c) Install the pre-formed loops and associated home run leads to the loop detector conduit. Install loops and leads on the top of the compacted base layer.
- (d) Trim the loop detector conduit below the proposed pavement when installing the home run leads.
- (e) The home run leads shall end in the traffic signals service box.
- (f) Before sealing, the contractor shall ensure that the loop has a total inductance in the range of 100 to 200  $\mu$ H (Micro Henrys).

#### E10.4 Measurement and Payment

##### E10.4.1 Installation and Testing of Vehicle Detector Loops

- (a) The various Work items for the vehicle detector loops will be measured on a per item basis and paid for at the Contract Unit Price per item for the "Items of Work" listed below. The amount to be paid for will be the total number of each item supplied and constructed in accordance with this specification and accepted by the Contract Administrator.

##### E10.4.2 Items of Work:

- (a) Installation and Testing of Vehicle Detector Loops
  - (i) Concrete (ST-62)
  - (ii) Asphalt (ST-144)
  - (iii) Pre-Formed (ST-148)

### **E11. CONCRETE SIDEWALK ON HBC BASEMENT ROOF**

#### E11.1 Description

##### E11.1.1 General

- (a) The existing sidewalk in front of the Hudson's Bay Company (HBC) Department Store at 450 Portage Avenue is the roof of the HBC building basement. The basement effectively extends to the existing south curb of Portage Avenue. This "areaway" is actively used, and alterations to the existing structural sidewalk require careful consideration. According to original construction drawings, the basement roof is approximately 305 mm (12") thick with reinforcing steel in the bottom third at mid span and approximately 25 to 50 mm below the top sidewalk surface within 1.0 metres of the existing face of curb.
- (b) HBC Department Store record drawings showing the reinforcement in the existing structural sidewalk is shown in Appendix B.
- (c) This specification covers repairs to the existing structural sidewalk surface, alterations to the structural sidewalk to adjust for new curb ramps, and the bonding of new sidewalk on top of the existing structural sidewalk. Similar Work has already been performed at the Site at the southwest corner of Portage Avenue and Vaughan Street.
- (d) The addition of paving stone bands and fields is specified and paid for under E13.
- (e) The Contractor shall provide the Contract Administrator with a written methodology of their anticipated construction methods for the works described herein 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. The Contract Administrator will review and comment on the methodology.

- (f) Referenced Standard Construction Specifications
  - (i) CW 3230 – Full-Depth Patching of Existing Pavement Slabs and Joints
  - (ii) CW 3240 – Renewal of Existing Curbs
  - (iii) CW 3310 – Portland Cement Concrete Pavement Works
  - (iv) CW 3325 – Portland Cement Concrete Sidewalk
  - (v) CW 3335 – Installation of Interlocking Paving Stones on a Lean Concrete Base

## E11.2 Materials and Equipment

### E11.2.1 Bonding Agents

- (a) The Contractor shall identify the product(s) for bonding the new concrete sidewalk to the existing concrete substrate and submit product information to the Contract Administrator for review and approval.

### E11.2.2 Concrete Sidewalk

- (a) As per “Type 1 – Concrete for Pavements, Commercial Approaches, Curb and Gutter Sections, Curbs, Monolithic Curb and Sidewalk, Splash Strips, and Bullnoses” (32 MPa) as listed in Section 6.2a) of CW 3310.
- (b) Other materials for the construction of the concrete sidewalk such as but not limited to reinforcing steel and liquid membrane-forming curing compound as per Section 5.4 of CW 3310.

### E11.2.3 Pre-Compressed Expanding Joint Filler

- (a) Expanding joint filler units shall be single seal units comprised of water-based, stabilized, polymer-modified acrylic impregnated expanding foam sealant with internal laminations of closed cell foam.
- (b) Material to be supplied in sticks or rolls pre-compressed to less than the joint size at mean temperature for ease of installation. Material to contain a pressure sensitive adhesive on both faces.
- (c) An approved product is the Emseal Horizontal Colorseal hybrid joint sealant system (Gray color), manufactured by Emseal, LLC.

