



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 9-2013

**PROVINCE OF MANITOBA/CITY OF WINNIPEG 2013 REGIONAL/LOCAL STREET
RENEWAL PROGRAM, MCGILLIVRAY BOULEVARD EASTBOUND, BRYN MAWR
ROAD AND LAVAL DRIVE – ASPHALT OVERLAY AND ASSOCIATED WORKS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 PROVINCE OF MANITOBA/CITY OF WINNIPEG 2013 REGIONAL/LOCAL STREET RENEWAL PROGRAM, MCGILLIVRAY BOULEVARD EASTBOUND, BRYN MAWR ROAD AND LAVAL DRIVE – ASPHALT OVERLAY AND ASSOCIATED WORKS

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, March 26, 2013.
- B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.
- B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. ENQUIRIES

- B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.
- B3.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.
- B3.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.
- B3.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.
- B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

B4. ADDENDA

- B4.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B4.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B4.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B4.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- 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/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- 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/she 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/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.
- B5.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B5.10 Notwithstanding B5.2 to B5.9, in accordance with B6.6, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

B6. BID COMPONENTS

B6.1 The Bid shall consist of the following components:

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

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

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

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

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

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

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

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

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

B6.8 Bids shall be submitted to:

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

B7. BID

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

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

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

- 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/her own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, shall be affixed;
 - (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B7.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B7.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B8. PRICES

- B8.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B8.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B8.1.2 For the convenience of Bidders, and pursuant to B6.4.2 and B14.4.3, 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 Division 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 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B9. QUALIFICATION

- B9.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

- B9.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>
- B9.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and
 - (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
 - (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);
- B9.4 Further to B9.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:
- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
 - (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B9.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B9.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B10. BID SECURITY

- B10.1 The Bidder shall provide bid security in the form of:
- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
 - (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.
- B10.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B10.1.2 All signatures on bid securities shall be original.
- B10.1.3 The Bidder shall sign the Bid Bond.

- B10.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.
- B10.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.
- B10.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B10.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
- B10.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.
- B10.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B11. OPENING OF BIDS AND RELEASE OF INFORMATION

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

B12. IRREVOCABLE BID

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

B13. WITHDRAWAL OF BIDS

- B13.1 A Bidder may withdraw his/her 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/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B12.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B14. EVALUATION OF BIDS

- B14.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B9 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B5.
- B14.2 Further to B14.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.
- B14.4 Further to B14.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.
- B14.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.
- B14.4.2 Further to B14.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B14.4.3 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 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B14.
- B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

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

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

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

- (a) Major Rehabilitation
 - (i) Bryn Mawr Road from Baylor Avenue to Dalhousie Drive
 - (ii) Laval Drive from McMasters Road to Pasadena Avenue
- (b) Asphalt Overlay and Associated Works – Pavement Rehabilitation
 - (i) McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Sta. 0+95 to Sta. 1+50
 - (ii) McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Sta. 8+75 to Sta. 12+69
- (c) Asphalt Overlay and Associated Works – Construction of “Sandwich Type” Asphaltic Pavement Structure
 - (i) McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Sta. 1+50 to Sta. 8+75

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

- (a) Major Rehabilitation
 - (i) Renewal of existing sidewalks
 - (ii) Planing of existing asphalt and at intersections for tie-ins as required
 - (iii) Planing of existing lip curb
 - (iv) Installation of catch basin/catch pits and sewer service/drainage connection pipe
 - (v) Adjustment of existing pavement and boulevard structures
 - (vi) Full depth concrete repairs of existing slabs and joints
 - (vii) Installation of barrier curb (100mm reveal height)
 - (viii) Boulevard restoration
 - (ix) Placement of asphalt overlay (average thickness 60mm)
 - (x) Placement of asphalt tie-ins and approaches as required
- (b) Asphalt Overlay and Associated Works – Pavement Rehabilitation
 - (i) Ditch grading
 - (ii) Planing of existing asphalt and at intersections for tie-ins as required
 - (iii) Planing of concrete pavement where required
 - (iv) Removal of barrier curb
 - (v) Full depth concrete repairs of existing slabs and joints
 - (vi) Construction of concrete spillway with curb inlet frame
 - (vii) Installation of catch pits and drainage connection pipe
 - (viii) Adjustment of drainage inlets, water valves and manholes
 - (ix) Renewal of existing curbs as required
 - (x) Renewal of existing curb and gutter as required
 - (xi) Renewal of existing monolithic concrete bullnose as required

- (xii) Renewal of existing concrete sidewalk as required
 - (xiii) Installation of detectable warning surface tiles
 - (xiv) Construct monolithic concrete splash strip utilizing slip form paving(150mm reveal height)
 - (xv) Removal, salvage and reinstall of existing aluminum balanced barrier where required
 - (xvi) Preparation of existing granular shoulder
 - (xvii) Placement of limestone base course material for shoulder (average thickness 75mm)
 - (xviii) Construction of asphalt overlay (average thickness 100mm)
 - (xix) Construction of asphaltic concrete shoulder (average thickness 100mm)
 - (xx) Boulevard restoration
- (c) Asphalt Overlay and Associated Works – Construction of “Sandwich Type” Asphaltic Pavement Structure
- (i) Ditch grading
 - (ii) Removal of median barrier curb
 - (iii) Adjustment of manholes
 - (iv) Renewal of existing curbs as required
 - (v) Construct monolithic concrete splash strip in median lane utilizing slip form paving (150mm reveal height)
 - (vi) Construct monolithic concrete bullnose
 - (vii) Longitudinal joint & crack filling greater than 25mm in width as required
 - (viii) Construction of limestone base course
 - (ix) Construction of asphalt overlay (average thickness 100mm)
 - (x) Construction of asphaltic concrete shoulder (average thickness 100mm)
 - (xi) Boulevard restoration

