



THE CITY OF WINNIPEG

BID OPPORTUNITY

309-2007 BID OPPORTUNITY

SHAMROCK SCHOOL PLAYGROUND DEVELOPMENT

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SHAMROCK SCHOOL PLAYGROUND DEVELOPMENT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, Wednesday, September 5, 2007.

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

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

B3. SITE INVESTIGATION

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

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

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

B5.2.3 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 B16.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B7. BID COMPONENTS

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;

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

B8. BID

- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
 - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 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 shall be printed below such signatures.

B8.4.2 All signatures should be witnessed, except where a corporate seal has been affixed.

B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B9. PRICES

B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B9.1.1 Notwithstanding C.12.2.3(c), prices on Form B: Prices shall include the Manitoba Retail Sales Tax (MRST, also known as PST), but exclude GST.

B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10. DESIGN DRAWINGS

B10.1 The Bidder should submit drawings that illustrate the proposed design and play equipment, such as plan, perspective, and any other submissions to illustrate the design intent. Additional drawings may be requested prior to award for more detailed evaluation.

B11. COMPONENT DESCRIPTION

B11.1 The Bidder shall submit component description and / or graphic or catalogue reference outlining specifications of play equipment components.

B12. QUALIFICATION

B12.1 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.

B12.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>).

- B12.3 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);
- B12.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B12.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

- B13.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.
- B13.1.1 Bidders or their representatives may attend.
- B13.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B13.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B13.4 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.

B14. IRREVOCABLE BID

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.
- B14.2 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.

B15. WITHDRAWAL OF BIDS

- B15.1 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.
- B15.1.1 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.
- B15.1.2 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.

- B15.1.3 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 B15.1.3(b), declare the Bid withdrawn.

B15.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B14.2 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.

B16. EVALUATION OF BIDS

B16.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B12 (pass/fail);
- (c) Total Bid Price pursuant to B16.4;
- (d) economic analysis of any approved alternative pursuant to B6.

B16.2 Further to B16.1(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.

B16.3 Further to B16.1(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.

B16.4 Further to B16.1(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.

B16.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B16.5 Further to D15.3, if Contractor states play equipment components are compliant with CSA Standards which are not, liquidated damages shall be charged as per D15.3 should this result in additional design and/or meeting time on the part of the Contract Administrator.

B17. AWARD OF CONTRACT

B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B17.2 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.

B17.2.1 Without limiting the generality of B17.2, 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.

B17.3 Subject to B17.2, where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

B17.3.1 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.

B17.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

B17.5 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

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

- (a) Removing and disposing existing play equipment;
- (b) Removing and disposing existing timber edging;
- (c) Excavating for new surfacing areas and restoration areas;
- (d) Coordinating installation of play equipment;
- (e) Supply and installing playstone surfacing;
- (f) Supply and installing timber edging;
- (g) Supply and installing retaining wall and berm;
- (h) Grading for land drainage;
- (i) Supply and installing limestone pathway and culvert;
- (j) Supply and installing asphalt topping;
- (k) Supply and installing sod or seed;
- (l) Supply and installing waste receptacle and picnic tables; and
- (m) Supply and installing deciduous and coniferous trees, in accordance with the requirement attached.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Donna Beaton
Parks Strategic Planner
City of Winnipeg
Parks, Riverbanks and Community Initiatives Branch
Planning and Land Use Division
Planning, Property and Development Department
15-30 Fort St.
Winnipeg, MB R3C 4X5

Telephone No. (204) 986-7436

Facsimile No. (204) 986-7524

D3.2 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the City of Winnipeg, Public Works, Parks and Open Space Division, and their respective roles and responsibilities for the Work.

D4. CONTRACTOR'S SUPERVISOR

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

D4.2 The designated supervisor shall remain on site at all times during the Work and shall be authorized by the Contractor to make legally binding decisions on behalf of the Contractor.

