



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**711-2006 BID OPPORTUNITY**

**SUPPLY AND INSTALLATION OF ILLUMINATED TRANSIT SIGNAGE AND  
TRANSIT PASSENGER SHELTERS**

## TABLE OF CONTENTS

### PART A - BID SUBMISSION

Form A: Bid	1
Form B: Prices	4
Form G1: Bid Bond and Agreement to Bond	4
Form G2: Irrevocable Standby Letter of Credit and Undertaking	4

### PART B - BIDDING PROCEDURES

B1. Contract Title	4
B2. Submission Deadline	4
B3. Site Investigation	4
B4. Enquiries	4
B5. Addenda	4
B6. Substitutes	4
B7. Bid Components	4
B8. Bid	4
B9. Prices	4
B10. Qualification	4
B11. Bid Security	4
B12. Opening of Bids and Release of Information	4
B13. Irrevocable Bid	4
B14. Withdrawal of Bids	4
B15. Evaluation of Bids	4
B16. Award of Contract	4

### PART C - GENERAL CONDITIONS

C0. General Conditions	4
------------------------	---

### PART D - SUPPLEMENTAL CONDITIONS

#### General

D1. General Conditions	4
D2. Scope of Work	4
D3. Contract Administrator	4
D4. Contractor's Supervisor	4
D5. Notices	4

#### Submissions

D6. Authority to Carry on Business	4
D7. Safe Work Plan	4
D8. Insurance	4
D9. Performance Security	4
D10. Subcontractor List	4
D11. Detailed Work Schedule	4

#### Schedule of Work

D12. Commencement	4
D13. Working Days	4
D14. Substantial Performance	4
D15. Total Performance	4
D16. Liquidated Damages	4
D17. Prime Contractor – The Workplace Safety and Health Act (Manitoba)	4

#### Measurement and Payment

D18. Payment	4
Form H1: Performance Bond	4
Form H2: Irrevocable Standby Letter of Credit	4
Form J: Subcontractor List	4
Form L: Detailed Work Schedule	4

## **PART E - SPECIFICATIONS**

### **General**

E1. Applicable Specifications and Drawings	4
--	---

### **Illuminated Sign Structures and Sign Boxes**

E2. Description	4
-----------------	---

E3. Design / Shop Drawings	4
----------------------------	---

### **General**

E4. Materials	4
---------------	---

E5. Workmanship	4
-----------------	---

E6. Quality Control	4
---------------------	---

E7. General	4
-------------	---

E8. Clean Material	4
--------------------	---

E9. Finish	4
------------	---

E10. Painting	4
---------------	---

E11. Samples / Prototypes	4
---------------------------	---

E12. Installation and Co-ordination with Others	4
---	---

E13. Method of Measurement	4
----------------------------	---

E14. Basis of Payment	4
-----------------------	---

### **Transit Shelters (Large Heated and Small Non-Heated)**

E15. Details	4
--------------	---

E16. General	4
--------------	---

E17. Materials	4
----------------	---

E18. Clean Material	4
---------------------	---

E19. Workmanship	4
------------------	---

E20. Fabrication	4
------------------	---

E21. Painting	4
---------------	---

E22. Quality Control	4
----------------------	---

E23. Design / Shop Drawings	4
-----------------------------	---

E24. Installation and Co-ordination with Others	4
---	---

E25. Delivery and Storage Location	4
------------------------------------	---

## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 SUPPLY AND INSTALLATION OF ILLUMINATED TRANSIT SIGNAGE AND TRANSIT PASSENGER SHELTERS

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, January 19, 2007.

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

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

### **B3. SITE INVESTIGATION**

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

### **B4. ENQUIRIES**

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

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

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

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

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

### **B5. ADDENDA**

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

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

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

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

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

**B6. SUBSTITUTES**

B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.

B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.

B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:

- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
- (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
- (c) identify any anticipated cost or time savings that may be associated with the substitute;
- (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
- (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.

B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.

B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.

B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.

B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.

B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

## **B7. BID COMPONENTS**

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices;
  - (c) Form G1: Bid Bond and Agreement to Bond, or Form G2: Irrevocable Standby Letter of Credit and Undertaking, or a certified cheque or draft;
- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.
- B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.8 Bids shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Branch  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

## **B8. BID**

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

- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
  - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.
- B8.4.2 All signatures should be witnessed, except where a corporate seal has been affixed.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

## **B10. QUALIFICATION**

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
  - (b) be financially capable of carrying out the terms of the Contract; and
  - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and/or 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 Branch internet site at <http://www.winnipeg.ca/matmgt>); and
  - (b) have successfully carried out work similar in nature, scope and value to the Work; and

- (c) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (d) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

B10.3 Further to B10.2(d), 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 Branch internet site at <http://www.winnipeg.ca/matmgt.>)

B10.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B11. BID SECURITY**

B11.1 The Bidder shall provide bid security in the form of:

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

B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B11.1.2 All signatures on bid securities shall be original, and shall be witnessed or sealed as required.

B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

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

## **B12. OPENING OF BIDS AND RELEASE OF INFORMATION**

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

B12.1.1 Bidders or their representatives may attend.

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

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

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

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

## **B13. IRREVOCABLE BID**

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

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

## **B14. WITHDRAWAL OF BIDS**

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

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

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

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

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

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

## **B15. EVALUATION OF BIDS**

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

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

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

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

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

- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
- (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting item(s) i. through xxv. in the order listed, until a Total Bid Price within the budgetary provision is achieved.
  - i. Item 13 – Illuminated Sign Structures and Sign Boxes (type 2)
  - ii. Northbound Pembina Highway far-side Dalhousie Drive North; 5 x 11
  - iii. Southbound Pembina Highway opposite Dartmouth Drive; 5 x 11
  - iv. Northbound Pembina Highway near-side opposite Chancellor Drive; 5 x 11
  - v. Northbound Pembina Highway near-side opposite Manahan Avenue; 5 x 11
  - vi. Northbound Fort far-side Graham; 8 x 15
  - vii. St. Vital Transit Terminal; 2 – 8x15 & 1 – 5 x 11
  - viii. Southbound Main near-side James; 5 x 11
  - ix. Eastbound James near-side Main; 5 x 11
  - x. Northbound Main near-side opposite James; 8 x 30
  - xi. Southbound Main near-side William (City Hall); 8 x 20
  - xii. Northbound Main near-side Pioneer; 8 x 20
  - xiii. Southbound Main opposite Pioneer (Winnipeg Square); 8 x 20
  - xiv. Southbound Main near-side Broadway; 8 x 20
  - xv. Westbound Regent far-side Rougeau; 8 x20
  - xvi. Eastbound Regent near-side Rougeau; 5 x11
  - xvii. Kildonan Place Transit Terminal; 8 x 15 (3 units)
  - xviii. Westbound Regent near-side Stapon; 8 x 20