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Derek Teperto, C.E.T.
Technologist III
1155 Pacific Avenue, Winnipeg, Manitoba, R3E 3P1

Telephone No. 204-232-9527

Facsimile No. 204-986-5302

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

D3.3 Bids Submissions must be submitted to the address in B6.8

D4. CONTRACTOR'S SUPERVISOR

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

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

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

- D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.
- D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.
- D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;
- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
 - (b) the Contract, all deliverables produced or developed; and
 - (c) any statement of fact or opinion regarding any aspect of the Contract.
- D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

- D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.
- D6.3 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204-947-9155

D7. FURNISHING OF DOCUMENTS

- D7.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him/her at cost.

SUBMISSIONS

D8. AUTHORITY TO CARRY ON BUSINESS

- D8.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D9. SAFE WORK PLAN

- D9.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D9.2 The Safe Work Plan shall be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/safety/default.stm>

D10. INSURANCE

- D10.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
 - (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.
- D10.2 Deductibles shall be borne by the Contractor.
- D10.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in the C4.1 for the return of the executed Contract.
- D10.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D11. PERFORMANCE SECURITY

- D11.1 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.
- D11.1.1 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.

D11.2 If the bid security provided in his/her 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.

D12. SUBCONTRACTOR LIST

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

D13. DETAILED WORK SCHEDULE

D13.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the General Conditions for the return of the executed Contract.

D13.2 The detailed work schedule shall consist of the following:
(a) a Gantt chart for the Work acceptable to the Contract Administrator.

D13.3 Further to D13.2(a), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

SCHEDULE OF WORK

D14. COMMENCEMENT

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

D14.2 The Contractor shall not commence any Work on the Site until:
(a) the Contract Administrator has confirmed receipt and approval of:
(i) evidence of authority to carry on business specified in D8;
(ii) evidence of the workers compensation coverage specified in C6.15;
(iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
(iv) the Safe Work Plan specified in D9;
(v) evidence of the insurance specified in D10;
(vi) the performance security specified in D11;
(vii) the subcontractor list specified in D12;
(viii) the detailed work schedule specified in D13.
(b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D14.3 The Contractor shall not commence the Work on the Site before May 13, 2013, and shall commence the Work on Site no later than May 27, 2013, as directed by the Contract Administrator and weather permitting.

D15. WORKING DAYS

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

D15.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his/her assessment. On a weekly basis the Contract Administrator will provide the Contractor with a record of the Working Days assessed for the preceding week. The Contractor shall sign each report signifying that he/she agrees with the Contract Administrator's determination of the Working Days assessed for the report period.

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

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

D16. RESTRICTED WORK HOURS

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

D17. WORK BY OTHERS

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

- (a) The installation of loops and signals plant by the Traffic Signals Branch of the Public Works Department (McGillivray Boulevard);
- (b) Temporary overhead street lighting cables, moving of poles/bases and repair/relocation of underground street lighting cable if required by Manitoba Hydro;
- (c) Various works on survey monuments by Geomatics Branch of the Planning Property and Development at various locations throughout the site.

D18. SEQUENCE OF WORK

D18.1 Further to C6.1, the sequence of work shall be as follows:

D18.1.1 The Work shall be divided into two (2) Phases. Each Phase shall be subdivided into stages. Stages are further subdivided into major items of work.

D18.1.2 **Phase I – Bryn Mawr Road and Laval Drive**

(a) **Stage I – Bryn Mawr Road from Baylor Avenue to Dalhousie Drive**

- (i) Planing of existing asphalt at intersections for tie-ins as required;
- (ii) Planing of existing lip curb;
- (iii) Installation of catch pits and catch basin;
- (iv) Concrete pavement slab and joint work and adjustments to pavement structures and appurtenances;
- (v) Curb and sidewalk renewals;
- (vi) Placing topsoil and finish grading;
- (vii) Placing of asphalt overlay, asphalt tie-ins and approaches; and
- (viii) Laying of sod (if not done with placing of topsoil).

(b) Placing the topsoil and finished grading of all boulevard areas shall be completed prior to commencing construction of the asphaltic concrete overlay, including the scratch course.

(c) **Stage II – Laval Drive from McMasters Road and Pasadena Avenue**

- (i) Planing of existing lip curb;
- (ii) Installation of catch pits and catch basin;
- (iii) Concrete pavement slab and joint work and adjustments to pavement structures and appurtenances;
- (iv) Curb renewals;
- (v) Placing topsoil and finish grading;
- (vi) Placing of asphalt overlay, asphalt tie-ins and approaches; and
- (vii) Laying of sod (if not done with placing of topsoil).