## E11.3 Construction Methods

### E11.3.1 Protection of Adjacent HBC Building

- (a) The Contractor shall protect the façade of the adjacent HBC building from damage (eg. Material or equipment storage, flying debris)
- (b) Protective materials shall not be affixed to the HBC building such that permanent damage will result
- (c) After sidewalk and paving stone construction has been completed, the Contractor shall remove dirt, sand or other foreign material due to construction activities from the main floor of the building façade adjacent to the project area. Cleaning shall include a low pressure wash of the walls and windows.
- (d) The finished sidewalk, including paving stone areas shall be mechanically or hand swept, including the adjacent driving lane.

### E11.3.2 Structural Concrete Removal and Repair

- (a) The Contractor shall remove existing structural concrete or patches where a deteriorated surface is noted.
- (b) In addition to deteriorated surfaces, existing structural concrete shall be removed where necessary to maintain a minimum of 50 mm of new concrete sidewalk bonded to the existing concrete. This includes curb ramp locations, and at the transition back to the existing structural sidewalk at the southeast corner of Portage Avenue and Memorial Boulevard.

- (c) Existing sidewalk placed on top of the existing structural concrete at the southwest corner of the Portage Avenue and Vaughan Street intersection shall also be removed to the depth of the existing structural concrete.
- (d) Limits of the repair and grade change areas are to be sawcut 25 mm to provide a well-defined interface and bonding surface with the existing concrete.
- (e) Concrete is to be removed a minimum of 50 mm or to the depth of deterioration at the designated locations, whichever is greater.
- (f) The Contractor shall use concrete removal methods and procedures that do not cause damage to the existing structural roof or underlying basement in the Bay, such as cross-cutting before removal. The Contractor shall be responsible for repairing any such damage that occurs during concrete removal operations.
- (g) Notify the Contract Administrator if reinforcing steel is exposed so that an inspection can be made. Where reinforcing steel is encountered, concrete removal shall extend a minimum of 25 mm beyond the depth of the reinforcing.
- (h) Notify the Contract Administrator when concrete removal is complete so that an inspection can be made, including elevations at the curb ramps and transition.

#### E11.3.3 Structural Concrete Surface Preparation

- (a) In areas of concrete removal and repair plus areas where a concrete sidewalk will be bonded to the existing structural sidewalk, the structural concrete surface shall be thoroughly shot-blasted to remove all surface laitance, and to expose the fine and coarse aggregates. Existing reinforcing steel exposed during concrete removal operations shall be grit blasted.
- (b) The surface preparation shall produce a minimum surface profile of 6 mm on the substrate concrete.
- (c) Notify the Contract Administrator at least twenty-four (24) hours prior to placing a bonding agent and concrete sidewalk so that an adequate inspection may be made of the prepared concrete substrate surface and related works. Placement without required prior notification will not be allowed.
- (d) Immediately prior to placing concrete, a bonding agent shall be applied to the entire surface of the shot-blasted substrate concrete.

#### E11.3.4 Concrete Sidewalk Construction at HBC

- (a) Forms for concrete shall conform to Section 9.1 of CW 3310. Forms may be anchored to the existing structural concrete sidewalk, but any holes made shall be repaired with bonding agent after forms are removed.
- (b) Concrete shall be placed to patch repair areas and to construct finished concrete sidewalk areas as per the Contract Drawings.
- (c) Where the concrete sidewalk ties into the adjacent pavement slabs for paraplegic ramps, the ramps shall be constructed as per SD-229C and paid for under CW 3240. Tie bars in drilled holes shall be installed and paid for under CW 3230.
- (d) Concrete sidewalk placement, finishing, and curing as per Section 9.4 through 9.6 of CW 3310.
- (e) Joints shall be sawcut to match the existing joints of the underlying structural concrete sidewalk or spaced as per SD-228A if over an existing concrete pavement. Other jointing methods as per Section 9.3 of CW 3325.

#### E11.3.5 Installation of Pre-Compressed Expanding Joint Filler

- (a) A 25 mm gap between the existing building and the new paving stones shall be constructed as shown on the Drawings for subsequent installation of the expanding joint filler.
- (b) Prior to installation of the pre-compressed joint filler, the joint surfaces shall be thoroughly cleaned and must be free of gross irregularities, loose particles, foreign

matter such as dirt, dust, ice, snow, water, etc. and coatings such as grease, oil, release agents, lacquers, etc. that may be detrimental to the adhesion of the sealant.

