



THE CITY OF WINNIPEG

BID OPPORTUNITY

224-2007 BID OPPORTUNITY

**PROVINCE OF MANITOBA/CITY OF WINNIPEG 2007 RESIDENTIAL STREET
RENEWALS, PART 1 – WINDERMERE AVENUE AND VARIOUS OTHER
LOCATIONS, PART 2 – HARVARD AVENUE AND VARIOUS OTHER LOCATIONS,
PART 3 – BUFFALO PLACE**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 Province of Manitoba/City of Winnipeg 2007 Residential Street Renewals, Part 1 – Windermere Avenue and Various Other Locations, Part 2 – Harvard Avenue and Various Other Locations, Part 3 – Buffalo Place

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, April 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. 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B4.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet 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.

B6. BID COMPONENTS

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

- (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;

- 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, may result in the Bid being determined to be non-responsive.
- 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 Branch
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 shall be printed below such signatures.
- B7.4.2 All signatures should be witnessed, except where a corporate seal has been affixed.
- 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.
- B8.1.1 For the convenience of Bidders, and pursuant to B6.4.2 and B14.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Bid Opportunity on the Bid Opportunities page at the Materials Management Branch internet website at <http://www.winnipeg.ca/matmgt>.
- 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 Form B: Prices is organized into Parts: Part 1 of the Work, Part 2 of the Work and Part 3 of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Part 1, Part 2 and Part 3.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>).

- 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 Branch internet site 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, and shall be witnessed or sealed as required.
- 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 Branch, 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 Branch internet site 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 Branch internet site 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 (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.

B14.2.1 Any bid with an apparent imbalance between the unit prices in Part 1, Part 2, and Part 3 may be determined to be non-responsive and rejected by the Award Authority in its sole discretion, acting reasonably.

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

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 Subject to B15.2, 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.
- 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.
- B15.4 As noted in D2 and identified in Form B: Prices, the Work of Part 2 will be contingent upon the Province approving funding for the Work. If sufficient funding for Part 2 Work is not approved by the Province the City shall have the right to eliminate all or any portion of Part 2 Work in accordance with D2.

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 three parts:

- (a) Part 1 – City Funded Work
- (b) Part 2 – Provincially Funded Work
- (c) Part 3 – City Funded Work.

Part 1 – City Funded Work

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

- (a) Pavement Reconstruction
 - (i) Windermere Avenue from Derek Street to Beaumont Street (asphalt)
- (b) Major Rehabilitation
 - (i) Folkestone Boulevard from Exmouth Boulevard to Glastonbury Boulevard
 - (ii) Centennial Street from Academy Road to Kingsway

Part 2 – Provincially Funded Work

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

- (a) Pavement Reconstruction
 - (i) Harvard Avenue from Wilton Street to Rockwood Street (concrete)
- (b) Major Rehabilitation
 - (i) Rockwood Street from Corydon Avenue to Warsaw Avenue.
- (c) Crack and Sealing of Existing Concrete Pavement
 - (i) Rockwood Street from Warsaw Avenue to Fleet Avenue.

Part 3 – City Funded Work

D2.4 Part 3 – City Funded Work shall consist of:

- (a) Pavement Reconstruction
 - (i) Buffalo Place from Fennel Street to Otter Street (concrete)

D2.5 The City currently has no approved funding in the Capital Budget for Part 2 of the Work, but is anticipating receiving notification about funding from the Province of Manitoba by late May. Part 2 of the Work is contingent upon the Province approving sufficient funding.

D2.5.1 Further to C7.1, if notice of sufficient funding is not received, the City shall have the right to eliminate all or any portion of Part 2, and the Contract Price will be reduced accordingly.

D2.5.2 Further to C7.5, C7.5.1, and C7.6, a reduction in the Contract Price pursuant to D2.5.1 shall not be considered in calculating the aggregate reduction in the Contract Price for purposes of C7.5.

D2.5.3 If all or any portion of Part 2 is eliminated pursuant to D2.5.1, the time periods stipulated in D19 for Substantial Performance of the Work and in D20 for Total Performance of the Work will be reduced proportionally by the Contract Administrator acting reasonably.

D2.6 The major components of the Work are as follows:

- (a) Pavement Reconstruction
 - (i) Remove existing pavement and excavation
 - (ii) Subdrain installation
 - (iii) Subgrade compaction and placement of separation/reinforcement fabric
 - (iv) Installation of catchbasins and connection pipe
 - (v) Placement of sub-base and base course materials
 - (vi) Construct curb and gutter utilizing slip-form paving equipment (Windermere Avenue)
 - (vii) Placement of asphalt pavement (Windermere Avenue) (average thickness 50 mm Type IA, 75 mm Type III)
 - (viii) Construct 150 mm concrete pavement (reinforced) (Harvard Avenue)
 - (ix) Construct 230 mm concrete pavement utilizing slip-form paving equipment (plain doweled) (Buffalo Place)
 - (x) Construct 180 mm barrier curb (separate) utilizing slip-form paving equipment (Harvard Avenue, Buffalo Place)
 - (xi) Renewal of existing sidewalk
 - (xii) Boulevard restoration
- (b) Major Rehabilitation
 - (i) Planing of existing asphalt overlay
 - (ii) Full depth concrete repairs of existing slabs and joints
 - (iii) Installation of catchpits and connection pipe
 - (iv) Adjustment of drainage inlets, water valves and manholes
 - (v) Renewal of existing curbs utilizing slip-form paving equipment
 - (vi) Placement of asphalt overlay (average thickness – 75 mm) (Centennial Street)
 - (vii) Renewal of existing sidewalks
 - (viii) Boulevard restoration
- (c) Crack and Seating of Existing Concrete Pavement
 - (i) Remove existing barrier curb (integral)
 - (ii) Saw cut along longitudinal joint and at tie-ins
 - (iii) Crack and seat existing pavement
 - (iv) Renewal of existing sidewalks
 - (v) Adjustment of drainage inlets, water valves and manholes
 - (vi) Construct 100 mm barrier curb (doweled) utilizing slip-form paving equipment
 - (vii) Complete pavement patching
 - (viii) Placement of asphalt overlay complete with moisture/stress absorption fabric (average thickness – 90 mm) (Rockwood Avenue)

