



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 421-2012**

**OXFORD HEIGHTS C.C.- PARK UPGRADES**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 OXFORD HEIGHTS C.C.- PARK UPGRADES

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, June 28, 2012.

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

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

### **B3. SITE INVESTIGATION**

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

B3.2 The Bidder is advised that they should investigate the Site to determine site access, and possible damage to existing site surfaces.

### **B4. ENQUIRIES**

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

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

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

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

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

### **B5. ADDENDA**

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

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

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

B5.2.2 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.

B5.2.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B6. SUBSTITUTES**

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

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

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

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

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

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

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

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

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

B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.

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

B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

## **B7. BID COMPONENTS**

B7.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B7.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.

B7.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:

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

B7.5.1 Samples or other components of the Bid Submission 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 Submission.

B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.7 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).

B7.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to 204 949-1178.

B7.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B7.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

## **B8. BID**

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

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

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 10 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;
  - (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B8.4.2 All signatures shall be original.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B9.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **B10. QUALIFICATION**

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
  - (b) be financially capable of carrying out the terms of the Contract; and
  - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and 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>
- B10.3 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);

B10.4 Further to B10.3(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/Subcontractors 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/> .

B10.5 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.

B10.6 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.

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

B11.1 Bids will not be opened publicly.

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/bidopp.asp>

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 9 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 for the time period specified in Paragraph 9 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 10 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 10 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.

#### **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 there from (pass/fail);
  - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
  - (c) Total Bid Price;
  - (d) economic analysis of any approved alternative pursuant to B6.
- 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 adjusted, if necessary, as follows:
- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
  - (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting item(s) 12, 15, 16, 18, 19, 20, 21, 3, 5, 9, and 6 in the order listed, until a Total Bid Price within the budgetary provision is achieved.
- B14.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

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

## **B15. AWARD OF CONTRACT**

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

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

B15.2.1 Without limiting the generality of B15.2, the City will have no obligation to award a Contract where:

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

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

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

B15.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

B15.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

## PART C - GENERAL CONDITIONS

### C0. GENERAL CONDITIONS

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

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

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

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

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

D2.1 The Work to be done under the Contract shall consist of landscape site improvements to Oxford Heights CC located at 359 Dowling Avenue East, Transcona.

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

- (a) Minor demolition work
- (b) Supply and installation of underground drainage pipe system
- (c) Supply and installation of concrete walks and patios
- (d) Supply and installation of tree and shrub planting
- (e) Topsoil and sodding
- (f) Supply and installation of wood bollards and metal bollards
- (g) Supply and installation of limestone blocks
- (h) Installation only of benches

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

D3.1 The Contract Administrator is Ken Rech Landscape Architects Inc., represented by:

Ken Rech  
Landscape Architect  
Telephone No. 204 489-6616  
E:mail kenrech@mymts.net

D3.2 At the pre-construction meeting, Ken Rech 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 B7.5.

#### **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.

#### **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 facsimile number identified in D3.1.

- D5.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg  
Chief Financial Officer  
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 facsimile number:
- The City of Winnipeg  
Legal Services Department  
Attn: Director of Legal Services  
Facsimile No.: 204 947-9155

## **SUBMISSIONS**

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

- D6.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

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

- D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

### **D8. INSURANCE**

- D8.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg and Ken Rech Landscape Architects Inc. 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 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) 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.
- D8.2 Deductibles shall be borne by the Contractor.

D8.3 The Contractor shall provide the Contract Administrator 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 seven (7) Calendar Days from notification of the award of Contract by Purchase Order.

D8.4 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.

## **D9. PERFORMANCE SECURITY**

D9.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
- (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D9.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D9.2 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 Purchase Order and prior to the commencement of any Work on the Site.

## **D10. SUBCONTRACTOR LIST**

D10.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

## **SCHEDULE OF WORK**

### **D11. COMMENCEMENT**

D11.1 The Contractor shall not commence any Work until he/she is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.

D11.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
  - (i) evidence of authority to carry on business specified in D6;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the Safe Work Plan specified in D7;
  - (iv) evidence of the insurance specified in D8;
  - (v) the performance security specified in D9; and
  - (vi) the Subcontractor list specified in D10.

- (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.

D11.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D11.4 The City intends to award this Contract by August 7, 2012.

D11.4.1 If the actual date of award is later than the intended date, the dates specified for, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

## **D12. SUBSTANTIAL PERFORMANCE**

D12.1 The Contractor shall achieve Substantial Performance within twenty (20) consecutive Working Days of the commencement of the Work as specified in D11.

D12.2 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.

D12.3 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.

## **D13. TOTAL PERFORMANCE**

D13.1 The Contractor shall achieve Total Performance within twenty-five (25) consecutive Working Days of the commencement of the Work as specified in D11.

D13.2 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.

D13.3 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.

## **D14. LIQUIDATED DAMAGES**

D14.1 If the Contractor fails to achieve Total Performance or Total Performance in accordance with the Contract by the day fixed herein for same, the Contractor shall pay the City the following amounts per Calendar Day for each and every Calendar Day following the day fixed herein for the same during which such failure continues:

- (a) Substantial Performance – five hundred dollars (\$500)
- (b) Total Performance – five hundred dollars (\$500)

D14.2 The amount specified for liquidated damages in D14.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance or Total Performance by the day fixed herein for same.

D14.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **D15. SCHEDULED MAINTENANCE**

- D15.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) E20 as specified in Sodding;
  - (b) E33 as specified in Tree Maintenance;
- D15.2 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**

### **D16. JOB MEETINGS**

- D16.1 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.
- D16.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

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

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

## **MEASUREMENT AND PAYMENT**

### **D18. INVOICES**

- D18.1 Further to C12, the Contractor shall submit an invoice for each portion of Work performed. to:
- The City of Winnipeg  
Corporate Finance - Accounts Payable  
4th Floor, Administration Building, 510 Main Street  
Winnipeg MB R3B 1B9
- Facsimile No.: 204-949-0864  
Email: [CityWpgAP@winnipeg.ca](mailto:CityWpgAP@winnipeg.ca)
- D18.2 Invoices must clearly indicate, as a minimum:
- (a) the City's purchase order number;
  - (b) date of delivery;
  - (c) delivery address;
  - (d) type and quantity of work performed;
  - (e) the amount payable with GST and MRST shown as separate amounts; and
  - (f) the Contractor's GST registration number.



D18.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D18.4 Bids Submissions must be submitted to the address in B7.5.

**D19. PAYMENT**

D19.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**WARRANTY**

**D20. WARRANTY**

D20.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D20.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.

D20.2 Notwithstanding C13.2, 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 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.

