



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 464-2011

ARCHAMBAULT PARK SITE WORKS

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 ARCHAMBAULT PARK SITE WORKS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, June 21, 2011.

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

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

B3. SITE INVESTIGATION

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

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management 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 sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with 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 own name, his name shall be inserted;
 - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

- B8.4 Paragraph 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 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 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.

B9.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall include the Manitoba Retail Sales Tax (MRST, also known as PST).

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), if the Total Bid Price is over \$100,000.00, 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 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 Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

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 B9.1 (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 Bid or in other information required to be submitted, that he is responsible and qualified.
- B14.4 Further to B14.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices 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) 26, 15, and 19 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 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
- 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 major components of the Work to be done under the Contract shall consist of:

- (a) Removals;
- (b) Excavation and Disposal;
- (c) Supply and Installation of timber edging, drainage layer and safety surfacing;
- (d) Supply and Installation of granular path, and seating area;
- (e) Supply and Installation of planting beds and shrubs;
- (f) Supply and Installation of soil and sod;
- (g) Supply and Installation of site furniture and shelter; and
- (h) Supply and Installation of wood stepping posts and large fieldstone boulders.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Shauna Prociuk
Urban Designer
City of Winnipeg
Parks, Riverbanks and Community Initiatives Branch
Planning and Land Use Division
Planning, Property and Development Department
15-30 Fort Street
Winnipeg, MB R3C 4X5

Telephone No. (204) 986-3938
Facsimile No. (204) 986-7524

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

D4. CONTRACTOR'S SUPERVISOR

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

D5. NOTICES

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

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3,

D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.

D5.3 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 address or facsimile number:

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

Facsimile No.: (204) 947-9155

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

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

D7. SAFE WORK PLAN

D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management 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 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) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- (c) 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.

D11. DETAILED WORK SCHEDULE

- D11.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) business days prior to the commencement of any work on the site but in no event later than the date specified in C 4.1 for the return of the executed contract.
- D11.2 Detailed Work Schedule shall consist of the following dates:
- (a) Start date;
 - (b) Excavation & disposal;
 - (c) Installation of timber edging, safety surfacing and sub-surface drainage;
 - (d) Installation of stepping posts and fieldstone boulders;
 - (e) Installation of granular pathway and seating area;
 - (f) Installation of shrub beds and shrubs;
 - (g) Installation of site furniture;

- (h) Installation of soil and sod; and
- (i) Expected completion.

D11.3 Other milestone dates appropriate to this project should also be included to make the Contract Administrator Aware of them.

SCHEDULE OF WORK

D12. COMMENCEMENT

D12.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.

D12.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D6;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) COR certification number as specified in B10.4;
 - (iv) the Safe Work Plan specified in D7;
 - (v) evidence of the insurance specified in D8;
 - (vi) the performance security specified in D9;
 - (vii) the Subcontractor list specified in D10; and
 - (viii) Detailed Work Schedule specified in D11.
- (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D12.3 The Contractor shall commence the Work by September 6, 2011.

D13. SUBSTANTIAL PERFORMANCE

D13.1 The Contractor shall achieve Substantial Performance within fifteen (15) consecutive Working Days of the commencement of the Work as specified in D12.

D13.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D13.3 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.

D14. TOTAL PERFORMANCE

D14.1 The Contractor shall achieve Total Performance within twenty (20) consecutive Working Days of the commencement of the Work as specified in D12.

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

D14.3 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.

D15. LIQUIDATED DAMAGES

D15.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City five hundred dollars (\$500) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.

D15.2 The amount specified for liquidated damages in D15.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D16. SCHEDULED MAINTENANCE

D16.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) Topsoil, Seed and Sod as specified in E24;
- (b) Maintenance of Trees and Shrubs as specified in E23.

D16.2 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.

D17. SITE RESTORATION

D17.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all 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.

CONTROL OF WORK

D18. JOB MEETINGS

D18.1 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.

D18.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D19. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D19.1 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

D20. INVOICES

D20.1 Further to C12, the Contractor shall submit an invoice for each order delivered 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

D20.2 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 goods delivered;
- (e) the amount payable with GST and MRST shown as separate amounts; and
- (f) the Contractor's GST registration number.

D20.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D20.4 Bids Submissions must be submitted to the address in B7.5.

D21. PAYMENT

D21.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D22. WARRANTY

D22.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D22.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.

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. 464-2011

ARCHAMBAULT PARK SITE WORKS

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

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

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

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

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

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

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

**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. 464-2011
ARCHAMBAULT PARK SITE WORKS

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>
A.63-A1	Archambault Park Site Work Redevelopment – Existing Conditions and Removals
A.63-A2	Archambault Park Site Work Redevelopment - Proposed
A.63-A3	Archambault Park Site Work Redevelopment – Layout and Details
A.63-A4	Archambault Park Site Work Redevelopment - Grading
A.63-A5	Archambault Park Site Work Redevelopment – Planting Plan
SCD-651	Single Timber Edging Detail
SCD-651AR	Pedra Double Timber Edging Detail
SCD-646R	PARKWAY PATH CRUSHED LIMESTONE
SCD-656	ACCESSIBLE RAMP
SCD-517	STANDARD DETAIL FOR TREE PLANTING

Above Drawings are available on request in AutoCAD .dwg or Vectorworks format from the Contract Administrator.

GENERAL

E2. PRE-CONSTRUCTION MEETING

- E2.1 The Contractor shall not begin the Work under this Contract until a pre-construction meeting has been held between representatives of the Play Equipment Contractor, the Site Works Contractor, the City of Winnipeg, and the Contract Administrator.

E3. EXISTING SERVICES AND UTILITIES

- E3.1 No responsibility will be assumed by the City for correctness or completeness of the Drawings, when provided, with respect to the existing utilities, pipes or other objects either underground or on the surface; the City shall not be liable for the incorrectness and inadequacy thereof. It shall be the responsibility of the Contractor to determine the location of all such utilities, pipes and other objects and to make good any damage done to them.

E4. ACCESS TO SITE

- E4.1 Access to the Site as required by the Contractor shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.

E4.2 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property.

E5. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES

E5.1 Further to C6.12, the Contractor shall give all necessary notices, obtain all necessary permits and pay all fees in order that the Work may be carried out. The Contractor shall submit all plans required by any inspection authority and obtain approval of same before proceeding with the Work, and pay any cost attached to the inspection of such plans.

E5.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.

E5.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.

E5.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.

E5.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.