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is UMA Engineering Ltd., represented by:

Ron Bruce, P. Eng.
Senior Project Engineer
1479 Buffalo Place, Winnipeg, Manitoba R3T 1L7

Telephone No. (204) 284-0580
Facsimile No. (204) 475-3646

D3.2 At the pre-construction meeting, Ron Bruce, 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 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 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

D6. FURNISHING OF DOCUMENTS

- D6.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

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 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;
 - (c) an all risks Installation Floater carrying adequate limits to cover all machinery and equipment utilized during the performance of the Work.
- 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. DETAILED WORK SCHEDULE

D12.1 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.

D12.2 If, prior to submitting the Detailed Work Schedule, the Contractor does not receive notification pursuant to D13.4 that all or some portion of Part 2 of the Work may be commenced, he shall complete Form L: Detailed Work Schedule for only Part 1 and Part 3 of the Work assuming that, if all of Part 2 is eliminated, the time periods stipulated in D19 for Substantial Performance of the Work and in D20 for Total Performance of the Work will be reduced by fifteen (15) Working Days

D12.3 If, after submitting the Detailed Work Schedule, the Contractor receives notification that all or any portion of Part 2 of the Work may be commenced, he shall submit a revised Detailed Work Schedule no later than two (2) Business Days from receipt of the notification.

SCHEDULE OF WORK

D13. COMMENCEMENT

D13.1 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.

D13.2 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 detailed work schedule specified in D12.
- (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.

D13.3 The Contractor shall not commence the Work on the Site before June 11, 2007, and shall commence the Work on Site no later than June 15, 2007, as directed by the Contract Administrator and weather permitting.

- D13.4 The Contractor shall not commence Part 2 of the Work as described in D2 and identified in Form B: Prices, unless prior to June 15th, 2007, he has received notification from the Contract Administrator that the City has received notice of sufficient funding from the Province.
- D13.5 The Contractor shall not commence the Work on Rockwood Avenue prior to July 1, 2007.
- D13.6 The Contractor shall not commence the Work on Buffalo Place prior to June 18, 2007 unless otherwise directed by the Contract Administrator.
- D13.7 The City intends to award this Contract by May 31, 2007.

D14. WORKING DAYS

- D14.1 Further to C1.1(gg);
- D14.1.1 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.
- D14.1.2 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.
- D14.1.3 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.

D15. RESTRICTED WORK HOURS

- D15.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission 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.
- D15.2 In accordance with the Manual of Temporary Traffic Control, Sections 2.03, 2.04, 2.05 and 2.06, should the Traffic Management Branch of the Public Works Department require that work on Regional and Residential Streets be carried out at night or on Sundays or on public holidays, where permitted by the City of Winnipeg Police Department, or that work be restricted or suspended during peak traffic hours, no additional compensation will be considered to meet these requirements.

D16. WORK BY OTHERS

- D16.1 Work by others on or near the Site will include but not necessarily be limited to:
- (a) Manitoba Hydro Gas Division – lowering and/or rock wrapping of underground mains and services, if required, various locations;
 - (b) Manitoba Hydro – installation of new street lighting on Buffalo Place;
 - (c) Manitoba Hydro – installation of temporary street lighting on Buffalo Place, Windermere Avenue, and Harvard Avenue
 - (d) Manitoba Hydro – installation of new street lighting cable including base adjustments on Harvard Avenue and Windermere Avenue;
 - (e) MTS Allstream Inc. – manhole adjustments on Rockwood Avenue;
 - (f) Various work on survey monuments by City of Winnipeg Geomatics Branch;
 - (g) Watermain Renewal on Buffalo Place by others (Bid Opportunity No. 223-2007);
 - (h) Sewer Repairs on Windermere Avenue, Harvard Avenue, Centennial Street and Buffalo Place by others (Bid Opportunity No. 223-2007);

- (i) Tree Removal and Trimming by City of Winnipeg Forestry Branch on Buffalo Place.
- (j) Shaw – splice pit adjustments on Buffalo Place.

D16.2 The Contract Administrator will attempt to arrange and coordinate Work to be performed by others so that such Work does not interfere with the Work and Schedule of the Contractor. Where Work by others interferes, as determined by the Contract Administrator, with the Contractor's planned Work, the Contractor shall modify his plans and do other Work. Unless the Contract Administrator determines that there was no opportunity for the Contractor to do a similar amount of Work, no consideration will be made to extending the Contract time.

D16.3 The City of Winnipeg Water and Waste Department has scheduled a watermain renewal and sewer repair on Buffalo Place. It is anticipated that this Work will be completed by June 15, 2007. The Contractor shall not begin any Work in the affected areas until Work by Water and Waste is completed.

D16.4 The City of Winnipeg Water and Waste Department has scheduled sewer renewals and repairs on Centennial Street, Harvard Avenue and Windermere Avenue. It is anticipated that the Work will be completed by May 31, 2007. The Contractor shall not begin any Work in the affected areas until Work by Water and Waste is completed.