- (d) Placing the topsoil and finished grading of all boulevard areas shall be completed prior to commencing construction of the asphaltic concrete overlay, including the scratch course.

D18.1.3 Immediately following the completion of the asphaltic concrete works of Phase I, the Contractor shall clean up the Site and remove all plant, surplus material, waste and debris, other than that left by the City or other Contractors.

D18.1.4 Construction activity on Phase II (McGillivray Boulevard Eastbound) shall not commence until construction Works on Phase I (Bryn Mawr Road and Laval Drive) is completed. 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.

D18.1.5 **Phase II – McGillivray Boulevard Eastbound from Irene Street to Pembina Highway**

(a) **Stage I – Median Lane Pavement Rehabilitation and Construction of “Sandwich Type” Asphaltic Pavement Structure**

- (i) Planing of asphalt and concrete where required;
- (ii) Curb removal;
- (iii) Concrete pavement slab and joint work and adjustments to pavement structures and appurtenances;
- (iv) Construction of monolithic concrete splash strip;
- (v) Construction of monolithic concrete bullnose;
- (vi) Curb renewals and concrete boulevard works;
- (vii) Placing topsoil and finish grading;
- (viii) Construction of base course; and
- (ix) Placing of scratch course of asphalt.

- (b) Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of base course and the asphaltic concrete overlay, including the scratch course.

(c) **Stage II – Gutter Lane and Shoulder Pavement Rehabilitation and Construction of “Sandwich Type” Asphaltic Pavement Structure**

- (i) Cleaning existing culverts where required;
- (ii) Ditch grading;
- (iii) Planing of asphalt and concrete where required;
- (iv) Concrete pavement slab and joint work and adjustments to pavement structures and appurtenances;
- (v) Installation of concrete spillway with curb inlet frame;
- (vi) Installation of catchpits;
- (vii) Curb renewals, sidewalk renewals and concrete boulevard works;
- (viii) Construction of base course;
- (ix) Preparation of existing roadway shoulder and placement of limestone base course material for shoulder;

- (x) Placing topsoil and finish grading; and
 - (xi) Placing of scratch course of asphalt.
 - (d) Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of base course and the asphaltic concrete overlay, including the scratch course.
 - (e) **Stage III – All Lanes**
 - (i) Placing of final lift of asphalt on Stage I and Stage II; and
 - (ii) Laying of sod and/or seeding (if not done with placing of topsoil).
- D18.1.6 All asphaltic concrete work shall be performed using a lane-at-a-time method (see E5 for minimum requirements of traffic lanes to be left open at various times).
- D18.1.7 At the end of any day, there shall be no drop off along any longitudinal joint, excepting the longitudinal joint between the gutter and approaches.
- D18.1.8 Immediately following the completion of the asphaltic concrete works of Phase II, the Contractor shall clean up the Site and remove all plant, surplus material, waste and debris, other than that left by the City or other Contractors.

D19. SUBSTANTIAL PERFORMANCE

- D19.1 The Contractor shall achieve Substantial Performance within 70 (seventy) consecutive Working Days of the commencement of the Work as specified in D14.
- D19.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.
- D19.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D20. TOTAL PERFORMANCE

- D20.1 The Contractor shall achieve Total Performance within 75 (seventy-five) consecutive Working Days of the commencement of the Work as specified in D14.
- D20.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.
- D20.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D21. LIQUIDATED DAMAGES

- D21.1 If the Contractor fails to achieve Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:
- (a) Substantial Performance – two thousand five hundred dollars (\$2500.00);
 - (b) Total Performance – one thousand dollars (\$1000.00).

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 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) Sodding maintenance as specified in CW 3510-R9;
- (b) Seeding maintenance as specified in CW 3520-R7, E10;
- (c) Reflective Crack Maintenance as specified in CW 3250-R7.

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 or location agreed to by the Contract Administrator and the Contractor. These meetings shall be attended by a minimum of one representative of the Contract Administrator and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator 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/she 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).

MEASUREMENT AND PAYMENT

D25. PAYMENT

D25.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

FORM H1: PERFORMANCE BOND
(See D11)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

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

_____ dollars (\$_____)

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

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

BID OPPORTUNITY NO. 9-2013

PROVINCE OF MANITOBA/CITY OF WINNIPEG 2013 REGIONAL/LOCAL STREET RENEWAL PROGRAM, McGILLIVRAY BOULEVARD EASTBOUND, BRYN MAWR ROAD AND LAVAL DRIVE – ASPHALT OVERLAY AND ASSOCIATED WORKS which is by reference made part hereof and is hereinafter referred to as the "Contract".