D20.2.1 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 D9)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

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

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

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

BID OPPORTUNITY NO. 421-2012

OXFORD HEIGHTS C.C.- PARK UPGRADES

which is by reference made part hereof and is hereinafter referred to as the "Contract".

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

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

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

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

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

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

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

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

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

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

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

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

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

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)**  
(See D9)

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

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 421-2012  
OXFORD HEIGHTS C.C.- PARK UPGRADES

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

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

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

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

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

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

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

Partial drawings are permitted.

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

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

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

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

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

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

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

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

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

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

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

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



## 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*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L-1	Site Grading Plan & Landscape Plan
L-2	Miscellaneous Details
SCD-105B	Post Bollard
SCD-121A	Tache Bench Composite with Arms
SCD-515	Coniferous Tree Planting (Parks)
SCD-517	Standard Detail for Tree Planting

#### E2. PROTECTION OF THE SURVEY INFRASTRUCTURE

- E2.1 Notwithstanding clause 4 "Protection of Survey Bars" of the Standard Provisions: Current legislation, the Survey Act, places the onus on those undertaking construction to protect the Survey Infrastructure from damage as a result of their activity.
- E2.2 Known survey monuments locations are shown on drawing 1-L1 and there are four (4) monuments in the grass areas and one (1) in the Community Club building foundation wall.
- E2.3 Further to C:6.26(g), at least 72 hours prior to commencement of On-Site Work, the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 986-4826 (8:00 am to 4:00 pm Monday to Friday excluding holidays) to obtain underground clearance. Geomatics Services will locate and mark all known outline survey monuments and geodetic control monuments and confirm the physical condition of those monuments upon completion of construction, at no cost to the Contractor.
- E2.4 Where a survey post, bar or control monuments lies in line of the proposed Work and must be disturbed, the Contractor shall provide the Contract Administrator with 48 hours notice to permit referencing for future replacement, at no cost to the Contractor. Failure to provide the specified notice shall result in the Contractor for paying for all costs associated with replacing or relocating the disturbed outline survey monuments and geodetic control monuments.
- E2.5 Survey monuments and geodetic control monuments at or adjacent to the Site, not in the line of the proposed construction that are damaged or disturbed by the Contractor shall be replaced or relocated by the City or its agents and all associated costs shall be paid for by the Contractor. An approximate estimate of the costs involved to restore a legal survey monument is \$1,000 per bar and \$3,000 per control monument. Contractors must ensure their landscaping and other subcontractors are aware of this clearance procedure and the potential restoration costs.

E2.6 Where possible, amounts owed to the City in accordance with the above will be deducted from any payments to be made by the City to the Contractor.

### **E3. AREAS OF WORK**

E3.1 Drawing 1–L1 defines Area “A” and “B” underground Multi-Flow drainage lines. Area “B” may be deleted along with the related sodded areas, if required to meet budgetary constraints. The various components of each area are broken down in the Form: B Prices. The new concrete Patio/Walk as shown in details 3, 4 –L1 may also be deleted from the Contract.

### **E4. LAYOUT OF WORK**

E4.1 The Contractor shall set control lines and bench marks by means of stakes, buoys or marks and the Contractor shall make the completed works conform to the lines and marks thus indicated. The Contractor shall furnish all other lines and levels required. The Contractor shall be responsible for the careful preservation of all stakes and marks. Care must be taken that the Contract Administrator be notified immediately of the disturbance of any such stakes or marks; the cost of correcting any errors arising out of neglect of the Contractor or his agent or his employees, to so notify the Contract Administrator shall be borne entirely by the Contractor, as well as the cost of replacing any disturbed stakes or marks.

E4.2 All layout Work shall be inspected and approved by the Contract Administrator prior to construction.

E4.3 Before commencing Work the Contractor shall satisfy himself as to the meaning and correctness of all stakes and marks and no claims shall be entertained by the City of Winnipeg on account of any alleged inaccuracies. If any error is suspected in the plans, specifications or the directions of the Contract Administrator, Work shall be discontinued until the errors are rectified, but no claims shall be made on account of any delay occasioned thereby.

E4.4 All proposed tree planting locations shall be staked with minimum 610mm height vertical markers, and be approved by the Contract Administrator prior to excavating the tree pit.

E4.5 The Contractor shall locate and protect all underground utilities prior to commencing construction. Special attention is made to the existing underground electrical wiring which services the hockey rink lights.

### **E5. EXISTING SURVEY INFORMATION**

E5.1 The Site plan is based on drawing data supplied by the City of Winnipeg and supplemental field data supplied by Ken Rech Landscape Architects and Michalenko Surveys, which was surveyed on March 22, 2012.

### **E6. SITE ACCESS**

E6.1 Access to the Work areas shall be via the existing parking lot or via the rear lanes. The Contractor is responsible to repair all damage to all existing surface materials as a result of their construction activity, which is located outside the areas of new sod, at no Cost to the City. This will include all sod damage around the underground granular drains.

### **E7. DEMOLITION**

E7.1 In general terms Demolition will involve the following:

- (a) Removal of selected of a concrete walk and adjacent asphalt paving
- (b) Removal of portions of existing wood bollards and four (4) steel bollards
- (c) Removal of some small shrubs



- (d) General Site grading and removal of sod in areas where a berm will be built or drainage swales installed.
- (e) There are no items of salvage.

- E7.2 Items indicated to be demolished are to be legally disposed of off Site.
- E7.3 The four existing steel posts located around the parking lot interior light, as shown on drawing 1-L1 are to be removed including all concrete footings. New steel posts shall be installed by drilling new concrete footings in the same hole. Prior to removing the posts, sawcut the existing asphalt paving to a square shape around each footing to allow the post and concrete footing to be pulled up with the minimum amount of disruption to the asphalt parking lot. All asphalt damage to the parking lot is to be repaired and this Work is considered incidental to the cost of the new steel bollards.
- E7.4 The existing wood bollards located along the west side of the property, north of the most northerly east / west lane, and as located on drawing 1-L1, are to be removed. The holes shall be backfilled with compacted sand and a 100 mm depth of topsoil installed c/w seed. The cost of the sand backfill, topsoil and seed is to be included in the demolition cost of the wood posts.

#### Measurement and Payment

- E7.5 All of the Site demolition Work, except Work related to the remove of the existing concrete sidewalk and adjacent asphalt paving, shall be included in Unit Cost Item No: 1 "General Site Area Demolition". Site demolition Work associated with removal of the existing concrete walk and adjacent asphalt paving, shall be included in Unit Cost Item No.2 "Concrete Walk and Adjacent Area Demolition".
- E7.6 Demolition Work will be paid on a lump sum basis each area noted on the Unit Price and is to be included in the respected Unit Price Cost noted in E7.5. The price shall include all costs for the demolition Work within each area, and legal disposal of all materials off site.