E5.6 The Contractor and Sub-contractors must be fully aware of all Work involving hazardous materials. All Work must be performed in compliance with the Manitoba Department of Labour Workplace Health and Safety Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification to the Contract Administrator of his/her encountering of suspected hazardous material during their course of Work.

E6. DAMAGE TO EXISTING STRUCTURES, TREES AND PROPERTY

E6.1 All necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred in the performance of the Work (either directly or indirectly), the Contractor shall either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to City of Winnipeg Contract Administrator, and the cost of which shall be borne entirely by the Contractor. The Contractor shall also indemnify and save harmless the City from all claims made directly or indirectly against it in respect to any such damage.

E6.2 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing park trees within the limits of the construction area:

- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment within 2 metres of trees.
- (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25x100x2400 wood planks, or suitable protection as approved by the Contract Administrator.
- (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
- (d) Operation of equipment within the drip line of the trees shall be kept to a minimum required to perform the Work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the drip lines of trees. The drip line of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.

E6.3 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his/her designate.

E6.4 No separate measurement or payment will be made for the protection of trees.

E7. PEDESTRIAN SAFETY AND TRAFFIC MANAGEMENT

E7.1 Further to CW 1130-R1, the Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is Working near them. Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.

E7.2 Ambulance/ Emergency vehicle access must be maintained at all times.

E8. PROTECTION OF THE SURVEY INFRASTRUCTURE

E8.1 Notwithstanding clause 4 "Protection of Survey Bars" of the Standard Provisions; Current legislation, The Surveys Act, places the onus on those undertaking construction to protect the Survey Infrastructure from damage as a result of their activity.

E8.2 Further to C:6.26 (g), at least 72 hours prior to the commencement of the On-Site Work the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 918-1360 (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.

E8.3 Where a survey post, bar or control monument lies in the 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 paying for all costs associated with replacing or relocating the disturbed outline survey monuments and geodetic control monuments.

E8.4 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 agent 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.

E8.5 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.

E9. SITE ENCLOSURES

E9.1 Temporary Site enclosures, as determined necessary at the pre-construction meeting, shall be erected and maintained as required for the duration of the construction period.

E9.2 Site enclosures shall be considered incidental to the Contract Work.

SITE DEVELOPMENT

E10. REMOVALS

E10.1 General Description

E10.1.1 This specification is supplemental to CW 3110-R11.

- E10.1.2 The Work to be done by the Contractor under this specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to satisfactory performance and completion of all Work as shown on the drawings as herein specified.
- E10.1.3 Work shall include the following:
- (a) Remove and legally dispose of:
 - (i) Timber edging in existing swings area;
 - (ii) Two (2) single bay swing sets;
 - (iii) Four (4) benches;
 - (iv) Portion of timber edging for expanded senior play area; and
 - (v) One (1) tree.
- E10.2 Construction Methods
- E10.2.1 Disposal of material shall be understood to mean hauling of all unsuitable material from the Site and the unloading in a legal manner acceptable to the Contract Administrator.
- E10.2.2 Removals include the removal of all footings and backfill.
- E10.2.3 Backfill and tamp down post holes with clean fill. Add topsoil and seed to top off filled hole.
- E10.3 Method of Measurement and Basis of Payment
- E10.3.1 Method of Measurement shall be as follows:
- (a) Removals shall be measured on a lump sum basis for "Removals" on Form B: Prices;
- E10.3.2 Basis of Payment shall be as follows:
- (a) Removals shall be paid for at the Contract Unit Prices on Form B: Prices. The amount to be paid shall be the total number of units, measured as specified herein, which price shall be for full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E11. EXCAVATION AND GRADING

- E11.1 General Description
- E11.1.1 This specification shall cover the excavation and legal disposal of existing peastone safety from all play areas; excavation for new play areas, pathways, and planting beds; and site grading as per Drawings.
- E11.1.2 It shall amend and supplement CW 3110-R11 and CW 3170. It shall also cover the provision of rough grading to ensure re-sodded areas at former play areas are installed at the appropriate levels, ensuring the newly sodded areas as well as new pathways will drain.
- E11.1.3 The Contractor must ensure that the rough grading does not create tripping hazards and no areas of standing water remain. The mud grade of all excavated play areas must drain towards the subsurface drainage piping.
- E11.1.4 All extraneous materials are to be removed from the Site and disposed of in a safe and legal manner. The Work to be done by the Contractor under this specification shall include all labour, equipment and material necessary for and incidental to the satisfactory performance and completion of the Work herein specified.
- E11.1.5 Work shall include but not be limited to the following:
- (a) Excavate, add clean fill if necessary, and rough grade excess soil to the limits shown on Drawings to the depths necessary to achieve finish grade for:
 - (i) Topsoil and Sod that is to cover portions of former play area;

- (ii) Granular walkway;
- (iii) Planting beds:
 - ◆ Woodchip Bed;
 - ◆ Perennial Planting Bed;
 - ◆ Shrub Planting Bed; and,
- (iv) New play areas:
 - ◆ Junior Play Area;
 - ◆ Expanded Senior Play Area;
 - ◆ Climbing Boulder Area;
 - ◆ Stepping Post Area.

E11.2 Construction Methods

- E11.2.1 Excavation includes the removal of items (i.e., sand, earth) as indicated on the Drawings and as directed by the Contract Administrator. Work includes the satisfactory disposal of unsuitable Site material such as clays susceptible to frost-heaving, silts, rock, rubble, rubbish and any surplus suitable Site material.
- E11.2.2 Stockpile suitable, approved material on Site for reuse (clean topsoil, clean earth fill,) in a secure location. Remove and dispose of unsuitable material.
- E11.2.3 Do not disturb adjacent items designated to remain in place.
- E11.2.4 Disposal of material shall be understood to mean the hauling of all unsuitable material from the Site and the unloading in a legal manner acceptable to the Contract Administrator. If arrangements are made in advance excavated material may be disposed of on Site at a location designated by the Contract Administrator.
- E11.2.5 Contractor must coordinate with the Contract Administrator to ensure all removals have occurred.
- E11.2.6 Excavation should be coordinated with the installation of play equipment and safety surfacing so as not to leave an open excavation area subject to ponding water.
- E11.2.7 Items such as re-sodding over former play areas may require additional clean fill, either used from excavated areas within the site or brought to the site. The cost of additional clean fill shall be incidental to the excavation price of the item.
- E11.2.8 Excavate to the limits shown and as necessary to achieve finish grades as indicated on the Drawings.
 - (a) Re-Sod over former play areas, in accordance with Drawings and as per E24;
 - (b) Granular walkway – 225.4mm depth, in accordance with SCD-646R and Drawings and per E20;
 - (c) Planting beds:
 - (i) Remove layer of sod only for the Woodchip Bed, in accordance with Drawing A.63-A5 and per E22;
 - (ii) 250mm depth for the Perennial Planting Bed (do not excavate 1m radius around existing tree, remove only layer of sod within that zone), in accordance with Drawing A.63-A5 and per E22;
 - (iii) 350mm depth for the Shrub Planting Bed (do not excavate 1m radius around existing trees, remove only layer of sod within that zone), in accordance with Drawing A.63-A5 and per E22;
 - (d) New Play Areas –
 - (i) Junior play area – 85mm depth, to accommodate 300mm engineered wood fibre safety surfacing that will be supplied and installed by play equipment contractor;