D17. SEQUENCE OF WORK

D17.1 Further to C6.1, the sequence of work shall comply with the following:

D17.1.1 Providing that the Work on each street 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 three (3) streets under construction at any one time. Completion of a street means that all of the necessary concrete, asphalt including approaches and landscaping Work is completed to the satisfaction of the Contract Administrator.

D17.1.2 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.

D17.1.3 The finished grading and placing of topsoil of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays, including scratch courses.

D18. CRITICAL STAGES

D18.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Work on Rockwood Street shall be completed by August 31, 2007

D19. SUBSTANTIAL PERFORMANCE

D19.1 The Contractor shall achieve Substantial Performance within seventy-five (75) consecutive Working Days of the commencement of the Work as specified in D13.

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 eighty (80) consecutive Working Days of the commencement of the Work as specified in D13.
- 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 critical stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:
- (a) Critical Stage D18.1(a) – One Thousand dollars (\$1,000.00);
 - (b) Substantial Performance – Two Thousand dollars (\$2,000.00);
 - (c) Total Performance – Five Hundred dollars (\$500.00);
- D21.2 The amounts specified for liquidated damages in D21.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.
- D21.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D22. SCHEDULED MAINTENANCE

- D22.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Sod maintenance as specified in CW3510-R9;
 - (b) Reflective crack maintenance during one or two year maintenance warranty as specified in CW3250-R6;
- D22.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

D23. JOB MEETINGS

- D23.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

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 Total Performance and shall expire one (1) years thereafter for Folkestone Boulevard, Centennial Street, and Rockwood Street , and two (2) years thereafter for pavement reconstruction works, 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 Total Performance if:

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

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 dated the

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 224-2007

Province of Manitoba/City of Winnipeg 2007 Residential Street Renewals, Part 1 – Windermere Avenue and Various Other Locations, Part 2 – Harvard Avenue and Various Other Locations, Part 3 – Buffalo Place

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)

FORM J: SUBCONTRACTOR LIST
(See D11)

Province of Manitoba/City of Winnipeg 2007 Residential Street Renewals, Part 1 – Windermere Avenue and Various Other Locations, Part 2 – Harvard Avenue and Various Other Locations, Part 3 – Buffalo Place

| <u>Portion of the Work</u> | <u>Name</u> | <u>Address</u> |
|---|-------------|----------------|
| SURFACE WORKS: | | |
| Supply of Materials: | | |
| Concrete | | |
| Asphalt | | |
| Base Course & Sub-Base | | |
| Sod | | |
| Separation/Reinforcement Geotextile Fabric | | |
| Installation/Placement: | | |
| Concrete | | |
| Asphalt | | |
| Base Course and Sub-base | | |
| Sod | | |
| UNDERGROUND WORKS: | | |
| Supply of Materials: | | |
| Catchbasins/Catchpits | | |
| Frames and Covers | | |
| Sewer Service Pipe/Drainage Connection Pipe | | |
| Subdrain Pipe | | |
| Installation/Placement | | |
| Catchbasin/Catchpits | | |
| Sewer Service Pipe/Drainage connection Pipe/Subdrain Pipe | | |
| Sewer Televising | | |
| OTHER | | |

FORM L: DETAILED WORK SCHEDULE
(See D12)

Province of Manitoba/City of Winnipeg 2007 Residential Street Renewals, Part 1 – Windermere Avenue and Various Other Locations, Part 2 – Harvard Avenue and Various Other Locations, Part 3 – Buffalo Place

| For each item of Work, indicate the cumulative percentage proposed to be completed by the end of each time period until 100% completion is achieved. | | | | | | |
|--|-----------------------------|----|----|----|----|----|
| Items of Work | Time Period in Working Days | | | | | |
| | 0 | 15 | 30 | 45 | 60 | 80 |
| PART 2 PROVINCIAALLY FUNDED WORK | | | | | | |
| D. Harvard Avenue | | | | | | |
| Pavement Removal/Excavation | | | | | | |
| Subdrain Installation | | | | | | |
| Sub-Base & Base Course Construction | | | | | | |
| Construct Concrete Pavement & Curbs | | | | | | |
| Concrete Sidewalk and Approach Renewals | | | | | | |
| Landscaping | | | | | | |
| | | | | | | |
| E. Rockwood Street | | | | | | |
| Concrete Joint & Slab Repairs | | | | | | |
| Subdrain Installation | | | | | | |
| Crack & Seat Existing Pavement | | | | | | |
| Concrete Curb & Sidewalk Renewals | | | | | | |
| Placement of Asphalt Overlay | | | | | | |
| Landscaping | | | | | | |
| | | | | | | |
| PART 3 – CITY FUNDED WORK | | | | | | |
| F. Buffalo Place | | | | | | |
| Pavement Removal/Excavation | | | | | | |
| Subdrain Installation | | | | | | |
| Sub-Base & Base Course Construction | | | | | | |
| Construct Concrete Pavement & Curbs | | | | | | |
| Concrete Approach Renewals | | | | | | |
| Landscaping | | | | | | |