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

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

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

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

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

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

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 D12)

PROVINCE OF MANITOBA/CITY OF WINNIPEG 2013 REGIONAL/LOCAL STREET RENEWAL
PROGRAM, MCGILLIVRAY BOULEVARD EASTBOUND, BRYN MAWR ROAD AND LAVAL DRIVE –
ASPHALT OVERLAY AND ASSOCIATED WORKS

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
SURFACE WORKS:		
<u>Supply of Materials:</u>		
Sub-base Material and Base Course Material		
Concrete		
Asphalt		
Topsoil, Sod and Seeding		
<u>Installation/Placement:</u>		
Sub-base Material and Base Course Material		
Concrete		
Asphalt		
Topsoil, Sod and Seeding		
Joint Sealant		
UNDERGROUND WORKS:		
<u>Supply of Materials:</u>		
Pre-cast Concrete Catch Basins and Catch Pits		
Catch Pit/Catch Basin/Manhole - Frames, Covers, Boxes and Lifter Rings		
Drainage Connection Pipes/Sewer Service Pipes		
Watermain Valves/Service Boxes		
<u>Installation/Placement:</u>		
Pre-cast Concrete Catch Basins and Catch Pits		
Catch Pit/Catch Basin/Manhole - Frames, Covers, Boxes and Lifter Rings		
Drainage Connection Pipes/Sewer Service Pipes		
Watermain Valves/Service Boxes		

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
	Cover Sheet	A1
P-3340-1	McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Asphalt Overlay and Associated Works from Sta. 0+95 to Sta. 3+50	A1
P-3340-2	McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Asphalt Overlay and Associated Works from Sta. 3+50 to Sta. 6+50	A1
P-3340-3	McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Asphalt Overlay and Associated Works from Sta. 6+50 to Sta. 9+50	A1
P-3340-4	McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Asphalt Overlay and Associated Works from Sta. 9+50 to Sta. 12+69	A1
P-3340-5	McGillivray Boulevard Eastbound from Irene Street to Pembina Highway – Asphalt Overlay and Associated Works – Miscellaneous Details	A1
SE-13-06	Bryn Mawr Road from Baylor Avenue to Dalhousie Drive – Asphalt Overlay and Associated Works from Sta. 1+05 to Sta. 2+50	A1
SE-13-07	Bryn Mawr Road from Baylor Avenue to Dalhousie Drive – Asphalt Overlay and Associated Works from Sta. 2+50 to Sta. 4+00	A1
SE-13-08	Bryn Mawr Road from Baylor Avenue to Dalhousie Drive – Asphalt Overlay and Associated Works from Sta. 4+00 to Sta. 5+50	A1
SE-13-09	Bryn Mawr Road from Baylor Avenue to Dalhousie Drive – Asphalt Overlay and Associated Works from Sta. 5+50 to Sta. 5+96	A1
SE-13-10	Laval Drive from McMasters Road to Pasadena Avenue – Asphalt Overlay and Associated Works from Sta. 1+00 to Sta. 2+00	A1
SE-13-11	Laval Drive from McMasters Road to Pasadena Avenue – Asphalt Overlay and Associated Works from Sta. 2+00 to Sta. 3+25	A1
SE-13-12	Laval Drive from McMasters Road to Pasadena Avenue – Asphalt Overlay and Associated Works from Sta. 3+25 to Sta. 4+58	A1

E2. OFFICE FACILITIES

- E2.1 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, a height of 2.4m 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, one table 3m x 1.2m, one stool and a minimum of 8 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/she deems it necessary.
- E2.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.
- E2.3 The office facilities will be provided from the date of the commencement of the Work to the date of Substantial Performance.
- E2.4 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.

E3. PROTECTION OF EXISTING TREES

- E3.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
 - (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
 - (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
 - (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
 - (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

- E3.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his/her designate.
- E3.3 No separate measurement or payment will be made for the protection of trees.
- E3.4 Except as required in clause E3.1(c) and E3.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

E4. TRAFFIC CONTROL

- E4.1 Further to clauses 3.6 and 3.7 of CW 1130:
- (a) Where directed, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. Payment shall be in accordance with CW3410.
 - (b) In accordance with the Manual of Temporary Traffic Control in Work Areas on City Streets, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Branch 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 Branch of the City of Winnipeg in connection with the works undertaken by the Contractor.

E5. TRAFFIC MANAGEMENT

- E5.1 Further to clause 3.7 of CW 1130:
- E5.1.1 The Contractor shall schedule construction activities in Phase I to meet the following:
- (a) One lane for local access shall be maintained on Bryn Mawr Road and Laval Drive during construction. At least one intersection on the adjacent bays shall be accessible at all times.
 - (b) Bryn Mawr Road and Laval Drive will be closed to through traffic. Local access and/or bus traffic shall be maintained. The Contractor shall sign the street "Road Closed Local Access Only" in accordance with the Manual of Temporary Traffic control. The road shall be closed to traffic only with the approval of the Contract Administrator.
- E5.1.2 The Contractor shall schedule construction activities in Phase II to meet the following:
- (a) Maintain a minimum of one lane of traffic on McGillivray Boulevard eastbound during all stages of construction;
 - (b) Where left turn lanes exist, an additional lane to accommodate the left turn storage lane shall be maintained at all times;
 - (c) North/South traffic at Irene Street/Fennell Street and McGillivray Boulevard intersection must be maintained during construction to allow for one lane of traffic in each direction to go straight through and to turn left. When no work is being performed in the intersection and providing it is safe for vehicles, north and south lane closures in the intersection will not be permitted;
 - (d) North/South traffic at Beaumont Street and McGillivray Boulevard intersection must be maintained during construction to allow for one lane of traffic in each direction to go straight through and to turn left. When no work is being performed in the intersection and providing it is safe for vehicles, north and south lane closures in the intersection will not be permitted;
 - (e) Maintain a minimum of two lanes of traffic at all times during construction Works southbound Pembina Highway;
 - (f) Intersecting streets and private/commercial approach access shall be maintained at all times.