- (ii) Expanded Senior Play Area – excavation to match existing senior play area depth and able to accommodate 300mm depth engineered wood fibre safety surfacing that will be supplied and installed by play equipment contractor.
- (iii) Climbing Boulder Area – 200mm depth, to accommodate 200mm engineered wood fibre safety surfacing that will be supplied and installed by play equipment contractor;
- (iv) Stepping Post Area – 225mm depth, to accommodate Playsand safety surfacing in accordance with Drawings and as per E19;

E11.2.9 Grading shall be as per Drawing A.63-A4.

E11.3 Method of Measurement and Basis of Payment

E11.3.1 Method of Measurement shall be as follows:

- (a) Excavation shall be measured on a square metre basis for:
 - (i) “Excavation and legal disposal of existing peastone - approx. 300mm depth”;
 - (ii) “Excavation for new junior play area – approx. 75mm depth”;
 - (iii) “Excavation for expanded play area in senior play area”;
 - (iv) “Excavation for Climbing Boulder Area”;
 - (v) “Excavation for Stepping Post area”; and
 - (vi) “Earthwork and Grading” on Form B: Prices
- (b) No measurement will be made for the Excavation and Disposal for the granular walkway area as these items are incidental to E20.
- (c) No measurement will be made for the Excavation and Disposal for the planting beds as these items are incidental to E22.

E11.3.2 Basis of Payment shall be as follows:

- (a) Excavation will be paid for at the Contract Unit Prices on Form B: Prices. The amount to be paid for shall be the total number of units, measured as specified herein, which price shall be for full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.
- (b) No Payment will be made for the Excavation and Disposal for the granular path and seating area as these items are incidental to E20.
- (c) No Payment will be made for the Excavation and Disposal for the planting beds as these items are incidental to E22.

E12. TIMBER EDGING

E12.1 General Description

E12.1.1 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the drawings and specifications.

E12.1.2 This specification shall cover the supply and installation of 2-tier timber edging with pedra cap to contain the safety surfacing in:

- (a) The new junior play area;
- (b) The accessible ramp up to the new junior play area; and
- (c) The low sides of the climbing boulder area and stepping post area as per Drawing SCD-651AR and as shown on Drawing A.63-A3.

E12.1.3 This specification shall also cover the supply and installation of 1-tier timber edging with pedra cap to contain the safety surfacing in:

- (a) The senior play area extension; and

(b) The high sides of the climbing boulder area and stepping post area as per Drawing SCD-651 and as shown on Drawing A.63-A3.

E12.1.4 This specification shall cover the supply and installation a pedra cap only to finish off the existing senior play area timber edging.

E12.2 Materials and Method

E12.2.1 Cap shall be Pedra and shall not be treated. Top edges of all exposed timbers shall have an 8mm (45°) chamfer. The Pedra cap shall be pre-drilled and screwed with two screws per 600mm O.C. and including each end of the timbers.

E12.2.2 All wood for the bottom rows shall be pressure treated spruce, pine or fir, No. 2 or better, no wane, bark, checking or splitting permitted. Wood shall be smooth and free of rough areas. All timbers to be 150 x 150mm with a minimum length of 1200mm. All ends and cuts shall be treated with preservative before being secured.

E12.2.3 Edging material shall be cut neatly for a proper fit with no spaces or gaps between. Finished elevations shall ensure that all edging material is smooth, level, set plumb and spaced uniformly.

E12.2.4 Turf shall be repaired as required around edging in accordance with City of Winnipeg Standard Specifications for Topsoil and Sodding.

E12.3 Method of Measurement and Basis of Payment

E12.3.1 Method of Measurement shall be as follows:

(a) Timber Edging will be measured on a linear metre basis for:

- (i) "Supply and Install 2 tired timber edging w/ pedra cap";
- (ii) "Supply and Install new 1 tired timber edging w/ pedra cap"; and
- (iii) "Supply and Install Pedra cap over existing timber in Senior Play Area" on Form B: Prices.

E12.3.2 Basis of Payment shall be as follows:

- (a) Timber Edging 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 other items incidental to the Work and as accepted by the Contract Administrator.

E13. SUB-SURFACE DRAINAGE

E13.1 Description

E13.1.1 This Work shall consist of providing and placing a geocomposite prefabricated drain system as described in the plans. The drainage system shall be installed in accordance with these specifications and in close conformity with the locations and dimensions as shown on the plans or specified by the Contract Administrator. The quantities of drain as shown on the plans may be increased or decreased at the direction of the Contract Administrator based on actual site conditions that occur during construction of the project. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the Work.

E13.2 Material

E13.2.1 Drainage pipe will be Multi-Flow or approved substitute in accordance with B6. Drainage pipe will 150 mm (6"). The manufacturer will size and approve all fittings for use with Multi-Flow or approved substitute drainage pipe.

E13.2.2 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 Permeability	ASTM D-4491	.2 - .4 cm/sec
Flow Rate, gpm/ft ²	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

E13.2.3 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.

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.

E13.2.4 Fittings

- (a) 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.

E13.2.5 Pipe

- (a) Pipe for drain outlet laterals will be either 75 mm (3") PVC pipe meeting the requirements of ASTM D-2729 or ASTM F-949, or high-density polyethylene pipe meeting the requirements of AASHTO M252.
- (b) A rodent screen made of 0.3 inch by 0.3-inch square opening size, 0.063-inch gauge, stainless steel or galvanized, welded wire mesh shall be installed in each outlet lateral line. When using galvanized welded wire mesh, the rodent screen shall be galvanized after it has been formed to the shape and dimensions shown on the plans or specified by the Contract Administrator.

E13.3 Backfill for Trenches

- (a) Backfill will 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.