- xix. Southbound Henderson near-side opposite Johnson; 5 x11
- xx. Southbound Henderson near-side Kimberley; 5 x11
- xxi. Northbound Henderson near-side opposite Fraser's Grove; 5 x11
- xxii. Southbound Henderson near-side Rowandale; 5 x11
- xxiii. Northbound Henderson near-side Edison; 5 x11
- xxiv. Northbound Henderson far-side opposite Whellams Lane; 5 x11
- xxv. Southbound Henderson near-side Whellams Lane; 5 x11
- xxvi. Item 1 - Illuminated Sign Structures and Sign Boxes (type 1 & 2)
- xxvii. Northbound Pembina Highway near-side Killarney Avenue; 5 x 11
- xxviii. Westbound Killarney Avenue near-side Pembina Highway; 8 x 15
- xxix. Northbound Pembina Highway near-side Markham Road; 5 x 11
- xxx. Southbound Pembina Highway near-side Southpark Drive; 5 x 11
- xxxi. Northbound Pembina Highway near-side University Crescent; 5 x 11
- xxxii. Southbound Pembina Highway opposite University Crescent; 8 x 20
- xxxiii. Northbound Pembina Highway near-side Plaza Drive; 8 x15
- xxxiv. Southbound Pembina Highway far-side opposite Plaza Drive; 5 x 11
- xxxv. Northbound Pembina Highway near-side Crescent Drive; 5 x 11
- xxxvi. Southbound Pembina Highway near-side Clarence Avenue; 5 x 11
- xxxvii. Southbound Pembina Highway far-side McGillivray Boulevard; 5 x 11
- xxxviii. Southbound Pembina Highway far-side Windermere Road. 8 x15
- xxxix. Northbound Pembina Highway near-side opposite Stafford Street; 5 x 11
  - xl. Southbound Pembina near-side Stafford Street; 8 x20
  - xli. Northbound Pembina Highway near-side Hugo Street; 5 x 11
  - xlii. Southbound Pembina Highway near-side Scotland Avenue; 5 x 11
  - xliii. Southbound Pembina Highway far-side Warsaw Avenue; 5 x 11
  - xliv. Eastbound Corydon Avenue near-side Osborne Street; 5 x 11
  - xlv. Southbound Osborne Street near-side Mostyn Place; 5 x 11
  - xlvi. Northbound Osborne Street far-side River Avenue; 8 x 20
  - xlvii. Northbound Osborne Street near-side Stradbrook Avenue; 8 x 20
  - xlviii. Southbound Osborne Street near-side Wardlaw Avenue; 5 x 11
  - xlix. Southbound Donald Street far-side Ellice Avenue; 5 x 11
    - I. Northbound Donald Street far-side River Avenue; 5 x 11
    - li. Southbound Donald Street far-side River Avenue; 5 x 11
    - lii. Northbound Donald Street far-side Stradbrook Avenue; 5 x 11
    - liii. Southbound Donald Street far-side Stradbrook Avenue; 5 x 11
    - liv. Eastbound Portage Avenue near-side Tylehurst Street (Polo Park); 8 x 30
    - lv. Westbound Portage Avenue opposite Tylehurst Street (Polo Park); 8 x 25
    - lvi. Polo Park Transit Terminal; 3 – 8x20
    - lvii. Westbound Dafoe Road near-side Gillson Street 25m (U of Manitoba). 8 x 20
    - lviii. Westbound Dafoe Road near-side Gillson Street 85 m (U of Manitoba); 8 x 20
    - lix. Westbound Dafoe Road near-side Gillson Street 110 m (U of Manitoba); 8 x 30
    - lx. Northbound Vaughan near-side St. Mary; 5 x11
    - lxi. Southbound Vaughan near-side St. Mary; 5 x11
    - lxii. Northbound Vaughan near-side Portage; 5 x11
    - lxiii. Southbound Vaughan near-side Portage; 5 x 11
    - lxiv. Southbound Vaughan near-side Graham; 5 x 11
    - lxv. Northbound Vaughan Street near-side Graham Avenue (The Bay); 8 x 20

- lxvi. Westbound Graham Avenue near-side Vaughan Street (The Bay); 8 x 30
- lxvii. Eastbound Graham Avenue near-side Edmonton Street (RW Ballet); 8 x 30
- lxviii. Westbound Graham Avenue near-side Edmonton Street (RW Ballet); 8 x 30
- lxix. Eastbound Graham Avenue near-side Donald Street (MTS Centre); 8 x 40
- lxx. Westbound Graham Avenue near-side Donald Street (MTS Centre); 8 x 40
- lxxi. Eastbound Graham Avenue near-side Fort Street (Winnipeg Square); 8 x 30
- lxxii. Westbound Graham Avenue near-side Garry Street (Winnipeg Square); 8 x 30
- lxxiii. Southbound Spence Street far-side Ellice; 5 x11, and
- lxxiv. Southbound Spence Street near-side Portage; 5 x11

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

## **B16. AWARD OF CONTRACT**

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

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

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

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

B16.2.2 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.
- 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 the supply and installation of transit illuminated signage and transit passenger shelters (various sizes, heated and non-heated) including all electrical reconnections, and the removal and relocation of existing shelters.

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

- (a) Include the furnishings of all superintendence, overhead, labour, materials, equipment, tools, supplies and all things necessary for the manufacture of transit illuminated signage and transit passenger shelters;
- (b) Include the furnishings of all superintendence, overhead, labour, materials, equipment, tools, supplies and all things necessary for the installation of transit illuminated signage and transit passenger shelters.