E5.1.3 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 resident and the Contract Administrator, and take reasonable measures to minimize the impact. The Contractor shall provide a minimum of 24 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.

E5.1.4 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

E6. REFUSE AND RECYCLING COLLECTION

E6.1 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 E6.2 to permit the normal collection vehicles to collect the materials. Immediately following refuse/recycling collection the Contractor shall return refuse/recycling carts to the addresses marked on the carts.

E6.2 Collection Schedule:

Bryn Mawr Road from Baylor Avenue to Dalhousie Drive.

Collection Day(s): **Friday**

Collection Time: **7:00 a.m.**

Common Collection Area: **Front street collection. The Contractor shall move property owners refuse/recycling carts of the lane under construction to opposite side of street for pickup and return refuse/recycling carts to property owners. Need to allow access or the Contractor shall move all of the affected property owners refuse and/or recycling materials to east end of construction site at Dalhousie Drive**

Laval Drive from McMasters Road to Pasadena Avenue.

Collection Day(s): **Friday**

Collection Time: **7:00 a.m.**

Common Collection Area: **Front street collection. The Contractor shall move property owners refuse/recycling carts of the lane under construction to opposite side of street for pickup and return refuse/recycling carts to property owners. Need to allow access or the Contractor shall move all of the affected property owners refuse and/or recycling materials to south end of construction site at McMasters Road.**

E6.3 No measurement or payment will be made for the work associated with this specification.

E7. WATER OBTAINED FROM THE CITY

E7.1 Further to clause 3.7 of CW 1120, the Contractor shall pay for all costs, including sewer charges, associated with obtaining water from the City in accordance with the Waterworks and Sewer By-laws.

E8. SURFACE RESTORATIONS

E8.1 Further to clause 3.3 of CW 1130, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

E9. INFRASTRUCTURE SIGNS

- E9.1 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

E10. SALT TOLERANT GRASS SEEDING

DESCRIPTION

- E10.1 Further to CW 3520 and CW3540, this specification shall cover sub-grade preparation and the supply and placement of Salt Tolerant Grass Seed.

MATERIALS

- E10.2 Salt Tolerant Grass Seed

- E10.2.1 Salt Tolerant Grass Seed for regional and collector boulevards, medians and interchange areas shall be a mixture composed of:

- (a) Seventy percent (70%) Fults or Nuttals Alkaligrass (*Puccinellia* spp.), twenty percent (20%) Audubon or Aberdeen Creeping Red Fescue and ten percent (10%) Perennial Ryegrass.

EQUIPMENT

- E10.3 Scarification equipment shall be suitable for the area being scarified, shall be capable of scarifying the sub-grade to the specified depth and shall be accepted by the Contract Administrator. For confined areas a toothed bucket may be acceptable. For larger areas tilling equipment may be required.

CONSTRUCTION METHODS

- E10.4 Preparation of Existing Grade

- E10.4.1 Prior to placing topsoil, in areas to be seeded greater in width than 600mm, prepare the existing sub-grade by scarifying to a minimum depth of 75mm and to a maximum depth of 100mm to the satisfaction of the Contract Administrator.

- E10.4.2 Scarification shall consist of breaking up and loosening the sub-grade. No scarification shall occur within the edge of a tree canopy (or drip line).

- E10.5 Salt Tolerant Grass Seeding

- E10.5.1 Salt Tolerant Grass Seed shall be sown at a rate of 2.2 kilograms per 100 square meters.

MEASUREMENT AND PAYMENT

- E10.6 Supply, placement and maintenance of Salt Tolerant Grass Seed will be paid for at the Contract Unit Price per square metre for "Salt Tolerant Grass Seeding", measured as specified herein, which price shall be payment in full for supplying all materials and for completing all operations herein described and all other items incidental to the work included in this Specification. Payment for Salt Tolerant Grass Seeding shall be in accordance with the following:

- (a) Sixty five (65%) percent of quantity following supply and placement.
(b) Remaining thirty five (35%) percent of quantity following termination of the Maintenance Period.

E11. CULVERT CLEANING

DESCRIPTION

- E11.1 Further to CW 2140, this specification shall cover the cleaning of existing corrugated steel pipes.
- E11.2 On McGillivray Boulevard Eastbound, south ditch culverts under business approaches and catch basin culverts of McGillivray Boulevard are 300mm to 450mm diameter corrugated steel pipes.

METHODS

- E11.3 Clean existing culverts with high velocity cleaning equipment in accordance with section 3.1 of CW 2140.

MEASUREMENT AND PAYMENT

- E11.4 Cleaning of existing corrugated steel pipes will be measured on a length basis and paid for at the Contract Unit Price for "Culvert Cleaning". The length to be paid will be the total number of linear meters of culvert cleaned in accordance with this Specification, accepted and measured by the Contract Administrator.
- E11.5 Removal and disposal of debris from culvert cleaning Works shall be included in payment for "Culvert Cleaning" and no further payment shall be made.