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> | <u>Drawing (Original) Sheet Size</u> |
|--------------------|---|--|
| 00 | Cover Sheet, Drawing List | A1 |
| 01 | Buffalo Place-Horizontal and Vertical Alignment-Otter St. to Sta 0+150 | A1 |
| 02 | Buffalo Place-Horizontal and Vertical Alignment-Sta 0+150 to Sta 0+290 | A1 |
| 03 | Buffalo Place-Horizontal and Vertical Alignment-Sta 0+290 to Fennel St. | A1 |
| 04 | Harvard Avenue-Horizontal and Vertical Alignment-Rockwood St. to Sta 0+210 | A1 |
| 05 | Harvard Avenue-Horizontal and Vertical Alignment-Sta. 0+210 to Wilton St. | A1 |
| 06 | Windermere Avenue-Horizontal and Vertical Alignment-Beaumont St. to Sta 0+200 | A1 |
| 07 | Windermere Avenue-Horizontal and Vertical Alignment-Sta. 0+200 to Sta 0+330 | A1 |
| 08 | Windermere Avenue-Horizontal and Vertical Alignment-Sta 0+330 to Derek St. | A1 |
| 01-CTF001 | Centennial Street from Kingsway Avenue to Academy Road | 11x17 |
| 01-CTF002 | Folkestone Boulevard from Exmouth Boulevard to Glastenbury Boulevard | 11x17 |
| 01-CTF003 | Rockwood Street from Corydon Avenue to Fleet Avenue | 11x17 |

E2. GEOTECHNICAL REPORT

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

E3. OFFICE FACILITIES

- E3.1 The Contractor shall supply office facilities meeting the following requirements:
- (a) The field office shall be for the exclusive use of the Contract Administrator.
 - (b) The building shall be conveniently located near the site of the Work.
 - (c) The building shall have a minimum floor area of 25 square metres, with two windows for cross ventilation and a door entrance with a suitable lock.
 - (d) The building shall be suitable for all weather use. It shall be equipped with an electric heater and air conditioner so that the room temperature can be maintained between either 16-18°C or 24-25°C.
 - (e) The building shall be adequately lighted with fluorescent fixtures and have a minimum of three wall outlets.
 - (f) The building shall be furnished with one desk, one drafting table, table 3 m x 1.2 m, one stool, one four drawer legal size filing cabinet, and a minimum of 6 chairs.
 - (g) A portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City.
 - (h) The field office building and the portable toilet shall be cleaned on a weekly basis immediately prior to each site meeting. The Contract Administrator may request additional cleaning when he deems it necessary.
- E3.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.
- E3.3 The office facilities will be provided from the date of the commencement of the Work to the date the Contract is completed.
- E3.4 On a one time basis, where directed by the Contract Administrator, the Contractor shall relocate the office facilities to a location more convenient for the remaining Work.

E4. PROTECTION OF EXISTING TREES

- E4.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
 - (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
 - (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
 - (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface

directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.

- (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E4.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his designate.

E4.3 No separate measurement or payment will be made for the protection of trees.

E4.4 Elm trees cannot be trimmed between April 1 and July 31, inclusive.

E5. TRAFFIC CONTROL

E5.1 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. No measurement for payment will be made for this work.
- (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.

E6. TRAFFIC MANAGEMENT

E6.1 Further to clause 3.7 of CW 1130-R1:

E6.1.1 The Contractor shall schedule construction activities to meet the following:

- (a) Harvard Avenue will be closed to all traffic. The Contractor shall sign the street "Road Closed" in accordance with the Manual of Temporary Traffic Control.
- (b) Centennial Street from Kingsway to first back lane south of Corydon Avenue will be closed to all traffic. The Contractor shall sign the street "Road Closed" in accordance with the Manual of Temporary Traffic Control.
- (c) Centennial Street from Corydon Avenue to first back lane south of Corydon Avenue will have one lane for local access traffic maintained along this section of road.
- (d) Folkestone Boulevard will be closed to all traffic. The Contractor shall sign the street "Road Closed" in accordance with the Manual of Temporary Traffic Control.
- (e) Rockwood Avenue to have at least one lane for local access traffic to be maintained along street during construction (except during paving operations). Traffic from intersection streets to be allowed to cross Rockwood Avenue in an east-west direction.
- (f) Windermere Avenue will be closed to all traffic. The Contractor shall sign the street "Road Closed" in accordance with the Manual of Temporary Traffic Control.
- (g) Buffalo Place to have at least one lane for local access traffic to be maintained along street during construction. Contractor to reconstruct south side of Buffalo Place first while maintaining westbound traffic. Eastbound traffic to be diverted at Otter Street. Once south side of Buffalo Place is complete traffic will open in the eastbound direction while reconstructing the north side of Buffalo Place. Westbound traffic will be diverted at Fennel Street. Private approach access to be maintained at all times.
- (h) Bus Traffic on Buffalo Place will be maintained as much as possible as determined by the Contract Administrator in discussions with Transit.

E6.1.2 Should the Contractor be unable to maintain an existing 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 72 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.

E6.1.3 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

E7. REFUSE AND RECYCLING COLLECTION

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

E7.2 Collection Schedule:

Centennial Street.

Collection Day(s): **Day 2**
Collection Time: **7:00 a.m.**
Common Collection Area: **Back Lane Pick-Up**

Windermere Avenue.

Collection Day(s): **Day 3**
Collection Time: **7:00 a.m.**
Common Collection Area: **Back Lane Pick-Up**

Harvard Avenue.

Collection Day(s): **Day 1**
Collection Time: **7:00 a.m.**
Common Collection Area: **Back Lane Pick-Up**

Buffalo Place.

Collection Day(s): **Private Pick-Up**
Collection Time: **Varies**
Common Collection Area: **N/A**

Folkestone Boulevard.

Collection Day(s): **Day 2**
Collection Time: **7:00 a.m.**
Common Collection Area: **Glastenbury & Folkestone Intersection**

Corydon Avenue (S/S) Rockwood to Wilton.