#### **D3. CONTRACT ADMINISTRATOR**

D3.1 The Contract Administrator is:

Mr. Alex Regiec, MCIP  
Operations Planner  
Winnipeg Transit  
421 Osborne Street  
Winnipeg, MB R3L 2A2

Telephone No. (204) 986-6935  
Facsimile No. (204) 986-6863

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

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

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

#### **D5. NOTICES**

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

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

- D5.3 All notices of appeal to the Chief Administrative Officer shall be sent to the following address or facsimile number:

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

## **SUBMISSIONS**

### **D6. AUTHORITY TO CARRY ON BUSINESS**

- D6.1 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.

### **D7. SAFE WORK PLAN**

- D7.1 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.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

### **D8. INSURANCE**

- D8.1 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 a contractual liability, unlicensed motor vehicle liability, non-owned automobile liability 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;

- D8.2 Deductibles shall be borne by the Contractor.
- D8.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.4 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.

## **D9. PERFORMANCE SECURITY**

- D9.1 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.
- D9.1.1 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.
- D9.2 If the bid security provided in his Bid was not a certified cheque or draft pursuant to B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

## **D10. SUBCONTRACTOR LIST**

- D10.1 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 least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

## **D11. DETAILED WORK SCHEDULE**

- D11.1 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 C4.1 for the return of the executed Contract.

## **SCHEDULE OF WORK**

### **D12. COMMENCEMENT**

- D12.1 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.
- D12.2 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 D6;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the Safe Work Plan specified in D7;
  - (iv) evidence of the insurance specified in D8;
  - (v) the performance security specified in D9;
  - (vi) the Subcontractor list specified in D10;
  - (vii) the detailed work schedule specified in D11; 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.

D12.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D12.4 The City intends to award this Contract by January 31, 2007.

D12.4.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

### **D13. WORKING DAYS**

D13.1 Further to C1.1(gg), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.

D13.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.

D13.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.

D13.4 The Contract Administrator will furnish the Contractor with a daily record for each major type of work showing various information concerning the equipment, the time it worked, could have worked and Working Days charged. This report is to be signed each day by an authorized representative of the Contractor.

### **D14. SUBSTANTIAL PERFORMANCE**

D14.1 The Contractor shall achieve Substantial Performance by October 15, 2007.

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

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

**D15. TOTAL PERFORMANCE**

- D15.1 The Contractor shall achieve Total Performance by October 31, 2007.
- D15.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D15.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

**D16. LIQUIDATED DAMAGES**

- D16.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City five hundred dollars (\$500.00) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.
- D16.2 The amount specified for liquidated damages in D16.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.
- D16.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

**D17. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

- D17.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

**MEASUREMENT AND PAYMENT**

**D18. PAYMENT**

- D18.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**FORM H1: PERFORMANCE BOND**  
(See D9)

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 dated the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for:

BID OPPORTUNITY NO. 711-2006

SUPPLY AND INSTALLATION OF ILLUMINATED TRANSIT SIGNAGE AND TRANSIT PASSENGER SHELTERS

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)

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

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

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

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

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



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

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

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

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

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

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

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

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

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





## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
LS-1	Illuminated Sign Type 1
LS-2	Illuminated Sign Type 2
TS-1	General design & layout 5' (ft) x 11' (ft)
TS-2	General design & layout 8' (ft) x 15' (ft) and 8' (ft) x 20' (ft)
TS-3	General design & layout 8' (ft) x 25' (ft) and 8' (ft) x 30' (ft)
TS-4	General design & layout 8' (ft) x 20' (ft), 8' (ft) x 30' (ft) and 8' (ft) x 40' (ft) all incorporating the canopy design
TS-5	Electrical Connection Detail
SC-1	Sign and Shelter Location Site Chart

### ILLUMINATED SIGN STRUCTURES AND SIGN BOXES

#### E2. DESCRIPTION

- E2.1 The Work of this specification comprises the furnishing of all labour, equipment and materials required to complete the supply, fabrication and erection of the illuminated signs and related Work as shown on the Drawings and as hereinafter specified, including, but not necessarily confined to the following:
- Supply and installation of Type 1 and Type 2 Illuminated Signs including structure as per design Drawings;
  - Supply, fabrication and installation of two (2) two-sided illuminated stop identification displays per structure as per design Drawings for both Type 1 and Type 2 signs;
  - Disconnect, removal and disposal for existing sign structure and boxes;
  - Install on existing concrete foundation including modification/repair to concrete pile cap and surface paving repair where required;
  - Supply of breakaway bolt assembly, anchor bolts and bolt templates where required; and
  - Connection of signs to existing power source at base of structure.

#### E3. DESIGN / SHOP DRAWINGS

- E3.1 The Contractor shall submit dimensioned detailed design drawings within five (5) Business Days when called by the Contract Administrator. The drawings shall show all details of construction, fastenings, materials and colours.

- E3.2 The Contractor shall submit stamped structural Engineer's drawings for review and approval within 5 working days of Contract Award. Structural Engineer's drawings shall show all details of construction and fastenings for erections and shall be as specified or approved in accordance with B6.
- E3.3 The Contractor shall submit full colour design drawings of sign faces and sign boxes including materials, lighting components, connections and fastenings for review and approval within 5 working days of Contract Award.

## GENERAL

### E4. MATERIALS

- E4.1 The Illuminated Transit Structures to be aluminium 6061-T6 structural tubing with architectural 6063-T5 cast aluminium arc forms.
- E4.2 All fastenings and hardware to be stainless steel 304 or better non-rusting in winter corrosive environment, tamper-proof and flush to exposed surface.
- E4.3 All plates, anchor bolts and breakaway base assemblies to be stainless steel 304 or better non-rusting in winter corrosive environment.
- E4.4 All paint to be powder paint. Silver colour to be PM211S11 (sparkle silver) by Protech. Blue colour to be 5005 38/40010 by Tiger Drylac.
- E4.5 Illuminated sign structures and boxes:
- (a) Materials shall be free from defects impairing strength, durability or appearance, and be of best commercial quality for use intended.
  - (b) Materials and methods used to assemble Work of this section shall be of such properties and construction to safely sustain the loads normally imposed thereon, as would be required of this type of installation.
  - (c) All exposed fastenings shall be of the same material, colour and finish as the metals to which these are supplied, unless otherwise specified or called for on the Drawings.
  - (d) All metal shall be free from scale, buckles, pits and other defects.
  - (e) Sign components and construction shall be as shown on the Drawings and as approved by the Contract Administrator.
  - (f) Identification signs to be constructed of 20 ga. sheet metal with 12.5 mm F-Section vinyl retainers. Cabinet to be painted to match sign structure. Paint – PM211S11 (sparkle silver) by Protech.
  - (g) Lamps to be T5 bright white fluorescent tubes. Contractor to provide lighting schematic including ballast. Lamps and ballasts to be high output. Light levels to meet or exceed existing illuminated structures on Graham Avenue.
  - (h) Acrylic to be SG (sign grade).
  - (i) Polycarbonate face to be 4.6 mm (3/16") clear Lexan.
  - (j) Background to be 3M blue vinyl to match Drylac 5005 paint colour.
  - (k) Logo to be silver custom vinyl graphic. Circle area for logo to be separate from main face so that it can be replaced at a latter date.
  - (l) Copy to be 50 - 125 mm high Frutiger Bold as per the design Drawings.
  - (m) All Work, materials and final sign box to be CSA compliant.