E13.4 Methods

- E13.4.1 The layout of the subdrain is to be marked on Site and approved by the Contract Administrator prior to trenching.
- E13.4.2 Subdrain within the play area(s) is to be laid on the prepared surface to facilitate cross movement of water. Subdrain shall be installed below geotextile and in conformance with details provided.
 - (a) Play area to be graded to drain towards subdrain. This subdrain is to be used in conjunction with the appropriate wood fibre drainage layer to bring excess water out of the play area.
- E13.4.3 Contractor is to protect subdrain from excessive weight during the duration of construction and to repair and make good any pipe collapsed prior to acceptance.
- E13.4.4 Fittings for the drain will be installed in accordance with the manufacturer's recommendations and Specification.
- E13.4.5 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.
- E13.4.6 75 mm (3") P.V.C. land drainage sewer will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 2130-R10 – "Gravity Sewers". Connecting to existing catch basin will be done as outlined in CW 2130 – item 3.15 – "Connecting New Sewers an Catch Basin Leads to Existing Manholes, Catch Basins and Catch Pits".

E13.5 Measurement and Payment

- E13.5.1 Method of Measurement shall be as follows:
 - (a) Sub-surface drainage shall be measured on a linear metre basis for:
 - (i) "Supply and Install subsurface drainage complete w/ connectors and pipes", on Form B: Prices.
- E13.5.2 Basis of Payment Shall be as follows:
 - (a) Subsurface Drainage 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 other items incidental to the Work and as accepted by the Contract Administrator. This payment shall be understood to include all trenching, backfill, fittings, emitters, topsoil and seeding/sodding, and items incidental to the Work included in the Specification.

E14. GROUTED RIP RAP

E14.1 Description

- E14.1.1 Grouted Rip Rap to be placed where subsurface drainage pipe enters into existing swale to create a clean connection between the pipe and the swale.

E14.2 Materials

- E14.2.1 Rock rip rap to be in accordance with CW3615.
- E14.2.2 Grout to be in accordance with CW3615.

E14.3 Construction Methods

- E14.3.1 Following rough grading and installation of subsurface drainage pipe, excavate subgrade as required for installation of granular levelling course. Ensure slope and invert elevation of pipe is consistent with swale grades.
- E14.3.2 Grout rocks to ensure smooth flow into and out of drainage pipe and that minimal grout is visible.
- E14.3.3 Clean area of all excess rip rap and grout.
- E14.3.4 All riprap, levelling course, grout and other materials required to grouted rip rap are incidental to the unit price.
- E14.4 Method of Measurement and Basis of Payment
- E14.4.1 Method of Measurement shall be as follows:
- (a) Grouted Rip Rap shall be measured on a per unit basis for "Supply and Install grouted rip rap at drainage outlet into swale" on Form B: Prices.
- E14.4.2 Basis of Payment shall be as follows:
- (a) Grouted Rip Rap 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 other items incidental to the Work and as accepted by the Contract Administrator.

E15. LOG STEPPING POSTS

- E15.1 Description
- E15.1.1 This specification shall cover the pickup and installation of log stepping posts to be located in Playsand safety surfacing within play area as indicated on the Drawing A.63-A3.
- E15.1.2 The City of Winnipeg will pay Wood Anchor directly for the supply of the stepping posts.
- E15.2 Materials
- E15.2.1 Log Stepping Posts to be picked up from:
- (a) Wood Anchor. For directions to facility please call 204-261-1913 or e-mail: info@woodanchor.com
- E15.2.2 Log Stepping Posts to be debranched and debarked.
- E15.2.3 They shall be between the sizes of 300mm and 350mm diameter, by 1.52m lengths.
- E15.2.4 Heights of logs above grade shall vary between 200mm and 6000mm.
- E15.2.5 6mm down limestone backfill.
- E15.3 Construction Methods
- E15.3.1 Log stepping posts to be located on site by Contract Administrator. They shall have a minimum 1.8m offset from timber edging and other play equipment.
- E15.3.2 Ensure there are no spaces for entrapment between stepping posts (spaces must be smaller than 100mm (4") or larger than 250mm (10")).
- E15.3.3 Log stepping posts:
- (a) Shall be installed true and plumb.
 - (b) A minimum of one third the length of the log to be buried.
 - (c) Backfill stepping post excavations with 6mm down limestone. Tamp material thoroughly.
- E15.4 Method of Measurement and Basis of Payment

E15.4.1 Method of Measurement shall be as follows:

- (a) Log Stepping Posts shall be measured on a per unit basis for:
 - (i) "Pick up and Install Stepping Posts" on Form B: Prices.

E15.4.2 Basis of Payment shall be as follows:

- (a) Log Stepping Posts 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 all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E16. CLIMBING BOULDERS

E16.1 Description

E16.1.1 This specification shall cover the installation of climbing boulders as indicated on Drawing A.63-A2 and A.63-A3.

E16.2 Materials

E16.2.1 Geotextile Fabric shall be as per Drawing A.63-A3.

E16.2.2 Granular shall be as per Drawing A.63-A3.

E16.2.3 Climbing Boulders:

- (a) Rock shall have a smooth edges and corners and a minimum size range of 600mm (2') x 900mm (3') x 900mm (3').

E16.3 Construction Methods

E16.3.1 Excavate and backfill with compacted granular base around boulders. Tamper down in 150mm lifts and compact to 95% SPD. Supply and Installation of granular base is incidental to the Work in this section.

E16.3.2 Boulders shall have a minimum of 1.8m clear area around each one.

E16.3.3 Safety surfacing shall be installed by play equipment contractor soon afterwards. If the safety surfacing cannot be installed immediately orange safety fencing shall be installed around the boulder play area until such time as it can be installed.

E16.4 Method of Measurement and Basis of Payment

E16.4.1 Method of Measurement shall be as follows:

- (a) Climbing Boulders shall be measured on a per unit basis for:
 - (i) "Supply & Install large Climbing Boulders" on Form B: Prices.

E16.4.2 Basis of Payment shall be as follows:

- (a) Climbing Boulders 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 other items incidental to the Work and as accepted by the Contract Administrator.

E17. DEDICATION BOULDER AND PLAQUE

E17.1 Description

E17.1.1 This Specification shall cover the supply and installation of a dedication plaque and granite boulder, as shown on Drawings.

E17.1.2 Store units in a protected location immediately upon arrival on site.

E17.2 Materials

E17.2.1 Geotextile Fabric shall be as per CW 3130.

E17.2.2 Granular:

- (a) Base coarse shall be 50mm (2") crushed limestone, 20mm (3/4") down;
- (b) Sub-base shall be 150mm (6") crushed limestone, 50mm (2") down.

E17.2.3 Granite boulder to be 1000x750x750mm height, with min. 500 x 700mm flat face for installation of plaque. Boulder to be approved at source prior to shipment to site.