E12. CONSTRUCTION OF "SANDWICH TYPE" ASPHALTIC CONCRETE PAVEMENT STRUCTURE

DESCRIPTION

- E12.1 This specification shall cover the supply, placement and compaction of base course material for Construction of "Sandwich Type" Asphaltic Concrete Pavement Structure as specified on the Contract Drawing or as directed by the Contract Administrator.
- E12.2 Referenced Standard Construction Specifications
- (a) CW 3110 – Sub-Grade, Sub-Base, and Base Course Construction
 - (b) CW 3410 – Asphaltic Concrete Pavement Works

MATERIALS

- E12.3 Base Course Material
- E12.3.1 Limestone base course material will be used for the "Sandwich Type" Asphaltic Concrete Pavement Structure.
- E12.3.2 Limestone base course material will be used for shoulder Works.
- E12.3.3 Base course material must meet the approval of the Contract Administrator as per Specification CW 3110.

CONSTRUCTION METHODS

- E12.4 Upon completion of splash strip and median bullnoses, fill all cracks and joints greater than 25mm in width with asphalt and compact in accordance with Specification CW 3250.
- E12.5 Place and compact 100mm of base course material in accordance with Specification CW 3110.
- E12.6 Place and compact base course material in left turn lanes and median openings last, to minimize driving on base course.
- E12.7 During asphalt paving operations install asphalt ramps where access is required.

MEASUREMENT AND PAYMENT

E12.8 Amendment to Clause 4.6.1 of CW 3110:

E12.8.1 The supplying, placing and compaction of base course material will be measured on a weight basis and paid for at the Contract Unit Price per **tonne** for "Supplying and Placing Limestone Base Course Material". The weight to be paid for will be the total number of tonnes of base course material supplied and placed in accordance with this Specification, accepted and measured by the Contract Administrator.

E12.8.2 No measurement or payment will be made for materials rejected by the Contract Administrator.

E13. CONSTRUCTION OF REINFORCED CONCRETE SPILLWAY WITH CURB INLET FRAME

DESCRIPTION

E13.1 General

E13.1.1 This Specification shall cover the operations relating to the construction of reinforced concrete spillway with curb inlet frame. The Work to be done under this Specification shall include the furnishings of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work specified.

E13.1.2 Referenced Standard Construction Specifications:

- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction
- (b) CW 3210 – Adjustment of Pavement and Boulevard Structures
- (c) CW 3230 – Full-depth Patching of Existing Pavement Slabs and Joints
- (d) CW 3310 – Portland Cement Concrete Pavement Works

CONSTRUCTION METHODS

E13.2 Construction of Reinforced Concrete Spillway with Curb Inlet Frame

E13.2.1 Saw cut concrete curb and pavement full-depth along the perimeter of the area designated for removal.

E13.2.2 Remove concrete pavement and curb.

E13.2.3 Excavate area behind curb designated for the concrete spillway to accommodate a minimum of 50 millimetre base course construction.

E13.2.4 Place base course and compact in accordance with Specification CW 3110.

E13.2.5 Tie Bars in drilled holes are to be installed into existing concrete pavement; they shall be installed and paid for in accordance with Specification CW 3230.

E13.2.6 Place reinforcing steel in accordance with Section 9.2 of CW 3310 or as specified by the Contract Administrator.

E13.2.7 Place concrete in accordance with Specification CW 3310.

E13.2.8 Install curb inlet frame to grade as designated by the Contract Administrator.

E13.2.9 Construct curb and spillway integral with the concrete pavement.

MEASUREMENT AND PAYMENT

E13.3 Construction of Reinforced Concrete Spillway with Curb Inlet Frame

- E13.3.1 Construction of reinforced concrete spillway with curb inlet frame will be measured on an area basis and paid for at the Contract Unit price per square metre for "Construction of Reinforced Concrete Spillway with Curb Inlet Frame". The area to be paid for will be the total number of square metres of concrete spillway constructed in accordance with this specification, accepted and measured by the Contract Administrator.
- E13.3.2 All costs for removal, excavation, placement of base course, placement of concrete and installation of curb inlet frame to the limits identified in Specification E13 will be included in the payment for "Construction of Reinforced Concrete Spillway with Curb Inlet Frame".
- E13.3.3 The supply of curb inlet frame shall be paid for under payment item "Supply of Curb Inlet Frames".

E14. REMOVAL, SALVAGE AND REINSTALLATION OF EXISTING ALUMINUM BALANCED BARRIER

DESCRIPTION

E14.1 General

- E14.1.1 Further to CW 3650, this Specification covers the removal, salvage and reinstallation of existing aluminum balanced barrier as specified on the Contract Drawing or as directed by the Contract Administrator. The Work to be done under this Specification shall include the furnishings of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work specified.
- E14.1.2 Referenced Standard Construction Specifications:
(a) CW 3650 – Installation of Aluminum Balanced Barrier

MATERIALS

E14.2 Handling and Storage of Materials

- E14.2.1 The Contractor shall be responsible for the safe storage and handling of all materials set forth in this Specification.
- E14.2.2 Any damaged or missing material or components resulting from handling and storage operations shall be replaced at the Contractor's expense, to the satisfaction of the Contract Administrator.