Collection Day(s): **Day 1**
Collection Time: **7:00 a.m.**
Common Collection Area: **Wilton & Alley Intersection**

Jessie Avenue – Rockwood to Wilton.

Collection Day(s): Day 1
Collection Time: 7:00 a.m.
Common Collection Area: Wilton & Alley Intersection

Warsaw Avenue (N/S) Rockwood to Wilton.

Collection Day(s): Day 1
Collection Time: 7:00 a.m.
Common Collection Area: Wilton & Alley Intersection

Rockwood Street.

Collection Day(s): Day 1
Collection Time: 7:00 a.m.
Common Collection Area: Back Lane Pick-Up

E7.3 No measurement or payment will be made for the work associated with this specification.

E8. WATER USED BY CONTRACTOR

E8.1 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.

E9. SURFACE RESTORATIONS

E9.1 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.

E10. INFRASTRUCTURE SIGNS

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

E11. CRACK AND SEATING OF EXISTING CONCRETE PAVEMENT

DESCRIPTION

E11.1 General

E11.1.1 This specification covers the crack and seating of existing concrete pavements.

E11.2 Definitions

E11.2.1 Proof Rolling – applying of a dynamic load to a concrete pavement with the intent of cracking and embedding the cracked concrete into the existing base.

E11.3 Referenced Standard Construction Specifications

(a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.

(b) CW 3310 – Portland Cement Concrete Pavement Works

CONSTRUCTION METHODS

E11.4 Concrete Curb Renewal

E11.4.1 Remove existing curb (integral) in accordance with Section 3.1 of CW 3240 prior to crack and seating as specified in E11.5.

E11.4.2 Install concrete barrier curb (Dowelled) (SD-205) in accordance with CW3240 following the completion and acceptance of the crack and seating as specified in E11.5.

E11.5 Crack and Seating

E11.5.1 The equipment for the crack and seating will be a roller having a single axle, unless approved otherwise by the Contract Administrator.

E11.5.2 The single axle roller will have a maximum of four (4) pneumatic tire wheels and the wheels will be evenly spaced in one line across the width of the roller so that each wheel will carry an approximate equal load when operated over an uneven surface. The centre-to-centre spacing between adjacent wheels will not exceed 800 millimetres. The roller equipment will have a suitable body for ballast loading with a minimum capacity of 40 tonnes and the ability to add additional ballast to a maximum capacity of 60 tonnes.

E11.5.3 Complete initial proof rolling of the concrete pavement with the equipment specified in accordance with clauses E11.5.1 & E11.5.2 of this specification.

E11.5.4 Complete passes as necessary to ensure that the equipment has contacted the entire pavement surface.

E11.5.5 Undertake second proof rolling as directed by the Contract Administrator.

E11.5.6 Loading requirements for each proof rolling will be identified by the Contract Administrator.

E11.5.7 Alter methods to avoid areas of instability. One rolling cycle will consist of two complete proof rolling applications to the pavement surface.

E11.5.8 Complete partial depth saw-cuts at 2/3 the depth of the existing concrete pavement at locations as directed by the Contract Administrator.

E11.5.9 Complete additional rolling cycles and partial depth saw-cuts until the existing concrete pavement has been cracked to a minimum of 300 millimetres to a maximum of 600 millimetres pieces and the pavement has been seated 10 millimetres to 20 millimetres into the sub-base, as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

E11.6 Crack and Seating

E11.6.1 Crack and seating of existing concrete pavement will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Crack and Seating Pavement". The area to be paid for will be the total number of square metres of existing concrete pavement cracked and seated in accordance with this specification, accepted and measured by the Contract Administrator.

E11.6.2 Additional rolling cycles will be measured and paid in accordance with this specification.

E11.6.3 Saw-cutting of the existing concrete pavement for curb installation will be included in the payment for "Crack and Seating Pavement".

E11.6.4 Partial Depth Saw-Cutting

E11.6.5 Partial depth saw-cutting will be measured on a length basis and paid for at the Contract Unit Price per metre for "Partial Depth Saw-Cutting". The length to be paid for will be the total number of metres of existing concrete pavement saw-cut in accordance with this specification, accepted and measured by the Contract Administrator.

E12. SUPPLY AND INSTALLATION OF MOISTURE BARRIER/STRESS ABSORPTION GEOTEXTILE FABRIC

DESCRIPTION

E12.1 General

E12.1.1 This specification covers the supply and installation of Moisture Barrier/Stress Absorption Geotextile.

E12.1.2 Referenced Standard Construction Specifications

- (a) CW 3130 – Supply and Installation of Geotextile Fabrics.
- (b) CW 3410 – Asphaltic Concrete Pavement Works.

MATERIALS

E12.2 Mill Certificate and Bill of Lading

E12.2.1 Provide mill certificate and bill of lading in accordance with Section 2 of CW 3130.

E12.3 Storage and Handling

E12.3.1 Store and handle material in accordance with Section 2 of CW 3130.

E12.4 Moisture Barrier/Stress Absorption Geotextile Fabric

E12.4.1 Geotextile fabric will be non-woven.

E12.4.2 All physical property requirements are minimum average roll values determined in accordance with ASTM 4759. The moisture barrier/stress absorption geotextile fabric will meet or exceed the standards as follows:

| PROPERTY | STANDARD | TEST METHOD |
|-----------------------|----------|-------------|
| Grab Tensile Strength | 0.40 kN | ASTM D4632 |
| Grab Elongation | 50% | ASTM D4632 |
| Mullen Burst | 1240 kPa | ASTM D3786 |

E12.4.3 Acceptable products will be Amoco-Petromat 4599, MIRAFI MIRAPAVE 400, NILEX-9W99 or an approved equal.