E17.2.4 Granite boulder to be clean and free of dirt, etc.. Plaque to have bronze face with raised text.

Bronze plaque to be supplied and installed by:
Brunet Monuments
405 Bertrand Street
Winnipeg, Manitoba R2H 0P4
Ph: (204)-233-7864 Fax: (204)-233-3299
Attn: Charles Brunet

E17.3 Construction Methods

E17.3.1 Excavate area to set boulder at correct elevation in perennial bed near pathway area.

E17.3.2 Excavate and backfill with compacted granular base around boulders. Tamper down in 150mm lifts and compact to 95% SPD. Supply and Installation of granular base is incidental to the Work in this section.

E17.3.3 Supply and install boulder. Place boulder with straps or chains to allow for adjustment of position in field.

E17.4 Method of Measurement and Basis of Payment

E17.4.1 Method of Measurement shall be as follows:

- (a) Dedication Boulder and Plaque shall be measured on a per unit basis for:
 - (i) "Supply & Install Dedication Boulder and Plaque" on Form B: Prices.

E17.4.2 Basis of Payment shall be as follows:

- (a) Dedication Boulder and Plaque 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 other items incidental to the Work and as accepted by the Contract Administrator.

E18. BOULDERS

E18.1 Description

E18.1.1 This specification shall cover the supply and installation of boulders in the perennial planting bed as indicated on the Drawings.

E18.2 Materials

E18.2.1 Geotextile Fabric shall be as per CW 3130.

E18.2.2 Boulders

- (a) Boulders to be from a Manitoba quarry, colour to be approved by Contract Administrator. Boulders to be either granite or limestone. Limestone rock to be rough cut, irregular shaped. The approximate size range of the boulders shall be a **minimum** of 600mm outside dimensions.

E18.3 Construction Methods

- E18.3.1 General
- (a) Boulders to be placed in a random organization within the shrub beds as indicated in Drawings. Unsuitable subgrade material to be disposed of as directed by Contract Administrator.
- E18.3.2 Installation
- (a) Supply and Installation of Geotextile as per Drawings. The cost to supply and install geotextile is incidental to the Work in this section.
 - (b) Excavate and backfill with compacted granular base around boulders. Tamper down in 150mm lifts and compact to 95% SPD. Supply and Installation of granular base is incidental to the Work in this section.
- E18.4 Method of Measurement and Basis of Payment
- E18.4.1 Method of Measurement shall be as follows:
- (a) Boulders shall be measured on a per unit basis for:
 - (i) "Supply and Install Boulders in Perennial Bed" on Form B: Prices.
- E18.4.2 Basis of Payment shall be as follows:
- (a) Supply and Installation of Boulders 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 other items incidental to the Work and as accepted by the Contract Administrator.

E19. PLAYSAND SAFETY SURFACING

- E19.1.1 Description
- (a) This specification shall cover the supply and installation of Playsand Safety Surfacing as shown on drawings.
- E19.1.2 Materials
- (a) Playsand Safety Surfacing shall be course sand of the following Sieve breakdown:
- | Sieve Size | Cumulative % passing |
|-------------|----------------------|
| 10 mm stone | 99 |
| 5 mm | 88 |
| 1.25 | 69 |
| 315 um | 11 |
| 80 um | 1.75 |
- E19.1.3 Construction Methods
- (a) Playsand Safety Surfacing shall be installed within the wood stepping post play area, as defined by the timber edging, to a minimum depth of 225 mm.
 - (b) The installation of the Playsand Safety Surfacing shall be done immediately after the stepping posts have been installed.
 - (c) Do not compact the material during installation.
 - (d) Installation shall be done by equipment sized to suit the Work being done and the sand shall be spread by hand as necessary in the immediate vicinity of the play equipment so as not to damage same.
- E19.2 Method of Measurement and Basis of Payment
- E19.2.1 Method of Measurement shall be as follows:
- (a) Playsand Safety Surfacing shall be measured on a square metre basis for the following:

- (i) "Supply & Install Playsand safety surfacing" on Form B: Prices.

E19.2.2 Basis of Payment shall be as follows:

- (a) Playsand Safety Surfacing 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 other items incidental to the Work and as accepted by the Contract Administrator.

E20. GRANULAR WALKWAY

E20.1 Description.

E20.1.1 This Specification shall amend and supplement the City of Winnipeg Specification CW 3110-R11. The Work to be done by the Contractor under this Specification shall cover all phases of supply and placement of crushed limestone surfacing materials necessary to install a Granular Walkway as shown on Drawings.

E20.2 Materials

E20.2.1 The materials of the Granular Walkway shall be as per Drawing SCD-646R, "Parkway Path – Crushed Limestone."

E20.3 Construction Method

E20.3.1 The Work included in the establishment of the Granular Walkway shall include:

- (a) The Contractor shall survey and stake out the proposed Granular Walkway prior to the start of construction as shown on the construction drawings. Layout shall be checked and confirmed with Contract Administrator prior to construction.
- (b) Excavation of Granular Walkway shall be as per E11.
- (c) Subgrade to be compacted.
- (d) All granular base coarse shall be placed and compacted to the finished thickness as specified on the drawings.
- (e) Base Coarse and Capping Coarse shall be compacted to a minimum of ninety five percent (95%) of Standard Proctor Density.

E20.4 Method of Measurement and Basis of Payment

E20.4.1 Method of Measurement shall be as follows:

- (a) Granular Walkway shall be measured on a square metre basis for: "Supply & Install Granular Walkway" on Form B: Prices.

E20.4.2 Basis of Payment shall be as follows:

- (a) Granular Walkway shall 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, subgrade compaction, supply and installation of base coarse and top coarse, supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E21. SUPPLY AND INSTALL METAL ROOF PICNIC SHELTER

E21.1 General Description

E21.1.1 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the specifications.

E21.1.2 This specification shall cover

- (a) Supply and installation of metal roof picnic shelter conforming Manitoba Building Code, as shown on Drawings, specified herein or approved alternative.
 - (i) Model #SQR-24MR 24' Square Shelter by Poligon c/w multi-rib metal roof "R" panel, 50 PSF snow load, lightening protection, and anchor bolts.
 - (ii) Supplier: Playgrounds-R-U's; Bob Lacroix; Tel: 632-7000.
- (b) All required structural drawings stamped by professional engineer.
- (c) All required building permits.
- (d) The Work related site excavation and the concrete footings needed for structural stability.

E21.1.3 The Contract Administrator shall have the ability to modify specified colours from the proposed design after Contract Award.