- (c) Install joint filler as per manufacturer recommendations.

#### E11.3.6 Other Associated Work

- (a) Salvage the existing HBC monument currently installed in the concrete sidewalk at the southwest corner of the Portage Avenue and Vaughan Street intersection. Remove without damaging the monument and reinstall at grade to new concrete sidewalk as directed by the Contract Administrator. No measurement or payment will be made for this Work.
- (b) Lean concrete base shall be installed and paid for under CW 3335.
- (c) Construct core hole drains as shown on the Contract Drawings to allow water to drain through the paving stone fields, through the lean mix and underlying concrete pavement to the existing subgrade. No measurement or payment will be made for this Work.

#### E11.4 Measurement and Payment

##### E11.4.1 Protection of Adjacent HBC Building

- (a) No separate measurement or payment will be made for these Works.

##### E11.4.2 Structural Concrete Removal and Repair

- (a) Structural Concrete Removal and Repair will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Structural Concrete Removal and Repair". The area to be paid for will be the total number of square metres sawcut, removed, and prepared for repair in accordance with this specification and accepted by the Contract Administrator.

##### E11.4.3 Structural Concrete Surface Preparation

- (a) No separate measurement or payment will be made for these Works.
- (b) As area is nearly identical, measurement and payment will be made as part of "Concrete Sidewalk Construction at HBC"

##### E11.4.4 Concrete Sidewalk Construction at HBC

- (a) Concrete Sidewalk Construction at HBC will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Concrete Sidewalk Construction at HBC". The area to be paid for will be the total number of square metres surface prepared, formed, placed, finished, cured, and sawcut in accordance with this specification and accepted by the Contract Administrator.

##### E11.4.5 Installation of Pre-Compressed Expanding Joint Filler

- (a) Installation of Pre-Compressed Expanding Joint Filler will be measured on a length basis and paid for at the Contract Unit Price per lineal metre for "Installation of Pre-Compressed Expanding Joint Filler". The area to be paid for will be the total number of lineal metres prepared and installed in accordance with this specification and accepted by the Contract Administrator.

##### E11.4.6 Other Associated Work

- (a) No separate measurement or payment will be made for these Works.

## E12. CONCRETE WORK FOR BUS STOP UPGRADES

### E12.1 Description

#### E12.1.1 General

- (a) This specification covers the furnishing of all labour, equipment and materials required to complete the supply and installation of concrete slabs and foundations to upgrade the Transit bus stops at Parts D and F.
- (b) Referenced Standard Construction Specifications
  - (i) CW 3310 – Portland Cement Concrete Pavement Works

E12.1.2 The details of construction are shown on the drawings and as hereinafter specified, including, but not necessarily confined to the following:

- (a) Excavation for foundations and shelter base.
- (b) Granular Fill work as required.
- (c) Supply, erection and removal of all formwork as required.
- (d) Supply, placing and curing of concrete foundation for bus stop TIP kiosk as shown on the Drawings.
- (e) Supply, placing and curing of concrete foundation for bus stop flag as shown on the Drawings.
- (f) Supply, placing and curing of concrete of base for heated Transit shelter as shown on the Drawings.
- (g) Co-ordination of the installation of all electrical and other items to be installed in the concrete works by an electrical contractor and Manitoba Hydro as facilitated through the Contract Administrator.
- (h) Co-ordination with the signage, shelter, and power pedestal suppliers as required and as facilitated through the Contract Administrator.
- (i) Supply and placing of reinforcing steel.
- (j) Installation of miscellaneous metal anchors, bolts, inserts and bases on concrete bases as supplied by the Contract Administrator.
- (k) Clean-up.

## E12.2 Materials and Equipment

E12.2.1 Concrete for kiosk and flag foundations as follows:

- (a) Cement: Type 50 (HS)
- (b) Max. Coarse Aggregate: 20 mm
- (c) Min Compressive Strength at 28 days +25Mpa
- (d) Class of Exposure: S-2
- (e) Slump: 90mm ± 20 mm
- (f) Air Content: 5 to 8%
- (g) Flyash content: Max. 15% of Cementitious Material

E12.2.2 Concrete for heated Transit shelter as follows:

- (a) As per Section 6.2b) of CW 3310

E12.2.3 Other Materials

- (a) Other materials as per Drawings listed in E1 and Drawing in Appendix A.
- (b) Other concrete and granular materials as per CW 3310.