E12.5 Tack Coat

E12.5.1 Tack coat will be 150 – 200 asphalt cement supplied in accordance with Clause 5.4.2 of CW 3410.

CONSTRUCTION METHODS

E12.6 General

E12.6.1 Install moisture barrier/stress absorption geotextile fabric at the locations as shown on the Drawings or as directed by the Contract Administrator.

E12.6.2 Proceed with installation upon completion and acceptance of the asphalt levelling course.

E12.6.3 Ensure pavement surface is clean and free of all dirt, water, oil or foreign materials.

E12.6.4 Apply tack coat with a distribution truck in accordance with manufacturer's specifications and recommendations. Ensure uniform coverage of entire pavement surface.

E12.6.5 Install geotextile fabric in accordance with the manufacturer's specifications and recommendations.

E12.6.6 Only construction equipment required to place the final asphalt surface course will be allowed to travel on the exposed geotextile fabric.

E12.6.7 Replace damaged or improperly placed geotextile fabric.

E12.6.8 All fabric installed must be covered with asphalt the same day.

E12.6.9 Commence placement of asphalt material after the fabric has been placed over the full width of the pavement surface and accepted by the Contract Administrator.

E12.6.10 Ensure temperature of asphalt material does not exceed the melting point of the fabric.

MEASUREMENT AND PAYMENT

E12.7 Moisture Barrier/Stress Absorption Geotextile Fabric

E12.7.1 Supply and installation of Moisture Barrier/Stress Absorption Geotextile Fabric will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Moisture Barrier/Stress Absorption Geotextile Fabric". The area to be paid for will be the total number of square metres of geotextile fabric supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E12.7.2 The supply and application of the tack coat will be included in the payment for "Moisture Barrier/Stress Absorption Geotextile Fabric".

E13. PATCHING OF EXISTING PAVEMENT

DESCRIPTION

E13.1 General

E13.1.1 This specification covers patching of existing concrete pavement in preparation for an asphalt overlay.

E13.1.2 Referenced Standard Construction Specifications

(a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.

(b) CW 3130 – Supply and Installation of Geotextile Fabrics.

(c) CW 3410 – Asphaltic Concrete Pavement Works.

MATERIALS

E13.2 Crushed Sub-Base Material

E13.2.1 Crushed Sub-base material will have a maximum aggregate size of 50 millimetre and be supplied in accordance with Section 2.1 of CW 3110.

E13.3 Geotextile Fabric

E13.3.1 Geotextile fabric will be supplied in accordance with Section 2 of CW 3130.

E13.4 Asphalt Material

E13.4.1 Asphalt material will be Type 1A and will be supplied in accordance with Sections 5 and 6 of CW 3410.

CONSTRUCTION METHODS

E13.5 General

E13.5.1 Remove existing concrete pavement to a minimum width of 1.5 metres at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3110.

E13.5.2 Excavate to a depth of 350 millimetres below the top of the existing pavement.

E13.5.3 Compact existing sub-grade to a minimum of 95% Standard Proctor Density.

E13.5.4 Place separation/reinforcement geotextile fabric in accordance with Specification CW 3130.

E13.5.5 Place and compact crushed sub-base material in accordance with CW 3110 to a 300 millimetres compacted depth. Compact to a minimum of 100% Standard Proctor Density.

E13.5.6 Place and compact asphalt material to a 50 millimetres compacted depth matching the top of the existing concrete pavement. Compact to an average of 95% percent of the 75 Blow Marshall Density of the paving mixture with no individual test being less than 90% percent.

E13.5.7 Each layer must be levelled and accepted by the Contract Administrator before the succeeding layer may be placed.

E13.5.8 Additional excavation and placement of sub-base material beyond the identified pavement structure will be completed in accordance with CW 3110 as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

E13.6 Pavement Patching

E13.6.1 Pavement patching will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Pavement Patching". The area to be paid for will be the total number of square metres of pavement patched in accordance with this specification, accepted and measured by the Contract Administrator.

E14. RECYCLED CONCRETE BASE COURSE MATERIAL

DESCRIPTION

E14.1 General

E14.1.1 Further to CW 3110, this specification covers supply and placement of recycled concrete base course material for Full-Depth Partial Slab Patches (Class A, B, C, & D), miscellaneous concrete slabs and sidewalks.

E14.2 Definitions

E14.2.1 Deleterious material – are materials such as vegetation, organic material, wood, glass, plastic, metal, reinforcing steel, building rubble, brick, salvaged asphalt materials, clay, shale, and friable particles.

E14.3 Referenced Standard Construction Specifications

- (a) CW 3110 – Sub-Grade. Sub-Base and Base Course Construction.
- (b) CW 3230 – Full-Depth Patching of Existing Pavement Slabs and Joints.
- (c) CW 3235 – Renewal of Existing Miscellaneous Concrete Slabs.
- (d) CW 3325 – Portland Cement Concrete Sidewalk.

MATERIALS

E14.4 Recycled Concrete Base Course Material

E14.4.1 Recycled concrete base course material when used for Full-Depth Partial Slab Patches (Class A, B, C, & D), miscellaneous concrete slabs and sidewalks will be considered equal to granular or limestone base course material specified in Section 2.2 of CW 3110.

E14.4.2 Recycled concrete base course material will be approved by the Contract Administrator.

E14.4.3 Recycled concrete base course material will consist of sound durable particles produced by crushing, screening, and grading of recovered concrete materials, free from soft material that would disintegrate through decay or weathering.