#### **E8. SITE RESTORATION**

- E8.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant, tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

#### **E9. EARTHWORK AND ROUGH GRADING**

- E9.1 This specification shall amend and supplement City Specification CW 3170 and cover the operations relating to the earthwork and grading of the Site as shown on the Construction Drawings.
- E9.2 The Contractor shall protect all underground utilities, survey monuments, buildings, fences, and areas of landscape to be retained.
- E9.3 The Contractor shall install underground Multi-Flow drainage lines in the locations shown on drawing 1-L1 and to the new invert elevations shown on the drawing. All new invert elevations, and finished grade elevations shall be considered to be a straight line/slope between the two closest grade elevations. Valleys or mounds between two grade elevations is not permitted.
- E9.4 Where the new sidewalk will be installed any existing organic material located below is to be removed and replaced with suitable fill or gravel.
- E9.5 Where new swales or sodded areas are to be installed the existing top 50 mm of grass and thatch is to be thoroughly rototilled and removed. This material may be utilized to build the new

berm provided it is spread out over the base level of the berm, and the depth does not exceed 300 mm. All surplus material shall be removed from site.

- E9.6 The Contractor shall excavate or fill to the design grades shown less the appropriate allowance for surface treatment, topsoil and sod, gravel subbase, and concrete paving. All unsuitable materials of whatever nature encountered shall be excavated, removed and disposed of by the Contractor to the satisfaction of the Contract Administrator. Where design grades are not shown, the new surface materials shall be installed to meet flush with surrounding grades, and sloped so as not to impede the existing drainage pattern.
- E9.7 Construction to the new design grades shall be accomplished by the excavation of material from high areas, and using suitable excavated material supplement with imported clean earth fill, for filling in the low areas, as indicated by the elevations shown on Construction Drawings. Backfill shall be placed in a dry, thawed condition and shall be maintained free of moisture or frost.
- E9.8 The design gradient for all areas shall be considered to be straight grade between the finished or invert design elevations shown. Changes in grade at swales or where it meets existing sod to remain, shall be gently contoured as directed by the Contract Administrator to provide future ease of grass mowing operations.
- E9.9 The Contractor shall construct all sub-grades in accordance with Specification CW 3110. This shall include the use of suitable compaction equipment as approved by the Contract Administrator to achieve a minimum compaction of 95% Standard proctor Density for the subgrade. Lifts shall not exceed a compacted thickness of 150 mm.
- E9.10 Following earthmoving, rough grading and compaction, the Work areas shall be fine graded to provide a maximum deviation of 25 mm in 10 metres from the design grade with no low areas that hold water. The finished surface of all disturbed areas shall be dragged and smoothed in such a manner that there are no loose soil particles greater than 25 mm in maximum dimensions.

#### Measurement and Payment

- E9.11 Excavation of the underground Multi-Flow drainage trench shall be included in the related Multi-Flow drainage line area as indicated in Unit Price Cost Item: 11 & 12 "Multi-Flow Underground Drainage Channel".
- E9.12 Earthwork and rough grading of the area around the new concrete walk shall be included in Unit Price Cost Item 3 "Sidewalk and Patio Area Rough Grading".
- E9.13 Earthwork and rough grading for the new berm area and drainage swales will be paid on a lump sum basis and is to be included in Unit Cost Item No. 4 "Earthwork and Rough Grading for Berm and Drainage Swales". The price shall include all costs associated with stripping the existing grass, excavation and placement of existing in grade materials, grading, compaction and fine grading of the rough grade, and all other Work incidental to preparing the rough grade.

#### **E10. GRANULAR BASE**

- E10.1 This Specification shall amend and supplement City Specification CW 3110 Sub-Grade, Su-Base, and Base Course Construction and CW-3150 Gravel Surfacing. The Work to be done by the Contractor under this Specification shall cover all phases of the supply and placement of crushed limestone sub-base below the new concrete walk and patio area.
- E10.2 The base course shall consist of a 100 mm depth of new 19 mm crushed limestone down, compacted to 100% Standard Proctor Density.
- E10.3 Install material to the depth and design elevations indicated on the Construction Drawings. Install only on clean unfrozen surface, properly shaped and compacted. Place the material using methods which do not lead to segregation or degradation of aggregate.

- E10.4 The finished surface is to be within plus or minus 10 mm of established grade and cross section, but not uniformly high or low. Any surface irregularities shall be corrected by loosening and adding or removing material until surface is within specified tolerance.
- E10.5 The top of the granular base course shall be 125 mm below the finished grade elevations to allow for the 125 mm depth of concrete paving, and shall be sloped to meet the new finished grade elevations shown on drawing detail 1-L1.
- E10.6 Basis of Payment
- (a) No separate payment will be made for supplying and installing the granular base. Include the cost for this Work in Unit Cost Item No: 5 "New Concrete Paving".

## **E11. ASPHALT CONCRETE PAVEMENTS**

- E11.1 This specification shall amend and supplement City Specification CW 3410 "Asphalt Concrete Pavement Works" and shall cover all aspects of supply and installation of asphalt repairs to the existing parking lot.
- E11.2 Asphalt paving installation is required around the existing light standard, where existing steel bollards will be replaced.
- E11.3 Any patching or repairs of the asphalt paving shall be made in accordance with CW 3410 and be a minimum 50 mm thickness.
- E11.4 Damaged portions of asphalt paving shall be removed by sawcutting through the existing asphalt in a clean rectangular or square shape, and removing the damaged portions with picks or shovels.
- E11.5 Basis of Payment:
- (a) No separate payment will be made for asphalt paving. Include all costs for asphalt paving or repairs in the new steel bollard cost indicated in Unit Cost Items No: 8 "New Steel Bollards".

## **E12. CONCRETE PAVING**

- E12.1 This specification shall amend and supplement City Specification CW 3425 "Portland Cement Concrete Sidewalk" and shall cover all aspects of supply and installation of concrete sidewalk and patio area.
- E12.2 The existing concrete sidewalk is being removed and installed to the new shape shown on drawing detail 3-L1 and as per detail 7-L2. A new patio will also be constructed adjacent to the new sidewalk.
- E12.3 All new concrete paving shall be sloped to drain away from the building and sloped to drain onto the existing parking lot at a minimum 2% slope. The new sidewalk towards the street side of the patio shall be sloped to drain to the existing City walk.
- E12.4 The Contractor shall note that the north end of the sidewalk is widened so the Rain Splash Pad end will sit on the new concrete paving.
- E12.5 The finished concrete surface shall have a light broom finish surface, trowel edge, and 12 mm deep sawcut control joints at maximum 1800 mm on centre.