E12.2.4 Metal Anchor Bolts and Bases

- (a) Metal anchor bolts and metal bases for concrete foundations are supplied to the Contractor by sign manufacturer through the Contract Administrator. Bolts are to be installed using template provided.

#### E12.2.5 Electrical Conduit and Wiring

- (a) Conduit and wiring for the power pedestal and shelter base are supplied to the Contractor by an outside electrical contractor through the Contract Administrator. Bolts are to be installed using template provided.

#### E12.3 Construction Methods

##### E12.3.1 Excavation for Foundations

- (a) Excavate to line and grade as shown on the drawings and Appendix A.
- (b) Excavation for the foundation shall be done by auguring to the sizes shown on the Drawings. Water jetting methods of excavation will not be permitted. The bearing surface shall be inspected and any loose material shall be cleaned out prior to casting concrete.
- (c) If, in the opinion of the Contract Administrator, casing is required to prevent the sides of the augured hole from sloughing in the casing shall be supplied and installed, at no cost to the City.
- (d) Sleeving will not be allowed for foundations less than 600 mm diameter. The diameter of casing supplied shall be equal to the specified diameter of the foundation being constructed. If required, overboring shall be carried out to allow the installation of the casing, if so approved by the Contract Administrator. No additional payment will be made for overboring. The casing shall be designed to withstand installation, withdrawal and earth pressure forces. The casing shall be withdrawn as the concrete is poured ensuring that the casing is at least 1 metre below the top of the freshly placed concrete until all concrete in the foundation is placed.
- (e) The foundation excavation shall be kept dry at all times. The Contractor shall have on hand sufficient pumps to satisfy this requirement.
- (f) Rocks or boulders hindering the continuation of drilling shall be removed in whole or part, using approved methods.
- (g) If the excavation for the foundation varies from the location shown on the drawing by more than 75 mm (3"), the excavation shall be enlarged so that the centreline of the reinforcing cage is within 75 mm (3") of its specified location and 75 mm (3") of concrete cover to the reinforcing steel is maintained.

##### E12.3.2 Foundation Concrete Work

- (a) Construct foundation as shown on the drawings and Appendix A.
- (b) The foundation concrete shall be cast no later than 24 hours after the excavation has been completed.
- (c) The reinforcing cage shall be placed in the foundation excavation prior to starting the concreting. Spacers shall be provided to keep the reinforcing cage in its correct location.
- (d) Reinforcement shall be clean, and free from all coatings, including ice, loose rust, dried concrete, which tend to reduce bond.
- (e) Reinforcement shall be formed accurately and secured in foundation shaft and to required ties and spacers with annealed wire ties or suitable clips so that position and concrete cover, as called for on drawings is assured.
- (f) Reinforcing bars kinked, twisted, bent past a right angle, or reduced in cross section, will be rejected.
- (g) Electrical/hydro conduit in power pedestal supplied and roughly placed by others to be placed in final location by Contractor prior to concrete placement.
- (h) Do not place concrete until foundations have been inspected.
- (i) Concrete placing shall be continuous from bottom to top of foundation, and puddling or rodding or mechanical vibration carried on constantly to bring air bubbles to the surface and produce a uniform, homogeneous structure.



- (j) Finish exposed foundation tops smooth and level at elevations shown on Drawings. Form top of foundation or shaft as required.
- (k) Concrete shall be kept moist for at least the first 7 days after placing and the temperature of the concrete maintained above 10°C during this time.

#### E12.3.3 Shelter Base Concrete Work

- (a) Placing of concrete shall be in accordance with CW 3310 and as shown on drawings.
- (b) No concrete shall be placed until formwork, reinforcing steel, sleeves, hangers, anchors, inserts, electrical conduits, etc., required to be built into the concrete have been inspected by the Contract Administrator.
- (c) Electrical/hydro conduit in shelter base supplied and roughly placed by others to be placed in final location by Contractor prior to concrete placement.
- (d) Concrete shall be carefully worked around reinforcement and embedded fixtures, along surfaces and into corners of forms. Vibrators shall be used, and operated under experienced supervision; forms must be constructed to withstand their action.
- (e) The Contractor is advised that no joints will be allowed in the slab except as directed on Site in conjunction with the Contract Administrator.