E14.3 Aluminum Balanced Barrier

- E14.3.1 Replacement components for the aluminum rail installation will be supplied by the City of Winnipeg, unless deemed by the Contract Administrator that the Contractor did not use acceptable removal procedures resulting in excessive damage to aluminum rail components.

E14.4 Aluminum Balanced Barrier Components

- E14.4.1 Salvaged barrier railing, splicing bars and clamp bars deemed to be in good condition based on the pre-removal inspection shall be used for reinstallation.
- E14.4.2 Splice bars and clamp bars with cap screws broken into them due to the Contractor's removal operation shall be in good condition. The Contractor has the option to drill out and re-tap the holes or replace with new material at his expense.
- E14.4.3 Salvaged barrier posts deemed to be in good condition after they are removed from the ground and cleaned shall be used for reinstallation.

E14.5 Granular Backfill Material

- E14.5.1 Granular backfill material shall conform to the requirements of Section 5.5 of CW 3650. Crushed limestone base course is not allowed for use.

E14.6 Alkali-resistant Bituminous Paint

- E14.6.1 Alkali-resistant bituminous paint shall conform to the requirements of Section 5.6 of CW 3650.

CONSTRUCTION METHODS

E14.7 Pre-Removal Inspection

- E14.7.1 Prior to the removal and dismantling of the aluminum balanced barrier, the Contractor and Contract Administrator shall jointly inspect the barrier taking note of any damage above ground level and determining which components cannot be used for reinstallation.
- E14.7.2 The layout and location of the barrier posts, railing and rail splices shall be recorded by the Contractor for locations requiring reinstallation. Additional rails, posts, splice bars and clamp bars will be supplied by the City of Winnipeg if sufficient salvaged material is not available on site.

E14.8 Removal of Aluminum Balance Barrier

- E14.8.1 Further to Section 9.6 of CW 3650, removal of the barrier railing components shall be undertaken in a careful and workmanlike manner. Materials damaged through negligent operations shall be replaced by the Contractor at his own expense.
- E14.8.2 A minimum of 48 hours prior to commencement of dismantling operations, the Contractor shall spray all the existing cap screws with an anti-seize compound or penetrating oil to the satisfaction of the Contract Administrator.
- E14.8.3 All cap screws shall be initially loosened with a hand wrench to limit the number of broken cap screws in clamp bars and splice bars. Once loosened, the bolts may be removed with an impact wrench unless otherwise directed by the Contract Administrator.

E14.9 Inspection and Preparation of Barrier Posts

- E14.9.1 After barrier posts are removed, all posts shall be thoroughly cleaned to the satisfaction of the Contract Administrator.
- E14.9.2 The Contract Administrator will inspect the cleaned posts and determine the ones that can be used for reinstallation.
- E14.9.3 All new and existing posts shall be coated with alkali-resistant bituminous paint in accordance to Section 9.4 of CW 3650.

E14.10 Reinstallation of Aluminum Balanced Barrier

E14.10.1 The reinstallation of aluminum balanced barrier shall be at the locations shown on the Drawings or as directed by the Contract Administrator.

E14.10.2 The installation and acceptance of the barrier shall be in accordance with Section 9 of CW 3650.

E14.11 Salvaging of Existing Aluminum Balanced Barrier

E14.11.1 Further to Section 9.6 of CW 3650, all damaged, corroded or unused aluminum rail, post and components shall be delivered to the City Bridge Yard located at 849 Ravelston Avenue. Contact Mike Terleski, C.E.T. at 204-794-8510 or 204-986-5004 to arrange a suitable time and date for delivery.

E14.11.2 Further to Section 5.2 of CW 3650, the salvaged material shall be properly placed in the City Bridge Yard at location determined by City personnel in a manner accepted by the City.

E14.12 Measurement and Payment

E14.12.1 Removal, Salvage and Reinstallation of Existing Aluminum Balanced Barrier will be measured and paid for in accordance with City of Winnipeg Standard Construction Specification CW 3650.

E14.12.2 Delivery of damaged, corroded or unused aluminum balanced barrier material to City Bridge Yard shall be included in payment for Removal, Salvage and Reinstallation of Existing Aluminum Barrier and no further payment shall be made.

E15. OPERATING CONSTRAINTS FOR WORK IN CLOSE PROXIMITY TO THE AQUEDUCT AND FORT GARRY-ST. VITAL FEEDERMAIN

E15.1 Description

E15.1.1 This Specification details operating constraints for all Work to be carried out in close proximity to the Aqueduct and Fort Garry-St. Vital Feedermain crossing McGillivray Boulevard. Close proximity shall be deemed to be any construction activity within a 5 m offset from the centreline of the Aqueduct and Feedermain.

E15.2 General Considerations for Work in Close Proximity to the Aqueduct and Fort Garry-St. Vital Feedermain

E15.2.1 The Aqueduct and Feedermain are a critical component of the City of Winnipeg Regional Water Supply System and Work in close proximity to the pipeline shall be undertaken with an abundance of caution. The pipe cannot be taken out of service to facilitate construction and inadvertent damage caused to the pipes would likely have catastrophic consequences.