E21.2 Materials

- (a) Frame: Metal frame with powder coated paint finish.
- (b) Roof: Pre-finished multi-rib metal roofing panel.
- (c) Fasteners: All bolts used for structural connections to be per supplier's instructions or Manitoba Building Code. Welding should be gas metal arc welding.
- (d) Concrete: Concrete used for foundation or piles shall be:
 - (i) Sulfate resistant, Type 50 Cement;
 - (ii) 28 day compressive strength of 30 Mpa;
 - (iii) maximum aggregate size of 20 mm, nominal;
 - (iv) slump 80 +/- 20 mm;
 - (v) maximum water/cement ratio 0.49.
- (e) All the piles should be at least 10' deep with 16" diameter or approved by the Contract Administrator.
 - (i) Structural drawings must be supplied and stamped by a professional engineer licensed to practice in the province of Manitoba.

E21.3 Installation

- (a) The Picnic Shelter shall be installed as per manufacturers specifications and in accordance with the Manitoba Building Code (latest edition). All Work is to be located and installed in accordance with the Drawings using approved non-rusting, vandal resistant fasteners to ensure solid, durable, finished Work suitable for the purpose intended.
- (b) All the Picnic Shelter posts, bases and anchors are to be set in concrete or piles to ensure stability and prevent frost heaving. The current Standard Construction Specifications of the City of Winnipeg, CW 2160-R4 - Concrete to be used in Underground Works, is to be utilized in the installation of the Concrete Works for all below ground components
- (c) All posts and other vertical items to be installed plumb and true to correct elevations and location, as directed the Contract Administrator. The Contractor shall confirm proposed location of the shelter with Contract Administrator prior to installation.
- (d) All workmanship and all materials furnished and supplied under this Specification are subject to close and systematic inspection and testing by the Contract Administrator including all operations, from the selection and production of materials, through to final acceptance of the Work. The Contractor shall be wholly responsible for the control of all operations incidental there to notwithstanding any inspection of approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works that are not in accordance with the requirements of these Specifications.

E21.4 Method of Measurement and Basis of Payment

E21.4.1 Method of Measurement shall be as follows:

- (a) Metal Roof Picnic Shelter shall be measured on a per unit basis for: "Supply and Install Metal Roof Picnic Shelter" on Form B: Prices.

E21.4.2 Basis of Payment shall be as follows:

- (a) Metal Roof Picnic Shelter shall 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 other items incidental to the Work and as accepted by the Contract Administrator.

E22. PLANTING BED

E22.1 Description

- (a) This specification shall cover the excavation of planting beds and the supply and installation of topsoil and woodchips.

E22.2 Materials

E22.2.1 Topsoil Mix

- (a) Planting soil shall consist of black top soil, a fertile friable natural loam containing by volume not less than 4% and no more than 25% of organic matter for clay loams, and not less than 2% and no more than 25% for sandy loams, with an acidity value ranging from pH 6.0 to 8.0 and capable of sustaining vigorous plant growth. Topsoil is to be free of any mixture of subsoil, clay lumps and free of stones and other extraneous matter. It shall not contain couch or crab grass rhizomes.

E22.2.2 Woodchip Mulch

- (a) Mulch to be placed within the proposed planting beds.
- (b) Mulch is to be a clean bark or wood chip mulch with chips not less than 15mm nor larger than 75mm in size and not more than 20mm thick. Mulch is to be free of leaves, branches and other extraneous matter.

E22.3 Construction Methods

E22.3.1 General

- (a) Layout of beds shall be as per Drawings A.63-A5.

E22.3.2 Installation

- (a) Excavation shall be in accordance with Drawing A.63-A5 and E11.
- (b) Upon excavation of the planting bed, the excavation shall be backfilled with a topsoil mixture to a depth to permit adequate installation and stabilization of the plant material. Topsoil shall be placed in accordance with City of Winnipeg Standard Construction Specification CW 3540-R5 and woodchips placed as per Drawings.
- (c) Woodchip bed shall only have the top layer of sod removed then 100mm of woodchip mulch placed on top.

E22.4 Method of Measurement and Basis of Payment

E22.4.1 Method of Measurement shall be as follows:

- (a) Planting Bed will be measured on a per square metre basis for:
 - (i) "Supply and Install Shrub Planting Bed";
 - (ii) "Supply and Install Perennial Planting Bed";
 - (iii) "Supply and Install Woodchip Bed" on Form B: Prices.

E22.4.2 Basis of Payment shall be as follows:

- (a) Planting Bed will be paid for at the Contract Unit Prices as indicated on Form B: Prices. The amount to be paid for shall be the total number of units on Form B: Prices.

This price shall be payment in full including all costs for the excavation of the planting bed and supply and installation of the topsoil and woodchips

- (b) This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E23. TREES, SHRUBS AND PERENNIAL PLANTING

E23.1 Description:

E23.1.1 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as shown on the Drawings and as hereinafter specified, including, but not necessarily confined to the following:

- (a) Supply and Installation of trees;
- (b) Supply and Installation of shrubs, perennials, and grasses; and
- (c) Relocate existing spruce trees

E23.1.2 The City reserves the right to reduce the quantity of shrubs in order to meet the budgetary constraints.

E23.2 Materials

E23.2.1 General

- (a) 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".
- (b) 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.
- (c) 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.
- (d) 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.
- (e) Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.
- (f) 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.
- (g) 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.
- (h) At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.

E23.2.2 Miscellaneous Materials

- (a) Water shall be potable and free of minerals which may be detrimental to plant growth.

- (b) Stakes shall be metal T-Bar, steel, 40x40x5x2440mm. Stakes must be adequately installed into sub-base as to ensure they are not easily removed by vandalism.
- (c) Guying Wire shall be 3mm diameter multi-strand galvanized steel cable.
- (d) Guying Collar shall be plastic tube, 13mm diameter, nylon reinforced.
- (e) Trunk Protection shall be plastic perforated spiraled strip.
- (f) Fertilizer shall be a slow release formulation of low nitrogen and high phosphorus e.g. 10-50-12. Apply quantities at rates stated by product manufacturer.
- (g) Planting Soil shall be as per specification E21 - Planting Bed.
- (h) Root Ball Burlap shall be 150 g Hessian burlap, biodegradable.
- (i) Wire Baskets shall be horticultural accepted product designed to carry the weight and to contain a burlap-covered root ball. Minimum diameter basket size is to conform to the same minimum diameter of the tree root ball for the respective minimum tree caliper sizes.