### **Measurement and Payment**

- E12.6 Cost for New Concrete Paving will be paid for on a per square metre basis, as indicated in the unit price form in Unit Cost Item No.5 "New Concrete Paving". The price shall include all costs for excavation, supply and installation of granular base, supply and installation of new concrete paving,

### **E13. RAIN SPLASH PAD**

E13.1 This specification shall cover the supply and installation of two (2) precast concrete rain splash pad by the rain downspout on the west wall of the community club building.

E13.2 Materials:

- (a) Precast Concrete Rain Splash pad: to be Barkman 600 mm wide x 2400 mm long, model No: 45-41008, or approved equal in accordance with B6.
- (b) Levelling course: shall be 6 mm dia. crushed limestone down

E13.3 Construction Method

- (a) Install precast concrete rain splash pad on a min. 50 mm depth granular base with the pad sloped a min. of 50 mm to drain away from the building. Gravel levelling base to extend to full area of concrete pad.

Measurement and Payment

E13.4 The Concrete Splash Pad will be paid for on a per unit basis, as indicated in the unit price form in Unit Cost Item No.6 "Rain Splash Pad". The price shall include all costs for granular base, splash pad and installation of the same.

### **E14. WOOD BOLLARDS**

E14.1 This specification covers the supply and installation of new wood bollards, to be installed in three (3) site locations as shown in detail 1-L1.

E14.2 Materials

- (a) Wood shall be 190 – 230 mm diameter round Pine logs, free of bark. Wood to be ACQ pressure treated, green in colour.
- (b) Granular backfill shall be 6 mm diameter crushed limestone.

E14.3 Install posts 1800 apart in location shown on drawing 1- L1. Install posts in minimum 300 mm diameter holes backfilled with compacted limestone. Posts may also be installed by sharpening the bottom end to a conical point, and pushing the posts into grade, provided the top of the posts are not split or splintered.

Measurement and Payment

E14.4 Wood bollards will be paid for on a per unit basis, for each area of Site, as shown in the unit price form, Unit Cost Items No. 7 "New Wood Bollards". The price shall include all costs for the excavation of the holes, supply and installation of the wood bollard, gravel backfill, and clean up and removal of the excavated post auger material.

### **E15. STEEL BOLLARDS**

E15.1 This specification shall cover the supply and installation of steel bollards around the existing light standard in the parking lot, as shown in detail 1-L1.

E15.2 Materials:

- (a) All materials supplied under this specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.
- (b) Concrete:
  - (i) Concrete shall be in accordance with C.W. 2160 Concrete for Underground Structures and Works.
- (c) Steel:

- (i) Materials shall be sized as shown on the drawing detail 1-L2.
- (ii) All welds shall be continuous and ground smooth.
- (d) Steel Finish:
  - (i) All metal shall be finished with one coat of primer and two coats of enamel bright yellow paint. Submit paint colour sample to Contract Administrator for approval prior to painting metal.

**E15.3 Methods:**

- (a) Steel bollards shall be constructed as per drawing details shown 1-L2.
- (b) Workmanship shall be in accordance with industry standards, and quality control shall be exercised related to the assembly connections requirements, setting, welding and grinding, trimming, sandblasting, co-ordination of fasteners, alignments and adjusting.
- (c) Fabrication of all bollards shall be in accordance with the drawings. The Contractor shall verify that the dimensions suit the site measurements. The bollards shall be shop finished and shall be installed straight and plumb as shown on the drawings.
- (d) All underground utilities shall be located and protected prior to excavating for all footings.
- (e) All posts shall be set into wet concrete fill holes and securely braced plumb, and at the correct height above finish grade, using secure methods of temporary support and bracing. Bracing shall remain in place for a minimum 48 hours.
- (f) Centre hollow of post to be filled with concrete at time of installation and top is to be slightly rounded so as to shed water.
- (g) All site damaged to the paint finish, and the top of the new concrete fill, is to be field touched up with paint to match the post finish.
- (h) The asphalt paving damaged is to be repaired in accordance with E11. No separate payment will be made for the asphalt repairs and the Contractor shall include the cost for such repairs in the cost for each steel bollard.

**Measurement and Payment**

- E15.4 Steel bollards will be paid for on a per unit basis, for each bollard, as shown in the unit price form, Unit Cost Items No. 8 "New Steel Bollards". The price shall include all costs for the excavation of the holes, supply and installation of the steel bollard, concrete backfill, and asphalt repairs.

**E16. SITE FURNISHINGS**

**E16.1 Description**

- E16.1.1 This specification shall cover the pick up and installation of new site furnishings; three (3) benches with backs.
- E16.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawing 4-L1 and specified herein. Supply includes pick up at the City of Winnipeg. There will be no charge for the supply of the site furniture.

**E16.2 Materials**

- E16.2.1 All materials supplied under this specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.
- E16.2.2 Site Furniture shall be:
  - (a) Benches: Tache Composite Benches w/ Arms, Product # 52501085GLV , SCD-121A, or approved substitute in accordance with B6. Three (3) benches to be surface mount
    - (i) Contact for Waste Receptacles and Benches:  
Aaron Lennon

Supervisor of Central Repair/Manufacturing Facility  
City of Winnipeg  
Fleet Management Agency Division  
Public Works Department  
215 Tecumseh St  
Winnipeg, MB R3E 3S4  
Tel: 204 986-5505  
Email: [ALennon@winnipeg.ca](mailto:ALennon@winnipeg.ca)

**E16.3 Construction Methods**

- (a) All Work is to be located and installed in accordance with the Drawing 4-L1.
- (b) All furnishings and fixtures to be installed plumb and true to correct elevations and location, as directed by the Contract Administrator. The Contractor shall confirm proposed locations of all site furnishings with Contract Administrator prior to installation;
- (c) All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- (d) Install as per manufacturer's instructions and the attached drawings. Surface mount benches are to be installed with Contractor supplied 9 mm dia. x 75 mm long rustproof concrete anchors. After tightening the bolts bang the threads to deform the bolt threads to prevent removal.

**E16.4 Method of Measurement and Basis of Payment**

**E16.4.1 Method of Measurement shall be as follows:**

- (a) Site Furniture will be measured on a per unit basis for the following items:
  - (i) Item 9: "Install only benches, surface mount" on Form B: Prices;

**E16.4.2 Basis of Payment shall be as follows:**

Site Furniture will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all.

**E17. LIMESTONE BLOCKS**

**E17.1 Description**

**E17.1.1** This specification shall cover the supply and installation of limestone blocks as shown in details 5 and 6-L2 and located on drawing 4-L2.