E14.4.4 The recycled concrete base course material will be well graded and conform to the following grading requirements:

Recycled Concrete Base Course Material Grading Requirements

| CANADIAN METRIC SIEVE SIZE | PERCENT OF TOTAL DRY WEIGHT PASSING EACH SIEVE |
|-------------------------------|---|
| 20 000 | 100% |
| 5 000 | 40% - 70% |
| 2 500 | 25% - 60% |
| 315 | 8% - 25% |
| 80 | 6% - 17% |

E14.4.5 Recycled concrete base course material when subjected to the abrasion test will have a loss of not more than 35% when tested in accordance with grading B of ASTM C131, Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

E14.4.6 The amount of deleterious material will be limited to a maximum of two percent of the total dry weight.

CONSTRUCTION METHODS

E14.5 Placement of Recycled Concrete Base Course Material

E14.5.1 Place and compact recycled concrete base course material as a levelling course to a maximum thickness of 50 millimetres.

E14.5.2 Spread materials uniformly to avoid segregation free of pockets of fine and coarse material.

E14.5.3 Level and compact to the finished elevation. Compact to 100% Standard Proctor Density for Full-Depth Partial Slab Patches (Class A, B, C, & D) and 90% Standard Proctor Density for miscellaneous concrete slabs and sidewalks.

E14.5.4 Maintain the finished material until the pavement or sidewalk is placed.

MEASUREMENT AND PAYMENT

- E14.6 Recycled Concrete Base Course Material
 - E14.6.1 The supplying, placing and compaction of recycled concrete base course material will be measured on a volume basis and paid for at the Contract Unit Price per cubic metre for the "Supplying and Placing Base Course Material" as specified in accordance with CW 3110.
 - E14.6.2 No measurement or payment will be made for material placed as a levelling course under miscellaneous concrete slabs and sidewalks where the costs are included in accordance with CW 3235 and CW 3325.
 - E14.6.3 No measurement or payment will be made for materials rejected by the Contract Administrator.

E15. SUPPLY AND INSTALLATION OF GEOGRID

DESCRIPTION

- E15.1 This specification covers the supply and installation of Geogrid on unstable sub-grade soil conditions.
- E15.2 Referenced Standard Construction Specifications
 - E15.2.1 CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.

MATERIALS

- E15.3 Material will be polypropylene, extruded bi-axial single layer Geogrid.
- E15.4 Acceptable products will be Tenax LBO 302, Nilex BX 1200 or an equal approved by the Contract Administrator in accordance with B5.
- E15.5 All Geogrid rolls must clearly show the product style number and unique roll number.
- E15.6 Storage and Handling
 - E15.6.1 Store and handle in accordance with the manufacturer's recommendations.
- E15.7 Mill Certificate and MARV Data
 - E15.7.1 Provide the Mill Certificate and MARV (Minimum Average Roll Data) Data upon request by the Contract Administrator.

CONSTRUCTION METHODS

- E15.8 Commence installation of Geogrid after approval by the Contract Administrator and the preparation of the sub-grade has been completed in accordance with CW 3110.
- E15.9 Supply and install additional separation/reinforcement fabric material in accordance with CW 3130 at locations as directed by the Contract Administrator.
- E15.10 Unroll Geogrid as smooth as possible on the prepared sub-grade or separation/reinforcement fabric as applicable, in the direction of construction traffic.
- E15.11 Install the Geogrid in the longest continuous practical length, free from tension, stress, folds, wrinkles and creases.
- E15.12 Overlap joints a minimum of 900 mm.
- E15.13 Tie adjacent rolls with joint fasteners in accordance to the manufacturer's recommendations.
- E15.14 Construction vehicles are not permitted directly on the Geogrid.

- E15.15 Place and compact sub-base material to a minimum depth of 300 mm in accordance with CW 3110.
- E15.16 Avoid sudden stops or sharp turns by construction equipment during placement of sub-base materials.
- E15.17 Remove or replace Geogrid improperly installed or damaged as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

- E15.18 Supply and installation of Geogrid will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Supply and Install Geogrid". The area to be paid for will be the total number of square metres of Geogrid, supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- E15.19 Only material placed within the designated sub-grade limits will be included in the payment for "Supply and Install Geogrid".
- E15.20 No measurement or payment will be made for Geogrid removed and replaced due to improper installation or damaged materials.
- E15.21 Adjacent roll joint fasteners will be included in payment for "Supply and Install Geogrid".

E16. SUPPLY AND INSTALLATION OF GEOTEXTILE FABRIC

- E16.1 For sub-grades designated as unstable, the Contract Administrator will advise the Contractor to supply and install a non-woven geotextile as the separation/reinforcement fabric.
- E16.2 Use only non-woven geotextile materials as approved and listed in accordance with section 4.4 of "Approved Products for Surface Works" of the City of Winnipeg Standard Construction Specifications.
- E16.3 Measurement and payment for non-woven geotextile fabric will be at the same Contract Unit Price per square metre for "Separation/Reinforcement Geotextile Fabric".

E17. ADJUSTMENT OF SPRINKLER HEADS

DESCRIPTION

- E17.1 Further to CW 3210, this specification covers the adjustment of existing sprinkler heads within the City of Winnipeg right-of-way to match proposed boulevard grading requirements.

MATERIALS

- E17.2 Sprinkler Heads and Irrigation Piping
 - E17.2.1 Existing sprinkler heads and irrigation piping to be reused.