## **E5. WORKMANSHIP**

- E5.1 Proportion items to meet the National Building Code and Manitoba Building Code. Items shall support loads recommended by the Code and local standards for wind and snow loading unless specific loads are indicated on the Drawings.
- E5.2 Fabricate work to shape and size with sharp lines, even curves and smooth surfaces. Connections shall be securely welded, bolted or riveted. Bolted and riveted connections are not permitted in exposed areas of the sign. Welds shall be dressed smooth on exposed surfaces. Welds/joins shall not be visible upon completion of painting operations. Rabbets, lugs and brackets shall be provided so that the Work can be assembled in a neat substantial manner. Thickness of metal and design of assembly and support shall give ample strength and stiffness.
- E2.7 Exposed ends and edges of metal shall be smooth. Joints exposed to the weather shall be formed to exclude water or to drain.
- E5.3 Fit and shop assemble structure as one piece and deliver to the Site. Sign boxes can be delivered separately for installation on Site.
- E5.4 Prior to proceeding with shop fabrication, take all necessary field measurements to verify dimensions or calculations from Drawings.
- E5.5 Fabricate Work in strict accordance with shop drawings, and in general to details, sizes, materials shown on Drawings and specified herein.
- E5.6 Assembly: Material intended for use in the various assemblies shall be straight, clean, sharply defined profiles, assembled in such a way that no disfigurements will show in the finished work, or impair the strength.
- E5.7 Welding: All welding shall conform to the requirements of the current CSA Standard W.59 and the fabricator shall be fully approved by the Canadian Welding Bureau, in conformance with the requirements of the current CSA Standard W.47. Welding shall be done by currently licensed welders only and certified to design welds.
- E5.8 Welding splatter and other fabrication burrs where exposed shall be ground or filed smooth and left ready for subsequent operations.
- E5.9 Finish: Fabricated material Work shall be delivered with e-coating, shop coat primer and paint, or other finish as specified.
- E5.10 Following installation, apply a touch up coat of shop primer and paint to match finish to all surface where finish has been removed and to installation devices such as bolts, screws, welds and the like. Application of touch-up primer and paint must follow approved method of field repair acceptable to Contract Administrator.

## **E6. QUALITY CONTROL**

- E6.1 All workmanship and all material furnished and supplied under this Section are subject to close and systematic inspection and testing by the Contract Administrator including all operations from the selection and production of materials through to final acceptance of the Work. The Contractor shall be wholly responsible for the control of all operations, incidental thereto notwithstanding any inspection or approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of this Section.

## **Fabrication**

### **E7. GENERAL**

- E7.1 Fabrication shall be carried out in accordance with these Specifications and Drawings which form a part of this Contract.
- E7.2 Curved angle portions of sign structure are to be one piece custom cast aluminium.
- E7.3 All joints in structure are to be filled and sanded prior to cleaning for paint preparation.
- E7.4 Vinyl graphics to be applied to second surface of Lexan background.
- E7.5 The workmanship shall meet established practice in modern shops.
- E7.6 If damage occurs during fabrication, the Contract Administrator shall be notified to facilitate the implementation of remedial measures. Remedial repair measures will be subject to the approval of the Contract Administrator. Their cost will be paid by the Contractor.
- E7.7 Dimensions and fabrication which control the field matching of parts shall receive careful attention in order to avoid field adjustments.

### **E8. CLEAN MATERIAL**

- E8.1 The material shall be clean, free from rust, mill scale, and other foreign matter before being worked in the shop.

### **E9. FINISH**

- E9.1 All portions of the Work shall be neatly finished. Shearing, cutting, chipping and machining shall be done neatly and accurately. Finished members shall be true to line, free from twists, bends open joints, sharp corners and edges.

### **E10. PAINTING**

- E10.1 Clean all metal thoroughly and apply recommended primer.
- E10.2 All aluminium to be sanded prior to powder painting.
- E10.3 Apply all materials under adequate illumination, spread evenly and flow on smoothly without runs or sags.
- E10.4 All coats must be thoroughly dry before applying succeeding coats.
- E10.5 All Work where a coat of material has been applied must be inspected and approved by the Contract Administrator before the application of the succeeding specified coat, otherwise no credit for the coat applied will be given, and the Contractor shall then assume the responsibility and recoat the Work in question. Report each coat applied to the Contract Administrator when completed for inspection and approved to comply with the above. Where manufacture is not in Winnipeg the Contractor is to supply digital photos via email of each step for review and approval.

### **E11. SAMPLES / PROTOTYPES**

- E11.1 A prototype is to be manufactured for each sign structure and sign box within twenty-one (21) Working Days from Award of Contract. The prototypes are to be delivered to Winnipeg Transit at 421 Osborne Street for review and approval prior to manufacture of signs. Cost of prototypes is to be incidental to the unit prices bid on this project. The prototypes shall be the minimum acceptable standard for all materials, workmanship and finishes.