**E17.1.2** The Contractor is made aware the Limestone Blocks may not be awarded based on budgetary constraints.

**E17.2 Materials**

**E17.2.1** Limestone blocks shall be natural rectangular shaped limestone blocks with relatively flat tops and bottoms, and rough faces. Sizes of blocks is shown in detail 5-L2.

**E17.2.2** Levelling base shall be 6 mm crushed limestone down.

**E17.3 Construction Methods**

- (a) All limestone blocks are to be located and installed in accordance with the Drawing 4-L1.

- (b) Install limestone blocks on a 100 mm depth levelling base, so bottom of block is buried 50 mm below finish grade.
- (c) Use the blocks with the flattest tops by the concrete walk and patio area, to provided seating.
- (d) Grind off any sharp surface edges for the limestone blocks located around the patio or walks.
- (e) Where blocks are shown spaced, install blocks with a minimum 300 mm space between blocks to prevent leg entrapment.

**E17.4 Method of Measurement and Basis of Payment**

**E17.4.1 Method of Measurement shall be as follows:**

- (a) Limestone blocks will be measured on a per unit basis for the following items:
  - (i) Item 10: "Limestone Blocks" on Form B: Prices;

**E17.4.2 Basis of Payment shall be as follows:**

Limestone Blocks will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for excavation, granular base, supply and installation of limestone blocks, and grinding off any sharp edges.

**E18. MULTI-FLOW UNDERGROUND DRAINAGE CHANNEL**

**E18.1 General Description**

E18.2 This specification shall cover the supply and installation of an underground granular drainage system as located on drawing 1-L1 and as per details 2, 3 4-L2.

E18.3 The Contractor is made aware Area "B" Multi-Flow underground drainage channel may not be awarded based on budgetary constraints.

**E18.3.1 Material**

**(a) Drainage Pipe**

- (i) Drainage pipe shall be Multi-Flow, or 100 mm perforated pvc pipe or approved substitute in accordance with B6. If Multi-Flow pipe use 150 mm (6") wide strips. The manufacturer will size and approve all fittings for use with Multi-Flow or approved substitute drainage pipe.
- (ii) The drain conduit shall be of flexible, prefabricated, rounded rectangular shaped, composite product. The drain conduit will be wrapped with a non-woven geotextile and will be a non-woven needle-punched construction and consist of long-chain polymeric fibres composed of polypropylene, polyethylene or polyamide. The fibres will be oriented into a multi-directional stable network whereby they retain their positions relative with each other and allow the passage of water as specified. The fabric will be free of any chemical treatment or coating, which reduces permeability and will be inert to chemical commonly found in soil. The geotextile will conform to the following minimum average roll values.

Weight	ASTM D-3776	3.0 - 4.0
Tensile Strength	ASTM D-4632	100 - 130
Elongation %	ASTM D-4632	50 - 70
Puncture, lb	ASTM D-751	35 - 60
Mullen Burst, psi	ASTM D-3786	110 - 215
Trapezoidal Tear, lb	ASTM D-4533	40 - 42
Coefficient of	ASTM D-4491	.2 - .4 cm/sec

Permeability		
Flow Rate, gpm/ft <sup>2</sup>	ASTM D-4491	100 - 140
Permittivity, 1/sec	ASTM D-4491	1.3 – 2.0
Apparent Opening Size	ASTM D-4751	60/70 Max. US Std Sieve Opening
Seam Strength, lb/ft	ASTM D-4595	100
Fungus	ASTM G-21	No Growth

- (iii) The drainage core shall be made of a high-density polyethylene. The core shall be constructed using interconnected corrugated pipes that define and provide the flow channels and structural integrity of the drain. The geotextile shall function only as a filter. The core of the edge drain shall conform to the following physical property requirements.

(iv)

Thickness, inches	ASTM D-1777	1.0
Flow Rate, gpm/ft*	ASTM D-4716	29
Compressive Strength, psf	ASTM D-1621 (modified sand method)	6000
Pipe Stiffness, pii	ASTM D-2412	100

\* At gradient = 0.1, pressure = 10 psi for 100 hours.

- (v) Fittings

(vi) The fittings used with the edge drain shall be of a snap together design. In no case shall any drainage product be joined without the use of the manufacturers connector designed specifically for the purpose. Cleanouts will be provided as indicated on the drawing.

- (vii) Outflow pipe shall be 100 mm dia. P.V.C.

(b) Backfill for Trenches

- (i) Surface topping shall be coarse sand whose particle size is defined as less than 5% retained on a # 10 screen and less than 5% passing through a # 30 (US Std Sieve) In no case will more than 1% pass a # 60 screen.
- (ii) Trench backfill shall be 6 mm dia. clean stone and may be crushed granite, limestone, or round pea gravel.

(c) Geotextile for trench lining

- (i) Armtec 200 or approved substitute in accordance with B6.

E18.3.2

Methods

- (a) The Contractor is made aware the underground drainage system has two high points and the water is to drain to the existing ditch along the north side of the north property line.
- (b) Portions of the underground drainage system will be installed in areas of existing grass, which is to be protected, and any damage to this grass is to be repaired to prior construction condition, at no Cost to the City.
- (c) Other portions of the underground drainage system will be installed in existing swales which are to be raised, or new drainage swales, which will require the addition of new sod.
- (d) Contractor is to protect sub-drain from excessive weight during the duration of construction and to repair and make good any pipe collapsed prior to acceptance.
- (e) Fittings for the drain will be installed in accordance with the manufacturer's recommendations and Specification.
- (f) Any damaged edge drain or outlet lateral will be replaced or repaired by splicing in an undamaged section of drain at the Contractor's expense. The repair must be in



accordance with the manufacturer's specification and to the satisfaction of the Contract Administrator.

- (g) The geotextile fabric wrapping the trench walls shall be folded over the top of the trench, 50 mm below the finished grade elevations and all excessive fabric trimmed off. This is typical for the fabric on both sides of the trench. Upon completion the top of the granular trench will be covered with 2 layers of geotextile.
- (h) Install a 50 mm depth, 150 mm width of sand topping flush with the top of the existing grass or new sod.
- (i) At the two outlet points of the Multi-Flow drainage system, connect 1.8 metre long, P.V.C. pipe to the end outlet fittings. Backfill the P.V.C. pipe with 6 mm dia. clean stone.

#### E18.4 Method of Measurement and Basis of Payment

##### E18.4.1 Method of Measurement shall be as follows:

- (a) Multi-Flow Underground Drainage Channel will be measured on a per lineal metre basis for the following items:
  - (i) Item 11: "Area "A" Multi-Flow Underground Drainage Channel" on Form B: Prices;
  - (ii) Item 12: "Area "B" Multi-Flow Underground Drainage Channel" on Form B: Prices;

##### E18.4.2 Basis of Payment shall be as follows:

Underground Multi-Flow Drainage Channel will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for the trench excavation, geotextile liner, Multi-Flow Pipe, granular backfill, and sand topping.