CONSTRUCTION METHODS

- E17.3 Contractor to locate and mark existing sprinkler heads and irrigation piping prior to undertaking any excavation of boulevards.
- E17.4 Contractor to verify with Owner that existing sprinkler heads and piping is functional prior to any grade adjustments.
- E17.5 Raise or lower existing sprinkler heads and relocate up to 2.0 metres to match finished grade of grassed area. Ensure sprinkler head is plumb and maintain existing sprinkler head direction.

- E17.6 Adjust existing irrigation lines to maintain existing cover requirements. The Contractor may be required to lower or raise irrigation lines or supplement with additional length of pipe. Pipe material to match or exceed existing pipe material.
- E17.7 Contractor is responsible to replace any damaged sprinkler heads or irrigation lines as a result of construction activities.
- E17.8 Upon completion of adjustments after final acceptance of sodded areas, the Contractor shall arrange for the inspection of sprinkler heads and irrigation system with the Contract Administrator to ensure proper functioning of system.
- E17.9 Contractor to repair any deficiencies to the satisfaction of the Contract Administrator.

MEASUREMENT AND PAYMENT

- E17.10 Adjustment of Sprinkler Heads
 - E17.10.1 Adjustment of existing sprinkler heads will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Adjustment of Sprinkler Head". The number of units to be paid for will be the total number of existing sprinkler heads adjusted in accordance with this specification, accepted and measured by the Contract Administrator.

E18. DITCH INLET GRATES

DESCRIPTION

- E18.1 General
 - E18.1.1 This Specification covers the supply and installation of ditch inlet grates on catch basins.

MATERIALS

- E18.2 Ditch Inlet Gate
 - E18.2.1 All steel shall be supplied in accordance with details on the Drawings. All steel shall be hot dip galvanized and all hardware shall be stainless steel. Ditch Inlet Grates shall be Shopost Iron Works MK-A1 or approved equal in accordance with B5.

CONSTRUCTION METHODS

- E18.3 Ditch Inlet Grates
 - E18.3.1 The Contractor shall be required to supply and install ditch inlet grates on drainage inlets shown on the Drawings.
 - E18.3.2 The ditch inlet grate shall be understood to include the supply and installation of all anchor steel, grate steel, and hardware. All concrete material shall be included in the unit price bid for the catch basins.
 - E18.3.3 The ditch inlet grate shall be securely fastened to the drainage inlets as shown on the Drawings and as approved by the Contract Administrator.
 - E18.3.4 Any galvanized surfaces that are damaged shall be coated with a galvanizing compound approved by the Contract Administrator.

MEASUREMENT AND PAYMENT

- E18.4 Ditch Inlet Grates
 - E18.4.1 The supply and installation of ditch inlet grates will not be measured for payment and shall be included in the payment for catch basins.

E19. REMOVAL OF EXISTING CULVERTS

DESCRIPTION

E19.1 General

E19.1.1 This specification covers the removal of existing culverts.

E19.1.2 Referenced Standard Construction Specifications

(a) CW 2030-Excavation Bedding and Backfill

CONSTRUCTION METHODS

E19.2 Removal of Existing Culverts

E19.2.1 The Contractor shall remove and salvage existing culverts designated for removal within the limits of the Contract and as shown on the Drawings.

E19.2.2 The excavation for the removal of existing culverts outside of proposed pavements shall be backfilled to Class 4 standards in accordance with CW 2030. The excavation for removal of existing culverts under proposed pavements shall be backfilled to Class 2 standards in accordance with CW 2030.

E19.2.3 The culverts shall be removed so as not to damage the pipe sections. where culverts are coupled, the sections shall be separated prior to removal.

E19.2.4 Culverts that are deemed unsalvageable by the Contract Administrator shall be removed and disposed of off site.

MEASUREMENT AND PAYMENT

E19.3 Removal of Existing Culverts

E19.3.1 The removal of existing culverts will be measured on a length basis for each size of culvert and paid for at the Contract Unit Price for "Removal of Existing Culverts". Length to be paid for will be the total number of linear metres removed, measured horizontally at grade, in accordance with this specification, accepted and measured by the Contract Administrator.

E20. CSP BAR SCREENS

DESCRIPTION

E20.1 This Specification shall cover all operations relating to the supply and installation of CSP bar screens.

E20.1.1 The work to be done by the Contractor under this Specification shall include the supply of all materials and the furnishings of all superintendence, overhead, labour, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all work as hereinafter specified.

MATERIALS

E20.2 As per construction drawings.

CONSTRUCTION METHODS

E20.3 Contractor to install CSP bar screen as indicated on the construction drawings.

MEASUREMENT AND PAYMENT

E20.4 The supply and installation of CSP bar screens will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Supply and Installation of CSP Bar Screens". The number of

units to be paid for will be the total number of CSP bar screens supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E21. REMOVAL OF EXISTING PIPES

DESCRIPTION

E21.1 This Specification shall amend and supplement Specification CW 2130 and CW 3210.

CONSTRUCTION METHODS

E21.2 Removal of existing pipes shall consist of existing catchbasin or curb inlet leads which are to be removed in order to facilitate the installation of new catchbasin or catch pits.

MEASUREMENT AND PAYMENT

E21.3 The removal of existing pipes by excavating, removing and disposing of existing pipe will be measured on a length basis. The length to be paid for shall be the total number of linear metres of pipe removed from the specified area measured horizontally at grade. Removal of existing pipes will be paid for at the Contract Unit Price per linear metre for "Removal of Existing Pipes", which price shall be payment in full for the supply of all materials and for performing all operations required to complete the work as specified.

APPENDIX 'A'

GEOTECHNICAL REPORT