## **E12. INSTALLATION AND CO-ORDINATION WITH OTHERS**

E12.1 The Contractor is advised of the following:

- (a) All signs to be installed on concrete pile and pile cap, existing or new by others. Contractor to use existing bolt assemblies where possible. Where pile cap is new, the Contractor is to supply break away assembly, anchor bolts and template to JC Paving Ltd. 204-989-4700 prior to construction of pile cap. Where the anchor bolts have been damaged the contractor is to breakout existing pile cap, and supply and install new pile cap with anchor bolts;
- (b) Contractor to remove from Site and dispose of existing signs and structures in a legal manner;
- (c) Contractor to make final electrical connection to electrical source at sign base. All electrical work to be done by a certified journeyman electrician. Contractor to obtain all necessary permits;
- (d) The Contractor will notify the Contract Administrator of installation date with a minimum of three (3) working days notice;
- (e) Any damage to the illuminated structure or signs, incurred during fabrication, delivery, installation etc., is to be repaired to the satisfaction of the Contract Administrator within three (3) working days of installation; and
- (f) Contractor to supply a field repair kit including primer, paint, custom fastenings, and hardware to Winnipeg Transit with installation of sign structures and boxes.

## **E13. METHOD OF MEASUREMENT**

E13.1 Supply and Installation of illuminated signs shall be measured on a per item basis as specified herein and as measured and accepted by the Contract Administrator.

## **E14. BASIS OF PAYMENT**

E14.1 Supply and Installation of Illuminated Signs will be paid for at the contract unit price for 'Illuminated Sign Structures and Sign Boxes' measured and specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this specification.

## **TRANSIT SHELTERS (LARGE HEATED AND SMALL NON-HEATED)**

### **E15. DETAILS**

E15.1 The Contractor shall supply, deliver and install transit passenger shelters (various sizes) in accordance with the requirements hereinafter specified.

E15.2 8' (ft) x 40' (ft) passenger shelter as specified:

- (a) The Contractor shall provide all columns (6" diameter), glazing, roof structures (including torsion bars and connecting fins), fasteners and supplies necessary for the installation of 8' (ft) x 40' (ft) shelter on Site on an existing concrete base at the bus stops located at:
  - (i) Eastbound Graham Avenue near-side Donald Street (MTS Centre); and
  - (ii) Westbound Graham Avenue near-side Donald Street (MTS Centre).
- (b) The 8' (ft) x 40' (ft) dimensions are nominal outside roof dimensions, the actual length and width dimensions may vary by  $\pm 9$  " (in). Minimum headroom within shelter and at entrances must be 84" (in). The enclosed area for shelters (i) and (ii) will be approx. 8' (ft) x 30' (ft), with an open canopy area of approx. 8' (ft) x 10' (ft).
- (c) The shelters must be equipped with two (2) doors, glazing with aluminium trims on top and bottom only, pivots and door handles. Door handles are to be jug handle type on inside to allow for pulling the door open and flat plate type on outside to allow for pushing the door

open. Doors to be on both end walls of the shelters unless different configuration specified on drawings. Doors to be hinged to open inwards, with pivot type hinges and hydraulic type door closure with a lock-in-place mechanism to hold doors open when necessary. Safety stops are to be provided at the top and bottom of the door to prevent damage to walls during opening and closing. Doors are to be equipped with door fibre brush sweeps on bottom. Doors to be 36-3/8" (in) wide X 82-7/8" (in) minimum tall.

- (d) The shelters are to have heaters and benches installed as per items E17.6 and E17.7. For the 8' (ft) x 40' (ft) shelters, there are to be 3 heaters and 3 benches.

E15.3 8' (ft) x 30' (ft) passenger shelter as specified:

- (a) The Contractor shall provide all columns (6" diameter), glazing, roof structures (including torsion bars and connecting fins), fasteners and supplies necessary for the installation of 8' (ft) x 30' (ft) shelter on Site on an existing concrete base at the bus stops located at:
- (i) Eastbound Graham Avenue near-side Fort Street (Winnipeg Square);
  - (ii) Westbound Graham Avenue near-side Garry Street (Winnipeg Square);
  - (iii) Eastbound Graham Avenue near-side Edmonton Street (RW Ballet);
  - (iv) Westbound Graham Avenue near-side Edmonton Street (RW Ballet);
  - (v) Westbound Graham Avenue near-side Vaughan Street (The Bay);
  - (vi) Westbound Dafoe Road near-side Gillson Street 110m (U of Manitoba);
  - (vii) Eastbound Portage Avenue near-side Tylehurst Street (Polo Park); and
  - (viii) Northbound Main Street near-side opposite James Avenue (Concert Hall).
- (b) The 8' (ft) x 30' (ft) dimensions are nominal outside roof dimensions, the actual length and width dimensions may vary by  $\pm 9$  " (in). Minimum headroom within shelter and at entrances must be 84" (in). The enclosed area for shelters (i) (ii) (iii) (iv) (v) and (vi) will be approx. 8' (ft) x 20' (ft), with an open canopy area of approx. 8' (ft) x 10' (ft).
- (c) The shelters must be equipped with two (2) doors, glazing with aluminium trims on top and bottom only, pivots and door handles. Door handles are to be jug handle type on inside to allow for pulling the door open and flat plate type on outside to allow for pushing the door open. Doors to be on both end walls of the shelters unless different configuration specified on drawings. Doors to be hinged to open inwards, with pivot type hinges and hydraulic type door closure with a lock-in-place mechanism to hold doors open when necessary. Safety stops are to be provided at the top and bottom of the door to prevent damage to walls during opening and closing. Doors are to be equipped with door fibre brush sweeps on bottom. Doors to be 36-3/8" (in) wide X 82-7/8" (in) minimum tall.
- (d) The shelters are to have heaters and benches installed as per items E17.6 and E17.7. For the 8' (ft) x 30' (ft) shelters, there are to be 3 heaters and 3 benches.

E15.4 8' (ft) x 25' (ft) passenger shelter as specified:

- (a) The Contractor shall provide all columns (6" diameter), glazing, roof structures (including torsion bars and connecting fins), fasteners and supplies necessary for the installation of 8' (ft) x 25' (ft) shelter on Site on an existing concrete base at the bus stops located at Westbound Portage Avenue opposite Tylehurst Street (Polo Park).
- (b) The 8' (ft) x 25' (ft) dimensions are nominal outside roof dimensions, the actual length and width dimensions may vary by  $\pm 9$  " (in). Minimum headroom within shelter and at entrances must be 84" (in).
- (c) The shelters must be equipped with two (2) doors, glazing with aluminium trims on top and bottom only, pivots and door handles. Door handles are to be jug handle type on inside to allow for pulling the door open and flat plate type on outside to allow for pushing the door open. Doors to be on both end walls of the shelters unless different configuration specified on drawings. Doors to be hinged to open inwards, with pivot type hinges and hydraulic type door closure with a lock-in-place mechanism to hold doors open when necessary. Safety stops are to be provided at the top and bottom of the door to prevent damage to walls during opening and closing. Doors are to be equipped with door fibre brush sweeps on bottom. Doors to be 36-3/8" (in) wide X 82-7/8" (in) minimum tall.