### **E19. TOPSOIL AND FINISH GRADING**

E19.1 This specification shall amend CW 3540 Specification for Topsoil and Finish Grading for Establishment of Turf Areas.

E19.2 Topsoil depth below sodded areas shall be 75 mm thickness after reasonable settlement.

#### Measurement and Payment

E19.3 The cost for supply and installation of topsoil is to be included in the unit price cost for E20 Sodding. No separate payment will be made for topsoil and finish grading.

### **E20. SODDING**

E20.1 This specification shall amend CW 3510.

E20.2 The Contractor is responsible to repair at no cost to the City, any damage to the existing grass which is to be protected along the Multi-Flow Underground Drainage Channel, where new grass is not shown.

E20.3 Similarly the Contractor must restore any damage to the existing grass as a result of accessing the Construction area, again at no cost to the City.

#### Measurement and Payment

E20.4 The cost for supply and installation of sod shall also include the supply of topsoil below the sod. No separate payment will be made for installing the topsoil below the sod. The cost for the

supply and installation of Sodding will be paid for on a per square metre basis, and is to be included in Unit Cost Items No. 13 "Sod and Topsoil".

## **E21. TREE PLANTING IN PARKS**

- E21.1 This specification shall cover the supply and installation of nursery grown trees and shrubs in accordance with the working drawings and the Contract documents on all properties that are owned by, or under the jurisdiction of, the City of Winnipeg.
- E21.2 The Contractor shall ensure only experienced personnel, under the direction of a skilled supervisor, shall execute all of the Work. The supervisor shall be on Site at all times during the Work and shall be authorized to make binding decisions on behalf of the Contractor.
- E21.3 It is understood that the Contract Administrator shall consult with the City Forester on matters which do not conform to, or which are not addressed, by these Specifications.
- E21.4 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed in Form B Prices, shall apply to the Work.
- (a) *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>.
- (b) The version in effect three (3) Business Days before the Submission Deadline shall apply.

## **PUBLIC SAFETY/TRAFFIC CONTROL**

- E21.5 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. The requirements shall include the following:
- (a) The Contractor shall barricade the sidewalk surrounding the Work;
- (b) The Contractor shall maintain traffic flow and ensure that protection is afforded to the road user and that the Contractor's operations shall in no way interfere with the safe operation of traffic.

## **E22. TREE SITES & LAYOUT**

- E22.1 The park sites and approximate tree planting locations are found within the attached Drawings. Exact planting locations are to be determined on Site by the Contract Administrator.
- E22.1.1 The Contractor shall obtain all necessary utility clearances prior to the commencement of planting and in a timely manner so as not to jeopardize the schedule of the complete tree planting operation.
- E22.1.2 The Contractor is to comply with the instructions on the utility clearance sheets.
- E22.1.3 Trees are not to be planted directly above underground utilities, unless hydro-excavation techniques are used.
- E22.1.4 Where a specified planting Site conflicts with underground utilities, the Contractor may modify the precise location in compliance with the utility clearances and the following Minimum Distance Guidelines:
- (a) Intersections: 6m;
- (b) Private approaches: 1.5m;
- (c) Light standards, hydro poles, hydrants, manholes and sewer grates: 3m

E22.1.5 Where a planting Site must be modified by more than 1 metre, the Contractor must receive prior approval from the Contract Administrator or designate.

### **E23. SUPPLY & PREPLANTING CARE OF TREES**

E23.1 The Contractor shall be responsible for supplying and transporting trees to the appropriate planting Sites.

E23.2 The Contractor shall coordinate the shipping of trees and excavation of tree pits to ensure no more than a maximum of a 24 hour time lapse has occurred between the plant material arriving on Site and the installation of that plant material.

- (a) Trees shall be transported with care taken to prevent damage:
  - (i) Protect trees against abrasion, exposure and extreme temperature change during transit;
  - (ii) Avoid binding of trees with rope or wire that would damage bark, break branches or destroy natural shape of tree;
  - (iii) Point of contact with equipment shall be padded;
  - (iv) Give full support to root ball of trees during lifting:
    - (A) Each balled specimen shall be handled with sufficient care, so that the root balls shall not be broken;
    - (B) Broken root balls or root ball consisting of loose soil will not be accepted and shall be replaced;
    - (C) Broken roots of deciduous stock shall be pruned back prior to planting.
- (b) Trees with broken or damaged trunks or branches are not acceptable. Trees with damaged trunks, however caused, will be rejected. No exceptions shall be made in this respect;
- (c) Keep roots moist and protected from sun and wind:
  - (i) Trees that cannot be planted immediately shall be well protected against damage and drying out; if necessary, trees shall be heeled-in in a shaded area and watered well.

### **E24. TREE PLANTING MATERIALS**

E24.1 The Contractor shall be responsible for the supply of

- (a) plant material,
- (b) the safe handling, pick up and delivery of trees to the planting Sites,
- (c) the supply of soil, water, trunk protection, and T-bars as set forth in these Specifications.

E24.2 All materials supplied by the Contractor under these Specifications shall be subject to random inspection and testing by the Contract Administrator.

E24.2.1 The Contract Administrator may reject any material(s) that do not comply.

E24.2.2 There shall be no charge to the City for any material samples taken for testing by the Contract Administrator.

### **E25. TREES AND SHRUBS**

E25.1 Trees and Shrubs shall be the size and variety noted on the Plant List shown on the drawing. Plant material which does not have the specified root ball diameter as mentioned in plant list will be rejected.