E23.2.3 Plant Material

- (a) Nomenclature of specified trees is to conform to the International Code of Nomenclature for Cultivated Plants and is to be in accordance with the approved scientific names given in the latest edition of the Standardized Plant Names.
- (b) Trees are to be characteristically developed for their species and structurally sound, well branched, healthy and vigorous and densely foliated when in leaf. The tree is to have a healthy, well developed, fibrous root system which may be verified through a testing procedure that destructively samples one or more randomly selected root balls.
- (c) Trees are to have been root pruned regularly, but not later than one growing season prior to arrival on Site. The Contractor may be required to furnish documentation to the client on their root-pruning program. Trees in excess of 75mm caliper are to have been half root pruned during each of two successive growing seasons, the latter at least, one growing season prior to arrival on Site.
- (d) All parts of the trees, especially the lower branches, are to be moist and show live, green cambium tissue when cut.
- (e) Trees are to have only one, sturdy, reasonably straight and vertical trunk, and a well balanced crown with fully developed leader.
- (f) Trees are to be free of disease, insect infestation, rodent damage, sun scald, frost cracks, abrasions, unhealed scars, scars exceeding 5cm in diameter, major forks or crooks in the trunk, broken branches, or angled leaders. Trees having the above defects will not be accepted by the Contract Administrator.
- (g) Trees having a leader which has developed at a sharp angle to the trunk as a result of pruning or trunk damage will not be accepted.
- (h) Trees exhibiting suppressed, weakly developed branches due to competition from other closely spaced trees in the nursery will not be accepted. Trees exhibiting dead branches will not be accepted.
- (i) Any tree that has come out of dormant stage and is too far advanced will not be accepted unless prior approval obtained. Approval is required for any tree which has been held in cold storage.
- (j) Balled and burlapped trees in excess of a 3m height must have been dug with large firm ball. Roots in root balls must be comprised of 75% fibrous and feeder root systems. Secure root balls with burlap, heavy twine and rope. For trees 75mm or more in caliper, wrap ball in double layer of burlap and drum lace with minimum 10mm diameter rope. Protect root balls against sudden changes in temperature and exposure to heavy rainfall.
- (k) Tree spade dug trees are to be dug with mechanized digging equipment with hydraulic spade. Lift root ball from hole, place in wire basket designed for purpose and

lined with burlap. Tie basket to ball with heavy rope. Take care not to injure trunk of tree with wire basket ties or rope.

- (l) Use of collected or native trees is not permitted.

E23.2.4 Plant Quantity and Size

- (a) Trees, shrubs and perennials are to be supplied and planted at the quantities and caliper listed on the Planting Lists which are shown on the drawings. Any variations to species, size or caliper of specified plants will require a request for approval from the Contract Administrator.
- (b) Any changes in planting locations will be determined on-site by the Contract Administrator.
- (c) Trees are to be measured when the branches are in their normal position. Height dimensions specified are to refer to the main body of the tree and not from branch tip to root base. Where trees have been measured by caliper or diameter, reference is to be made to the diameter of the trunk measured 15cm above the ground as the tree stands in the nursery prior to lifting. Caliper of tree shall be appropriately designed on a permanently fixed tag on one of the branches.

E23.2.5 Shipment and Pre-Planting Care

- (a) Coordinate shipping of trees and excavation of holes to ensure minimum time lapse between digging and planting.
- (b) Tie branches of trees securely, and protect trees against abrasion, exposure and extreme temperature change during transit. Avoid binding of trees with rope or wire which would damage bark, break branches or destroy natural shape of tree. Give full support to root ball of trees during lifting.
- (c) Cover tree foliage with tarpaulin, and protect bare roots by means of dampened straw, peat moss, saw dust or other acceptable material to prevent loss of moisture during transit and storage.
- (d) Remove broken and damaged roots with sharp pruning shears. Make clean cuts, and cover cuts over 10mm diameter with a tree wound dressing.
- (e) Keep roots moist and protected from sun and wind. Heel-in trees which cannot be planted immediately in shaded areas and water well.

E23.2.6 Relocated Spruce Trees

- (a) Spruce trees are currently located near the corner of Perfanick Drive and Concordia Ave E. The exact location will be given by Contract Administrator. All trees will be approximately 1.2m (4') tall and marked.
- (b) Trees to be dug out from this site and planted within the Park as per Drawing A.63-A5 and SCD-517.

E23.3 Construction Methods

E23.3.1 Workmanship

- (a) Location of trees will be staked out or painted on Site by the Contractor. Locations shall be approved by the Contract Administrator prior to installation.

E23.3.2 Planting Time

- (a) Plant deciduous trees during dormant period before buds have broken. Trees noted for spring planting only, must be planted in dormant period.
- (b) Plant only under conditions that are conducive to health and physical conditions of trees.

E23.3.3 Excavation

- (a) Planting pits shall be excavated as per drawing A.63-A5 for perennials and shrubs and drawing SCD-517 for trees. Hand dig pits where required to protect underground utilities.
- (b) Protect bottom of excavations against freezing.
- (c) Remove water which enters excavations prior to planting. Ensure source of water is not ground water and notify Contract Administrator.

E23.3.4 Installation

- (a) Installation shall be as per Drawing A.63-A5 for perennials, grasses and shrubs and Drawing SCD-517 for trees.
- (b) Planting shall be done during periods of suitable weather conditions and in accordance with locally accepted practice.
- (c) Trees are to be planted within forty eight (48) hours of excavation from the nursery.
- (d) No tree pit is to be left open at the end of the Contractor's Work Day. Planting program is to be planned to ensure that all approved trees delivered to the Site at designated planting locations are installed and thoroughly watered the same day as delivery.
- (e) With balled and burlapped root balls and root balls in wire baskets, burlap shall be loosened and cut away from the top 1/3 without disturbing root ball. Wire shall be cut away and removed from the top 1/3 of the root ball. Burlap or rope shall not be pulled from under root ball. Non-biodegradable wrapping shall be removed.
- (f) After inserting the tree and tamping the root system with topsoil in layer of 150mm, water shall be poured in until the pit is thoroughly soaked. Filling of the hole shall then be completed and the fill-in soil shall be packed firmly around the roots, leaving a concave surface for convenient watering. After filling, the planting shall be watered at frequent intervals.
- (g) Each tree is to have an earth saucer at its base having a diameter as large as the excavation with a 10cm lip formed at the perimeter of the saucer to retain water.
- (h) All nursery stock shall be set plumb in the centre of pits and at levels as shown on the planting details after settlement has taken place.
- (i) Nursery stock shall be faced to give the best appearance or relationship to adjacent structure and to the approval of the The City of his representative. Trees shall be placed equal to depth they were originally growing in nursery.