- (d) The shelters are to have heaters and benches installed as per items E17.6 and E17.7. For the 8' (ft) x 25' (ft) shelter, there are to be 3 heaters and 3 benches.

E15.5 8' (ft) x 20' (ft) passenger shelter as specified:

- (a) The Contractor shall provide all columns, glazing, roof structures (including torsion bars and connecting fins), fasteners and supplies necessary for the installation of 8' (ft) x 20' (ft) shelter on Site on an existing concrete base at the following bus stops:
- (i) Northbound Vaughan Street near-side Graham Avenue (The Bay);
  - (ii) Westbound Dafoe Road near-side Gillson Street 25 m (U of Manitoba);
  - (iii) Westbound Dafoe Road near-side Gillson Street 85 m (U of Manitoba);
  - (iv) Southbound Pembina Highway opposite University Crescent;
  - (v) Southbound Pembina Highway near-side Stafford Street;
  - (vi) Northbound Osborne Street near-side Stradbroke Avenue;
  - (vii) Northbound Osborne Street far-side River Avenue;
  - (viii) Polo Park Transit Terminal (3 units);
  - (ix) Southbound Main Street near-side William Avenue (City Hall);
  - (x) Southbound Main Street opposite Pioneer Avenue (Winnipeg Square);
  - (xi) Southbound Main Street near-side Broadway;
  - (xii) Northbound Main Street near-side Pioneer Avenue;
  - (xiii) Westbound Regent Avenue near-side Stapon Road; and
  - (xiv) Westbound Regent Avenue far-side Rougeau Avenue.
- (b) The 8' (ft) x 20' (ft) dimensions are nominal outside roof dimensions, the actual length and width dimensions may vary by  $\pm 9$  " (in). Minimum headroom within shelters and at entrances must be 84" (in). The enclosed area for shelter (i) will be approx. 8' (ft) x 10' (ft), with an open canopy area of approx. 8' (ft) x 10' (ft), shelters (ii) to (xiv) to be fully enclosed.
- (c) The shelters must be equipped with two (2) doors, glazing with aluminium trims on top and bottom only, pivots and door handles. Door handles are to be jug handle type on inside to allow for pulling the door open and flat plate type on outside to allow for pushing the door open. Doors to be on both end walls of the shelters unless different configuration specified on drawings. Doors to be hinged to open inwards, with pivot type hinges and hydraulic type door closure with a lock-in-place mechanism to hold doors open when necessary. Safety stops are to be provided at the top and bottom of the door to prevent damage to walls during opening and closing. Doors are to be equipped with door fibre brush sweeps on bottom. Doors to be 36-3/8" (in) wide X 82-7/8" (in) minimum tall.
- (d) The shelters are to have heaters and benches installed as per items E17.6 and E17.7. For the 8' (ft) x 20' (ft) shelters, there are to be 3 heaters and 3 benches.

E15.6 8' (ft) x 15' (ft) passenger shelter as specified:

- (a) The Contractor shall provide all columns, glazing, roof structures (including torsion bars and connecting fins), fasteners and supplies necessary for the installation of shelters on Site on an existing concrete base at the following bus stops:
- (i) Northbound Pembina Highway near-side Plaza Drive;
  - (ii) Westbound Killarney Avenue near-side Pembina Highway;
  - (iii) Southbound Pembina Highway far-side Windermere Road;
  - (iv) Northbound Fort Street far-side Graham Avenue;
  - (v) Kildonan Place Transit Terminal (3 units); and
  - (vi) St. Vital Transit Terminal (2 units).
- (b) The 8' (ft) x 15' (ft) dimensions are nominal outside roof dimensions the actual length and width dimensions may vary by  $\pm 9$  " (in). Minimum headroom within shelters and at entrances must be 84" (in).

- (c) The shelters must be equipped with two (2) doors, glazing with aluminium trims on top and bottom only, pivots and door handles. Door handles are to be jug handle type on inside to allow for pulling the door open and flat plate type on outside to allow for pushing the door open. Doors to be on both end walls of the shelters unless different configuration specified on drawings. Doors to be hinged to open inwards, with pivot type hinges and hydraulic type door closure with a lock-in-place mechanism to hold doors open when necessary. Safety stops are to be provided at the top and bottom of the door to prevent damage to walls during opening and closing. Doors are to be equipped with door fibre brush sweeps on bottom. Doors to be 36-3/8" (in) wide X 82-7/8" (in) minimum tall.
- (d) The shelters are to have heaters and benches installed as per items E17.6 and E17.7. For the 8' (ft) x 15' (ft) shelters, there are to be 2 heaters and 2 benches.

E15.7 5' (ft) x 11' (ft) passenger shelter as specified:

- (a) The Contractor provide all columns (approx. 4" (in) diameter), glazing, roof structures (including torsion bars and fins), fasteners and supplies necessary for the installation of shelters on Site at the following bus stops:
  - (i) Northbound Pembina Highway near-side Killarney Avenue;
  - (a) Northbound Pembina Highway far-side Dalhousie Drive North;
  - (b) Northbound Pembina Highway near-side Markham Road;
  - (c) Northbound Pembina Highway near-side opposite Chancellor Drive;
  - (d) Northbound Pembina Highway near-side University Crescent;
  - (e) Northbound Pembina Highway near-side opposite Manahan Avenue;
  - (f) Northbound Pembina Highway near-side Crescent Drive;
  - (g) Northbound Pembina Highway near-side opposite Stafford Street;
  - (h) Northbound Pembina Highway near-side Hugo Street;
  - (i) Southbound Pembina Highway far-side Warsaw Avenue;
  - (j) Southbound Pembina Highway near-side Scotland Avenue;
  - (k) Southbound Pembina Highway far-side McGillivray Boulevard;
  - (l) Southbound Pembina Highway near-side Clarence Avenue;
  - (m) Southbound Pembina Highway far-side opposite Plaza Drive;
  - (n) Southbound Pembina Highway near-side Southpark Drive;
  - (o) Southbound Pembina Highway opposite Dartmouth Drive;
  - (p) Eastbound Corydon Avenue near-side Osborne Street
  - (q) Southbound Osborne Street near-side Mostyn Place;
  - (r) Southbound Osborne Street near-side Wardlaw Avenue;
  - (s) Southbound Donald Street far-side Ellice Avenue;
  - (t) Southbound Donald Street far-side Stradbrook Avenue;
  - (u) Southbound Donald Street far-side River Avenue;
  - (v) Northbound Donald Street far-side Stradbrook Avenue;
  - (w) Northbound Donald Street far-side River Avenue;
  - (x) Northbound Vaughan Street near-side St. Mary Avenue;
  - (y) Northbound Vaughan Street near-side Portage Avenue;
  - (z) Southbound Vaughan Street near-side Portagte Avenue;
  - (aa) Southbound Vaugahn Street near-side Graham Avenue;
  - (bb) Southbound Vaughan Street near-side St. Mary Avenue;
  - (cc) Northbound Henderson Highway near-side opposite Fraser's Grove;
  - (dd) Northbound Henderson Highway near-side Edison Avenue;
  - (ee) Northbound Henderson Highway far-side opposite Whellams Lane;
  - (ff) Southbound Henderson Highway near-side Whellams Lane;
  - (gg) Southbound Henderson Highway near-side Rowandale Avenue;

- (hh) Southbound Henderson Highway near-side Kimberley Avenue;
  - (ii) Southbound Henderson Highway near-side opposite Johnson Avenue;
  - (jj) Eastbound Regent Avenue near-side Rougeau Avenue;
  - (kk) Southbound Main Street near-side James Avenue;
  - (ll) Eastbound James near-side Main Street;
  - (mm) Southbound Spence Street far-side Ellice Avenue;
  - (nn) Southbound Spence Street near-side Portage Avenue; and
  - (oo) St. Vital Transit Terminal.
- (b) The 5' (ft) x 11' (ft) dimensions are nominal outside dimensions the actual length and width dimensions may vary by  $\pm 2$  " (in). Minimum headroom within shelters and at entrances must be 80" (in).
- (c) The shelters must include a 30" (in) to 40" (in) wide doorway opening on one 11' (ft) side. Doors are **NOT** to be included. The passenger shelter design must allow for simple conversion from a left side door opening to a right side door opening.
- (d) The 5' (ft) x 11' (ft) shelters are **NOT** required to have electric lighting fixtures.

## **E16. GENERAL**

E16.1 The fabrication and installation of shelters as specified in this Section shall include the following:

- (a) Disassemble existing shelters and load, transport, and off-load to a storage site to be determined by the Contractor as per item E25.1;
- (b) Procedures for disassembly, loading, transportation and off-loading must not damage any element or impede the re-use of the existing shelter in a new location.
- (c) Contractor to re-install existing 5x11 shelters and salvaged benches at new locations to be determined by the Contract Administrator;
- (d) Any existing fixtures remaining in the concrete base must be removed and the concrete repaired in a manner approved by the Contract Administrator;
- (e) Drill existing concrete base and install all columns, glazing, doors, roof structures, and lighting units; and
- (f) Run electrical wiring for lighting and heaters (note, wiring runs must be hidden from view within the shelter structure and must be vandalism proof). Contractor to ensure electrical work done by certified journeyman electrician and to obtain all necessary permits. Copies of all permits are to be provided to Winnipeg Transit, Attention Mr. Brian Newton at (204) 986-5812.

E16.2 Prior to proceeding with shop fabrication, take all necessary field measurements to verify dimensions or calculations from Drawings.

## **E17. MATERIALS**

E17.1 The shelters must include fully transparent walls using glazing panels with a minimum of structure between glazing panels as shown in the attached Drawings.

E17.2 Glazing is to be tempered glass, minimum 3/8" (in) thickness, designed for outdoor glazing use. A full width horizontal blue safety line at approximately the middle of the glazing, minimum 1" (in) in height, must be included on all sheets. "**Non Smoking**" logo should be incorporated into the glazing on all walls.

E17.3 The shelters are to be equipped with translucent barrel vaulted roofs of 1/4" (in) gray tint polycarbonate.

E17.4 The shelters structural components must be aluminium, with columns to be 1/4" (in) thick aluminium 6061-T6 structural tubing, cut sheet plates to be aluminium 6061-T6, and torsion bars to be aluminium 6360-T6.

- E17.5 All fasteners and all mounting hardware used to fasten the shelter to the concrete base at ground level must be stainless steel or approved equal in accordance with B6.
- E17.6 Convection heaters are to be DBS Sloped Aluminum Draft Barrier 1500 watt 240 volt model number DBS18152 CA for clear anodized, and 1000 watt 240 volt model number DBS12102 CA for clear anodized, manufactured by Stelpro.
- E17.7 Benches are to be a Brighton Pier surface mounted, stainless steel bench as supplied by WS Machining and Fabricating. Contact Todd Desjardins 204-326-5444. Benches are to be 6' (ft) length for the large shelters, and 4' (ft) for the 5x11 shelters.

## **E18. CLEAN MATERIAL**

- E18.1 All aluminium and steel components shall be free of oil, mill scale, rust, pits and other surface defects. All weld splatter and burrs must be ground smooth.