- E25.2 All nursery stock supplied shall be Canadian prairie nursery grown, of the species and sizes indicated on the drawings. Quality shall be in accordance with the latest "Guide Specification for Nursery Stock of the Canadian Nursery Trades Association".
- E25.3 Any nursery stock dug from native stands, wood lots, orchards or neglected nurseries and which have not received proper cultural maintenance as advocated by the Canadian Nursery Trades Association, shall be designated as "collected plants". The use of "collected plants" will not be permitted unless approved by the Contract Administrator.
- E25.4 The Contract Administrator reserves the right to inspect the plant material at their original source, and to instruct the supplier on root and branch pruning requirements.
- E25.5 Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of standardized Plant Names. The names of varieties not names therein are generally in conformity with the names accepted in the nursery trades.
- E25.6 Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.
- E25.7 All nursery stock shall be measured when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip.
- E25.8 Where trees are measured by calliper (cal.), reference is made to the diameter of the trunk measured 300 mm above ground as the tree stands in the nursery.
- E25.9 All nursery stock shall be well branched, true to type, structurally sound, possess a well developed, undamaged root system and shall be free of disease, insect infestations, rodent damage, sunscald, frost cracks and other abrasion or scare to the bark. All parts of the nursery stock shall be moist and show live, green cambium when cut.
- E25.10 All trees shall have one only, sturdy, reasonably straight and vertical trunk and a well balanced crown with fully developed leader. All evergreens shall be symmetrically grown and branched from ground level up, and must be balled and burlapped unless noted otherwise on the plant list. At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.
- E25.11 Protection of Stock
- (a) All nursery stock shall be well protected from damage and drying out from the time of digging until the time of planting on Site. All roots shall be cleanly cut; split roots are not acceptable.
  - (b) Nursery stock shall be transplanted with care to prevent damage. Points of contact with equipment shall be padded. All nursery stock, which cannot be planted immediately upon arrival at the Site, shall be well protected to prevent drying out and shall be kept moist until commencement of planting.

## **E26. PLANTING SOIL / SHRUB BEDS**

- E26.1 The planting soil shall be topsoil that complies with CW 3540, Section 5.2.
- (a) Further to CW 3540 Section 5.2, planting soil shall contain maximum ten percent (10%) organic matter (peat, rotted manure or composted material).
- E26.2 At the discretion of the Contractor Administrator, planting soil may be subject to tests for nitrate, phosphate, potassium, sulphate, pH, E.C. (salinity), and volume of organic matter, by a testing laboratory designated by the Contract Administrator.
- E26.3 The Contract Administrator reserves the right to reject planting soil not conforming to the requirements of these Specifications.

E26.4 Shrub beds for planting shrubs in shall contain a minimum of 300 mm depth of mixed topsoil. Shrub beds will be paid for on a per square metre basis and include the wood chip mulch covering, and as shown in the unit price form, Unit Cost Item No. 14 "Shrub Bed Topsoil and Wood Chip Mulch Covering".

E26.5 Shrub Maintenance

- (a) All shrubs shall be watered by the Contractor for the one full year warranty period.

## **E27. WATER**

E27.1 The Contractor shall provide water, so that

- (a) All costs to provide water for the watering operation and all associated costs shall be borne by the Contractor. These costs may include hydrant permit and meter rental fees.
- (b) 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.

E27.1.1 Water shall be free of oils, acids, alkalis, salts and other substances that may be detrimental to plant growth. Water suitable for human consumption shall be acceptable without testing.

E27.1.2 Water from rivers and streams shall not be used without prior approval of the Contract Administrator.

E27.2 Should the Contract Administrator determine that water quality testing is necessary, an approved testing laboratory shall perform the test at the sole expense of the Contractor.

## **E28. TREE PROTECTION / SUPPORT DURING INSTALLATION**

E28.1 Upon completion of the planting operation, the Contractor shall slice open a 100 mm diameter x 600 mm long section of plastic weeping tile material and place around the base of each tree trunk.

E28.2 Stakes shall be T-rail iron stakes 40 x 40 x 5 x 1540 mm long, primed with 1 brush coat of zinc rich plant paint to CGSB 1-GP-191B. Stakes shall be uniform in style and colour.

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

E28.3 The guying straps shall be attached in accordance with the drawings referenced in SCD- 515 and SCD-517 and shall be of a material that is non-abrasive to the tree to prevent girdling injury:

- (a) Hose-covered wire, flexible belting or any strong, soft wide strips of material is acceptable.

E28.4 Where wire is used, ensure ends are twisted tight:

- (a) Protruding ends are unacceptable.

## **E29. MULCH**

E29.1 The Contractor shall provide wood chip mulch. Mulch shall:

- (a) be a clean bark or wood chip free of leaves, branches and other extraneous matter; and
- (b) consist of chips not less than 15 mm nor larger than 75 mm in size and not more than 20 mm thick.

E29.2 The Contractor shall install a 100 mm depth of wood chip mulch over all shrub beds. The cost for the wood chip mulch installed over shrub beds shall be included in the cost for the shrub beds and as shown in the unit price form, Unit Cost Item No. 14 "Shrub Bed Topsoil and Wood Chip Mulch Covering".

E29.3 The cost for wood chip mulch over tree pits is to be included in the individual tree price.

### **E30. TREE PITS**

E30.1 Tree Pits shall be excavated using the following methods (see SCD-517):

- (a) Tree pits shall be minimum 2 times the diameter of the root ball.
- (b) Tree pits shall be excavated using a backhoe or hand shovel.
- (c) Pit depth shall be such that the top of the root ball is even with the existing grade

E30.2 The sides of all tree pits shall be scarified to the depth of one shovel blade.

E30.3 The bottom of all excavations shall be protected against freezing.

E30.4 Tree pits shall be left open for a maximum of 24 hours.

- (a) Pits that are left open overnight must be covered with a sheet of plywood and be marked with a minimum of one (1) safety cone.
  - (i) Plywood shall be a minimum thickness of 5/8".

### **E31. PLANTING PERIOD**

E31.1 The Contractor shall not plant trees during periods of extreme heat, at the discretion of the Contract Administrator.

- (a) The City of Winnipeg reserves the right to refuse acceptance of any or all trees failing to meet the above timing restrictions.

### **E32. PLANTING**

E32.1 The Contractor is expected to plant trees as follows:

- (a) all trees shall be set plumb and shall be placed in the centre of the tree pit;
- (b) trees shall be placed on undisturbed soil and to a depth equal to that at which they were originally growing at the nursery.
- (c) once the tree has been set in its final position, burlap on the root ball shall be cut from the top 1/3 of the root ball:
  - (i) If a wire basket has been used, it shall be cut off from the top 1/3 of the root ball.
  - (ii) All twine shall be removed from the root ball.
- (d) after the root ball is prepared, fill tree pit with planting soil as per E29.14, in layers of 150 mm depth and compact the independent layers of soil by tamping;
- (e) tamp soil around root system to eliminate air voids;
- (f) grade the area around the tree according to the drainage type; and
- (g) All planting areas shall be levelled, raked and edged to give a neat appearance.

E32.2 Upon completion of the planting operation, the Contractor shall:

- (a) install tree trunk protection;
- (b) install stakes and straps;
- (c) form a water dish from the soil around the outside edge of the root ball with a berm 100 mm in height:
  - (i) Soil shall not be piled around the tree trunk.

- (d) install wood chips or other mulch ;
- (e) administer watering:
  - (i) watering must be done slowly to ensure that water does not run away from the root zone and so the top 300 mm of the soil around the root system of the tree are well saturated;
  - (ii) use a low-pressure open flow nozzle and hose; and
  - (iii) The water stream must not gouge out a hole in the soil or mulch.