E15.2.2 Work around the Aqueduct and Feedermain shall be planned and implemented to minimize the time period that Work is carried out in close proximity to it and to ensure that the pipeline is not subjected to excessive construction related loads, including excessive vibrations and/or concentrated or asymmetrical lateral loads during backfill placement.

E15.2.3 The 1650mm Aqueduct is constructed of Reinforced Concrete. This section of the pipeline was installed in approximately 1959.

E15.2.4 The 750mm Fort Garry-St. Vital Feedermain is constructed of Concrete. The installation date of this pipe is 1960.

E15.3 Protection of the Aqueduct and Fort Garry-St. Vital Feedermain during Construction

E15.3.1 Pipe locations noted on the Drawing P-3340-1(McGillivray Boulevard) are based on the original record drawings. At the request of the Contract Administrator the Contractor shall verify the Aqueduct and Feedermain locations.

- E15.3.2 Contractors carrying out repair Work or Working in close proximity to the Aqueduct and Feedermain shall meet the following conditions and technical requirements:
- (a) Pre-Work, Planning and General Execution
 - (i) No work shall commence at the site until the Aqueduct and Feedermain locations have been clearly delineated in the field including centreline alignment and outside limits of the pipe.
 - (ii) Granular material, construction material, soil or other material shall not be stockpiled on the pipelines or within 5 metres of the pipe centerline.
 - (iii) Stage construction such that the Aqueduct and Feedermain are not subjected to significant asymmetrical loading at any time.
 - (iv) Where Work is in proximity to the Aqueduct and Feedermain, utilize construction practices and procedures that do not impart excessive vibration loads on the Aqueduct and Feedermain or that would cause settlement of the subgrade below the Aqueduct and Feedermain.
 - (v) The Contractor shall ensure that all crew members understand and observe the requirements of this specification. Prior to commencement of on-site work, the Contractor shall jointly conduct an orientation meeting with the Contract Administrator with all superintendents, foremen, and heavy equipment operators to make all workers on site fully cognizant of the limitations of altered loading on Aqueduct and Feedermain, the ramifications of inadvertent damage to the Aqueduct and Feedermain, and constraints associated with work in close proximity to the Aqueduct and Feedermain.
 - (b) Demolition and Excavation
 - (i) Concrete demolition and removal within 3 metres horizontally of the Aqueduct and Feedermain shall be completed by sawcutting and removal, or use of hand held jackhammers. Use of machine mounted concrete breakers above Aqueduct and Feedermain shall not be permitted.
 - (ii) Where there is less than 1.6 metres of earth cover over the Aqueduct and Feedermain, and further excavation is required either adjacent to or over the Aqueduct and Feedermain, utilize only smooth edged excavation buckets, soft excavation or hand excavation techniques.
 - (iii) Where there is less than 2.5 metres of cover over the Aqueduct and Feedermain, offset the excavator or excavation equipment from the Aqueduct and Feedermain, a minimum of 2.5 metres from the Aqueduct and Feedermain centrelines, to carry out excavation.
 - (c) Subgrade Construction
 - (i) Subgrade compaction shall be limited to static compaction methods.
 - (ii) Stage Work activities to minimize the time period that unprotected subgrade is exposed to the environment and protect the subgrade against the impacts of adverse weather if subbase/ base course construction activities are not sequential with excavation.
 - (d) Subbase and Base Course Construction
 - (i) Subbase or base course materials shall not be dumped directly on pipelines but shall be carefully bladed in-place.
 - (ii) Subbase compaction shall be either carried out by static methods without vibration or with smaller approved equipment such as hand held plate packers or smaller roller equipment.
- E15.4 Compliance with the Specification
- E15.4.1 Employees of the Contractor or any Subcontractor that fail to comply with the conditions for Working in close proximity to the Aqueduct and Feedermain shall be promptly removed from the Site.

E16. CN PROTECTION WORKS

E16.1 The construction, operation and maintenance of crossings shall be carried out in a manner so as to minimize interference with Railway property, facilities and operations. When any such work has been completed, Railway property shall be restored by the Contractor to its former condition so far as practicable. The Contractor shall, at its expense, expeditiously and effectively, remedy any interference that does occur, or, should no appropriate remedy be found, remove such crossing and restore the Railway property to good order and condition.

E16.2 CN's Basic Safety Requirements

- E16.2.1 The Contractor's attention is drawn to the following highlights from CN's "Basic Safety Requirements":
- (a) Take all reasonable measures to ensure the protection of employees, customers, property and the general public.
 - (b) Address promptly all environmental and safety concerns.
 - (c) Analyse all accidents or incidents resulting in, or having potential for, loss or injury and take remedial action promptly to prevent recurrence.
 - (d) Require all persons granted access to Railway property to comply with applicable Risk Management policies, standards and procedures.
 - (e) Provide employees with appropriate training to enable them to work safely.
 - (f) Inspect personal protective equipment (PPE), tools and equipment before use to ensure that they are in good working condition.
 - (g) Contractor's employees or Subcontractors performing work within the CN right-of-way must familiarize themselves with CN's Contractor Safety Package, complete a Contractor Orientation Course and must be registered on the Contractor Completion Database which can be found at the following website: [eRAILSAFE training](#)