## **E19. WORKMANSHIP**

- E19.1 Proportion items to meet the National Building Code, the Manitoba Building Code and local conditions specifically relating to wind and snow loading. Items shall support loads recommended by the Code unless specific loads are indicated on the Drawings.
- E19.2 Fabricate all Work to shape and size with sharp lines, angles and smooth surfaces as defined in the Drawings. Connections shall be securely welded, bolted or riveted. Welds shall be dressed smooth on exposed surfaces. Rabbets, lugs and brackets shall be provided so that the Work can be assembled in a neat substantial manner. Thickness of metal and design of assembly and support shall give ample strength and stiffness.
- E19.3 All portions of the Work shall be neatly finished. Exposed ends and edges of metal shall be smooth. The shelters wall, roof and joints exposed to the weather shall be formed to exclude water or to drain.
- E19.4 Insofar as possible, the Work is to be fitted and assembled in the Contractor's shop and delivered to the Site in largest practical sections.
- E19.5 Fabricate Work in strict accordance with shop drawings. Shop Drawings are to be based on details, sizes, materials shown on Drawings and specified herein.
- E19.6 Welding: All welding shall conform to the requirements of the current CSA Standard W.59 and the fabricator shall be fully approved by the Canadian Welding Bureau, in conformance with the requirements of the current CSA Standard W.47. Welding shall be done by currently licensed welders only and certified to design welds.
- E19.7 Welding splatter and other fabrication burrs where exposed shall be ground or filed smooth and left ready for subsequent operations.
- E19.8 Assembly: Material intended for use in the various assemblies shall be straight, clean, sharply defined profiles, assembled in such a way that no disfigurements will show in the finished work, or impair the strength.
- E19.9 Finish: Fabricated material Work shall be delivered with shop coat primer paint or E coated, or other finish as specified. Following installation, apply a touch up coat of shop primer or galvanizing to match finish to all surfaces where finish has been removed and to installation devices such as bolts, screws, welds and the like.

## **E20. FABRICATION**

- E20.1 Fabrication shall be carried out in accordance with these Specifications and Drawings which form a part of this Contract.

- E20.2 The shelters must be designed to stand without any glazing.
- E20.3 The shelter must be constructed to resist damage from vandalism and must be simple to maintain and clean.
- E20.4 The shelters must be designed for easy assembly and must not require any drilling, thread tapping, welding, or painting of structural members or glazing support fixtures.
- E20.5 Fasteners used in accessible locations must be of tamper proof design.
- E20.6 Connection plates between shelter roof and columns must be easily accessible and not enclosed.
- E20.7 The Shelter end caps of the roof are to be aluminium big fin assemblies.
- E20.8 Roofs must be shipped fully assembled and sealed.
- E20.9 The shelters must include a base plate with adjustable stainless steel bolts and rods for levelling to accommodate installations on poured concrete pads with imperfections or the slope of the pad surface. Adjustment capabilities must be a minimum of 6" (in). Shelter mounting to the concrete base must meet all applicable codes and regulations governing structures in the public right-of-way.
- E20.10 The entire bottom perimeter of the shelters in clauses E15.2, E15.3, E15.4, E15.5, and E15.6 must have aluminium skirting between the glass and the concrete shelter pads to prevent the entry of wind. The bottom perimeter skirting must be designed with sufficient opening to allow water to drain out of the low side of the shelter. The skirting must allow for easy removal with simple hand tools to allow the quick replacement of glass panels.
- E20.11 Shelters in clauses E15.2, E15.3, E15.4, E15.5, and E15.6 must have electric lighting fixtures; self-ballasted mini-spiral Lamp 13W 120V 60Hz 225mA housed inside a light cabinet that follows the curvature of the roof line or approved equal in accordance with B6. All lighting Work, materials and fixtures installed in the shelters shall be CSA compliant.
- E20.12 For shelters in clauses E15.2, E15.3, E15.4, E15.5, and E15.6 the Contractor is to remove existing shelter heaters and dispose of legally in an environmentally acceptable manner.
- E20.13 For shelters in clauses E15.2, E15.3, E15.4, E15.5, E15.6 and E15.7 the Contractor is to remove existing shelter benches, and salvage good benches for re-use by Winnipeg Transit.

## **E21. PAINTING**

- E21.1 Shelters and components, except for glazing and polycarbonate, must be powder painted as all units will be installed in a corrosive environment., Colour to be PM211S11 (sparkle silver) by Protech.
- E21.2 Clean all metal thoroughly and apply recommended primer.
- E21.3 All aluminium shall be sanded prior to powder painting.
- E21.4 Apply all materials under adequate illumination, spread evenly and flow on smoothly without runs or sags.
- E21.5 All coats must be thoroughly dry before applying succeeding coats.

## **E22. QUALITY CONTROL**

- E22.1 All workmanship and all material furnished and supplied under this Section are subject to close and systematic inspection and testing by the Contract Administrator including all operations from the selection and production of materials through to final acceptance of the Work. The Contractor shall be wholly responsible for the control of all operations, incidental thereto

notwithstanding any inspection or approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of this Section.

### **E23. DESIGN / SHOP DRAWINGS**

E23.1 The Contractor shall submit stamped engineer's drawings for record within five (5) Business Days when called by the Contract Administrator. Engineer's drawings shall show all details of construction and fastenings for erections and shall be as specified or approved.

E23.2 The Contractor must provide a complete set of shelter assembly instructions for each shelter with a Section in English within five (5) Business Days when called by the Contract Administrator.

### **E24. INSTALLATION AND CO-ORDINATION WITH OTHERS**

E24.1 The Contractor is advised of the following:

- (a) The Contractor will notify the Contract Administrator of installation date with a minimum of three (3) working days;
- (b) Disconnect and disassemble existing shelters, heaters and benches, and load, transport, and off-load to a storage site to be determined by the Contractor;
- (c) All new shelters to be installed on existing bases. Salvage existing bolt assemblies for reuse;
- (d) Make all necessary electrical disconnects and final re-connections to electrical source at shelter Site. Protect all electrical wires and conduit during removal and installation procedures;
- (e) Contractor to supply electrical connection for heaters, including all necessary coring, trenching, conduit, wiring, and backfill and surface repair as per Drawing TS-5 for Graham Avenue shelters;
- (f) Any damage to the shelters, incurred during fabrication, delivery, installation etc., is to be repaired to the satisfaction of the Contract Administrator within three (3) working days of installation;
- (g) The Contractor is to work cooperatively with any other City crews or contractors working in the same area(s);
- (h) Contractor **not** to undertake Work in bus stop areas during the rush hour time periods between 06:00 – 09:00 and 15:30 – 18:00; and
- (i) Contractor to supply a field repair kit including primer, paint, custom fastenings, and hardware to Winnipeg Transit for shelters.

### **E25. DELIVERY AND STORAGE LOCATION**

E25.1 The Contractor shall be responsible for the storage of all illuminated signage (structures and boxes) and shelters (large and small) in a protected site immediately upon arrival in Winnipeg. The location of this protective storage site is to be determined by and is the responsibility of the Contractor. The Transit Base and Yard will **NOT** be available for storage.

E25.2 The Contractor shall remove any units which have been damaged during transportation and replace them.