### **E33. TREE MAINTENANCE**

#### **GENERAL**

- E33.1 The Contractor shall cover the maintenance of trees for a period of two years from the date of the tree planting was completed. Shrubs are to be maintained for thirty days after the date of Total Performance. The Contractor shall furnish all labour, materials, equipment and services necessary to perform ongoing care of the plant material, which shall include but not be limited to:
- (a) Mulching, in accordance with E29
  - (b) Watering, in accordance with E 27
  - (c) Weed control, in accordance with E33.3 (f)
- E33.2 The Contractor is made aware all shrubs are to be maintained for one full year as per the warranty on the shrubs, which shall include all watering of the shrubs. All maintenance costs associated with the shrubs shall be included in the Cost for each shrub.

#### **METHODS**

- E33.3 The Contractor shall:
- (a) program the timing of operations to plant growth, weather conditions and use of the Site;
  - (b) do each operation continuously and complete within a reasonable time period;
  - (c) store equipment and materials off-site;
  - (d) add additional mulch as required to maintain minimum constant depth of mulch;
    - (i) clean up edges and contain mulch within the designated area;
  - (e) water trees as follows:
    - (i) immediately upon being planted and every week for the first three (3) weeks after planting;
    - (ii) thereafter, watering shall be done every 7 – 14 days between May and October or as frequently as necessary (compensating appropriately for weather) to sustain vigorous plant growth;
    - (iii) by watering slowly to ensure that water does not run away from the root zone and so the top 300 mm of soil around the root system of the tree is well saturated;
    - (iv) by using a low pressure open flow nozzle and hose. The water stream must not gouge out a hole in the soil or mulch;
    - (v) by using the recognized standard for tree watering as approximately 8-10 times during the growing season with the following amounts of water depending on the calliper of the tree – the rule of thumb is 40 litres of water per 25 mm calliper;
    - (vi) by recognizing watering requirements of trees are dependant upon on a number of variables such as tree species, soil type, when planted, and weather including precipitation. These watering requirements are a minimum standard and shall be followed unless otherwise directed by the Contract Administrator or his designate.

- (vii) by applying a final watering for all trees, regardless of when planted, that shall be completed after temperatures fall below freezing to ensure adequate moisture in root zone at freeze-up;
  - (f) maintain surface of tree pit by hand weeding during the watering process as follows:
    - (i) do not allow weeds to establish for a period longer than two (2) weeks; and
    - (ii) do not use any herbicides for weed control near trees unless authorized by the Contract Administrator.
- E33.4 The Contractor must inform the Contract Administrator of watering progress and schedule by 9:00 AM each day of watering.
- E33.5 The Contractor must inform the Contract Administrator immediately of any equipment breakdown or delay in watering and maintenance. Once a watering cycle is completed, submit a log-sheet to the Contract Administrator identifying the following:
  - (a) the location where maintenance Work is carried out; and
  - (b) preventative or corrective measures required which are outside Contractors' responsibility.
- E33.6 Any trees planted to replace trees that have died during the maintenance period will receive full 2 years maintenance from the date that the replacement tree was accepted.

#### **TREE PROTECTION/SUPPORT**

- E33.7 The tree protection collars, staking material and all attachments to trees shall be removed by the Contractor upon completion of the maintenance period.

#### **E34. TREE MORTALITY**

##### **CONTRACTOR SUPPLIED TREES**

- E34.1 If a Contractor-supplied tree dies and the Contractor has not been submitting the regular maintenance records in accordance with these specifications, then the cost to supply, plant and maintain a replacement tree as originally indicated in the Contract document, shall be at the sole expense of the Contractor.
- E34.2 If a Contractor-supplied tree dies and the Contractor has been submitting the regular maintenance records in accordance with these specifications, that tree will be added to the Contract at the originally specified bid price to be supplied, planted and maintained by the Contractor in accordance to this specification.
- E34.3 Replacement trees shall receive 2 years maintenance as outlined in the Contract document, from the date of replacement.
- E34.4 Inspections of replacement trees will be conducted by City of Winnipeg staff.

#### **E35. TREE INSTALLATION PAYMENT**

- E35.1 Method of Measurement
- E35.2 Plant Material will be measured on a per unit basis. The number to be paid for shall be the total number of each type and size of tree supplied and installed in accordance with the Specification and accepted by the Contract Administration.
- E35.3 Basis of Payment
  - (a) The supply and installation of Trees will be paid for at the Contract unit price for each tree, Item 15 - 21 trees, measured as specified herein, which price shall be payment in full including all costs for the tree, tree pit and topsoil backfill, tree stakes, tree rings,



pruning, two year maintenance, and all other items incidental to the Work included in this Specification.

- (b) The supply and installation of Shrubs will be paid for at the Contract unit price for each shrub, Item 22 – 24 shrubs, measured as specified herein, which price shall be payment in full including all costs for the shrub, and all other items incidental to the Work included in this Specification.
- (c) Twenty five (25) % of the value of all trees, as itemized on the unit price form, Item 15 - 21 trees, shall be held back to pay for the two year maintenance period.
- (d) Seventy five (75) % of the value of all trees, as itemized on the unit price form, Item 15-21 trees, will be paid for when the plant material complies with the supply and installation sections of the specification requirements and is accepted by the Contract Administrator.

### **E36. TWO YEAR TREE MAINTENANCE PAYMENT**

#### **E36.1 Maintenance Period**

- (a) The two year maintenance period shall be based on a six month growing season per year. The two year maintenance program will consist of a total of 12 months of maintenance. In general the maintenance shall commence on May 1st and terminate on October 30th of each year. In the event of any early spring, whereby the weather conditions are conducive to plant growth, the Contractor shall start the maintenance period at such time as they deem necessary. However, the City of Winnipeg, Forestry Branch, must be notified prior to commencing the maintenance period. Where the maintenance Contract is started prior to May 1st, the actual number of days that the plant material is maintained prior to May 1st will be deducted from the October 30th completion period.

#### **E36.2 Cost of Two Year Maintenance Period**

- (a) The cost for the Two Year Plant Maintenance Period will be twenty-five (25) % of the total cost of all the trees, as shown in Form B: Prices, Item 15 - 21 inclusive. The remaining seventy five (75) % value will be paid on a per unit basis, for each plant properly installed, and which plant complies with the specification requirements.

#### **E36.3 Payment of Two Year Maintenance Period**

- E36.4 The basis of payment will be based on a pro rated basis, based on each full month of maintenance, and the respective proportion of the total twelve (12) months. Progress payments will be made once a year at the end of each growing season.