#### E12.3.4 Metal Anchor Bolts and Bases

- (a) Contractor to install metal anchor bolts into concrete foundations. Bolts are to be installed using template provided by the Contract Administrator. Ensure bolts are installed as per sign manufacturer's requirements.
- (b) Contractor to install metal bases as supplied by the sign manufacturer following curing of concrete foundations. Metal bases are to be installed plumb, level, and flush to concrete foundation. Contractor is to use stainless steel washers to level bases as required.

#### E12.3.5 Unit Pavers Over Metal Bases

- (a) Contractor to supply and install sand setting bed and unit pavers over metal bases as shown on the drawings. Bases are not to be left without paving stone installed when sidewalk is opened to the public.
- (b) Following installation of unit pavers the Contractor is to barricade or protect the exposed metal posts of the base so they do not pose a trip hazard to the public. Contractor to maintain barricade or other protection until bus stop flag and kiosk are installed by others.
- (c) All unit paver and barricade work is incidental to the supply and installation of concrete base for bus stop kiosk and supply and installation of concrete base for bus stop flag.

#### E12.3.6 Remove Existing Concrete Base for Bus Stop Kiosk

- (a) Kiosk structure mounted on concrete base will be removed by others.
- (b) After structure removed, Contractor to remove or demolish concrete base to elevation of structural sidewalk.
- (c) The Contractor shall use concrete removal methods and procedures that do not cause damage to the existing structural roof or underlying basement in the Bay. The Contractor shall be responsible for repairing any such damage that occurs during concrete removal operations.
- (d) Exposed reinforcing steel extending into the existing structural roof slab shall be cut off and epoxy coated prior to placement of sand and paving stones.

### E12.4 Measurement and Payment

#### E12.4.1 Concrete Work for Bus Stop Upgrades

- (a) The various Work items for the bus stop upgrade will be measured on a per item basis and paid for at the Contract Unit Price per item for the "Items of Work" listed below. The amount to be paid for will be the total number of each item supplied and constructed in accordance with this specification and accepted by the Contract Administrator.

E12.4.2 Items of Work:

- (a) Concrete Work for Bus Stop Upgrades
  - (i) Supply and Installation of Concrete Base for Bus Stop Kiosk;
  - (ii) Supply and Installation of Concrete Base for Bus Stop Flag;
  - (iii) Supply and Installation of Concrete Base for Heated Shelter;
  - (iv) Remove Existing Concrete Base for Bus Stop Kiosk

**E13. INTERLOCKING PAVING STONES AND ASSOCIATED WORK**

E13.1 Description

E13.1.1 General

- (a) This specification covers the supply and installation of paving stones at Part D and F. At Site D, the existing paving stone pattern east of the site will be extended to the Memorial Blvd to Vaughan block. At Part F, the existing paving stone pattern on the east side of the site will be extended to the west side of the Goulet @ Tache intersection area.
- (b) Referenced Standard Construction Specifications
  - (i) CW 3330 – Installation of Interlocking Paving Stones
  - (ii) CW 3335 – Installation of Interlocking Paving Stones on a Lean Concrete Base

E13.2 Materials

E13.2.1 Interlocking Paving Stones

- (a) Supply paving stones in accordance with Section 5 of CW 3335.
- (b) Acceptable pavers supplied through Barkman's Concrete are listed in the Contract Drawings. Paving stones are available at Barkman Concrete with at least one months notice.

E13.2.2 Other Materials

- (a) Supply lean concrete mix, bedding sand, and filler sand in accordance with Section 5 of CW 3335.

E13.3 Construction Methods

E13.3.1 Interlocking Paving Stones

- (a) Salvage and stockpile existing paving stones within the project sites. Reinstall and regrade randomly with new paving stones throughout project Site.
- (b) Perform all other operations as per Section 9 of CW 3335 and as per the pattern shown on the Contract Drawings.

E13.4 Measurement and Payment

E13.4.1 Regrading Existing Interlocking Paving Stone Installations

- (a) Measurement and Payment as per Section 12.3 and 13.3 of CW 3330.

E13.4.2 Supply and Installation of Interlocking Paving Stones

- (a) Measurement and Payment as per Section 12.1 and 13.1 of CW 3335.