E23.3.5 Fertilizing

- (a) When planting is completed, give surface of planting saucer dressing of fertilizer meeting the requirements of Specification. Mix fertilizer thoroughly with top layer of planting soil and water in well.

E23.3.6 Trunk Protection

- (a) Install trunk protection on trees as indicated.
- (b) Install trunk protection prior to installation of tree supports when used.

E23.3.7 Pruning

- (a) The Contractor shall provide a licensed Manitoba Certified Arborist for each work crew or work site.
- (b) Employ clean sharp tools and make cuts flush with branch collars. Remove dead and injured branches.

E23.3.8 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. Branches shall be carefully tied in such a manner so as not to break or damage trunks. 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.

E23.3.9 Wound Dressing

- (a) Horticulturally accepted non-toxic, non-hardening emulsion. Wound Dressing must be approved by Contract Administrator.

E23.3.10 Maintenance

- (a) The Contractor shall be responsible for the maintenance of the trees, shrubs, perennials and grasses for a period of two (2) year from the date of Total Performance. Any areas planted after September 15th, the maintenance period will commence on May 15th of the following year or such date as mutually agreed upon by all parties.
- (b) Water to ensure soil moisture conditions for optimum growth and health of plant material. Ensure watering techniques do not cause erosion.
- (c) Reform damaged watering saucers.
- (d) Remove weeds bi-monthly.
- (e) Replace or re-spread damaged, missing or disturbed mulch.
- (f) If required to control insects, fungus and disease, use appropriate control methods in accordance with Federal, Provincial and Municipal regulations. Obtain product approval from Contract Administrator prior to application.
- (g) Apply fertilizer as directed by manufacturer's specifications.
- (h) Remove dead, broken or hazardous branches from plant material.
- (i) Keep trunk protection and tree supports in proper repair and adjustment.
- (j) Remove trunk protection, tree supports and level watering saucers at end of warranty period.
- (k) Remove and replace dead plants and plants not in healthy growing condition. Make replacements in same manner as specified for original plantings.
- (l) Submit monthly written reports to Contract Administrator identifying:
 - (i) Maintenance work carried out.
 - (ii) Development and condition of plant material.
 - (iii) Preventative or corrective measures required which are outside Contractor's responsibility.

E23.3.11 Warranty

- (a) The Contractor shall, at his/her expense, warrant the Work against any and all defects or deficiencies resulting from insect infestation, disease and mechanical damage due to improper handling, installation or maintenance, for a period of two (2) years for trees, shrubs, perennials and grasses from the date of the Total Performance. Nursery stock damaged by vandalism or reasons beyond the control of the Contractor shall be replaced by the client.
- (b) End-of-Warranty inspection will be conducted by the Contract Administrator.
- (c) The Contract Administrator reserves the right to request material replacement or extend the Contractor's Maintenance responsibilities for an additional one (1) year if, at the end of the Warranty Period, leaf development and growth are not sufficient to ensure future survival of the plant material.

E23.3.12 Replacements

- (a) During the Maintenance Period, the Contractor shall remove from Site any plant material that has died or failed to grow satisfactorily as determined by the Contract

Administrator and replace as per Specifications within a maximum ten (10) day period from notification.

- (b) Defective plants shall be replaced within three (3) days of notification to the Contractor.
- (c) The Contractor shall extend Maintenance and Warranty on replacement tree for a period equal to the original Maintenance and Warranty Periods.
- (d) The Contractor shall continue such replacement, Maintenance and Warranty until tree is acceptable.

E23.4 Method of Measurement and Basis of Payment

E23.4.1 Method of Measurement shall be as follows:

- (a) Trees, Shrubs and Perennials Planting will be measured on a per unit basis for:
 - (i) "Supply and install shrubs";
 - (ii) "Supply and install trees"; and
 - (iii) "Supply and install perennials and grasses";
 - (iv) "Relocate Spruce Trees" on Form B: Prices.

E23.4.2 Basis of Payment shall be as follows:

- (a) Trees, Shrubs and Perennials Planting will be paid for at the Contract unit price, which shall be payment in full including all costs for the trees, shrubs, perennials, extended maintenance, and all other items incidental to the Work included in this Specification.
- (b) Species and quantities as noted.

E23.5 Plant List:

Quantity	Botanical Name	Size / Remarks
TREES		
2	<i>Ulmus davidiana var. Japonica</i> 'Discovery'	65mm calliper, specimen, machine dug with min. 10 branches in well branched head, straight trunk, min. ht. 4500mm
SHRUBS		
23	<i>Lonicera x xylosteoides</i> 'Miniglobe'	2 gal. Specimen quality
16	<i>Euonymus nanus</i> 'Turkestanicus'	2 gal. Specimen quality
PERENNIALS		
17	<i>Hemerocallis</i> 'Pardon Me'	1 gal. Specimen quality
17	<i>Hemerocallis</i> 'Happy Returns'	1 gal. Specimen quality
GRASSES		
23	<i>Calamagrostis x acutiflora</i> 'Karl Foerster'	6" pot
28	<i>Helictotrichon sempervirens</i>	6" pot

E24. SODDING AND SEEDING

E24.1 Description

E24.1.1 This Specification shall amend and supplement the City of Winnipeg Specifications CW 3510, CW 3520 and CW 3540. The Contractor shall install mineral sod or seed and a minimum 75mm (for sod) or 100mm (for seed) compacted thickness of topsoil, as required.

- E24.1.2 The Contractor shall install sod in locations as shown on Drawing A.63-A2 to cover grading work, old play areas and areas around newly constructed paths and edging. There is also a delineated area for site access that will be sodded after site works and play equipment work has been completed.
- E24.1.3 Any areas damaged beyond the areas indicated on the Drawings shall be the responsibility of the Contractor to restore through use of topsoil and sod, unless otherwise approved by Change Order by the Contract Administrator.
- E24.1.4 Low Spots and/or Ruts: The Contractor shall install topsoil and seed in areas where ruts and low spots presently exist. This shall be identified on Site by the Contract Administrator.
- E24.1.5 Thirty (30) day maintenance period on sod and seed will commence at Total Performance and acceptance.
- E24.2 Method of Measurement and Basis of Payment
- E24.2.1 Method of Measurement shall be as follows:
- (a) Seeding will be measured on a square metre basis for "Supply and Install Soil and Sod" on Form B: Prices.
- E24.2.2 Basis of Payment shall be as follows:
- (a) Sodding and Seeding 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 other items incidental to the Work and as accepted by the Contract Administrator.