D5. PERMITS, NOTICES, LICENSE, CERTIFICATES, LAWS AND RULES

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

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

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

The City of Winnipeg
Chief Administrative Officer Secretariat
Attn: Chief Administrative Officer
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: (204) 949-1174

D5.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:

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

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

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

D7. SAFE WORK PLAN

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

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

D8. INSURANCE

- D8.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D8.2 Deductibles shall be borne by the Contractor.
- D8.3 The Contractor shall provide the 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 fifteen (15) 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 GC:4.1 for the return of the executed Contract.
- D11.2 The detailed work schedule shall consist of the following dates:
- (a) start date;
 - (b) excavation of holes for play equipment posts;
 - (c) arrival of play equipment to Site;
 - (d) concrete pouring for posts;
 - (e) 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) the Safe Work Plan specified in D7;
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
 - (vi) the Subcontractor list specified in D10; and
 - (vii) the 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.
 - (c) the Contractor has provided a written schedule of work outlining dates and duties to be performed.
- D12.3 The Contractor shall not commence the Work until land drainage work being done by others has been completed and inspected.
- D12.4 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D13. SUBSTANTIAL PERFORMANCE

- D13.1 The Contractor shall achieve Substantial Performance within twenty (20) 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 re-inspected.

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 thirty (30) consecutive Working Days of the commencement of the Work as specified in D12. An exception can be made to accommodate supply and installation of playstructures only if delivery of same cannot be made within the timeframe. The Contractor must get approval on proposed completion date for these items with the Contract Administrator.

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 additional defects or deficiencies in the Work noted during that inspection shall be remedied immediately by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected. All inspections required after the inspection for Total Performance will be subject to liquidated damages.

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 four hundred dollars (\$400) per Working Day for each and every Working Day following the day fixed herein for Substantial 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 Substantial Performance by the day fixed herein for same.

D15.3 If the Contractor misrepresents the Canadian Standards Association (CSA) compliance of play equipment being installed and this results in additional design and/or meeting time on the part of the Contract Administrator, the Contractor shall pay the City four hundred dollars (\$400) per Working Day for each and every Working Day during which such additional work continues.

D15.4 The amount specified for liquidated damages in D15.3 is based on a genuine pre-estimate of the City's damages in the event that the Contractor causes such additional work.

D15.5 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D16. EXISTING SERVICES AND UTILITIES

D16.1 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.

D17. ACCESS TO SITE

D17.1 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.

D17.2 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.

D18. DAMAGE TO EXISTING STRUCTURES, TREES AND PROPERTY

D18.1 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.

D18.2 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.

D18.3 The Contractor shall not stockpile materials and soil or park vehicles and equipment within 2 metres of trees.

D18.4 Trees identified to be at risk by the Contract Administrator are to be strapped with 25x100x2400 wood planks, or suitable protected as approved by the Contract Administrator.

D18.5 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 by a certified arborist at the face of excavation.

D18.6 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 all of the ground surface located beneath the tree and radiating out to 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.

D18.6.1 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.

D18.7 No separate measurement or payment will be made for the protection of trees.

CONTROL OF WORK

D19. JOB MEETINGS

D19.1 Regular weekly job meetings or as otherwise specified by the Contract Administrator 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.

D19.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D20. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D20.1 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

D21. PAYMENT

D21.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

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.

D22.2 Notwithstanding C:13.2 or D14.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:

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

D22.3 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C:13.2 for the warranty period to begin.

D23. SITE RESTORATION

D23.1 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.

FORM H1: PERFORMANCE BOND
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____)

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

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

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 309-2007

SHAMROCK SCHOOL PLAYGROUND DEVELOPMENT

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

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

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

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

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

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

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

FORM J: SUBCONTRACTORS
(See D10)

SHAMROCK SCHOOL PLAYGROUND DEVELOPMENT

1. Portion of Work:			
Subcontractor: _____			
(Name)			

(Address)			
Qualifications:			
<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>
2. Portion of Work:			
Subcontractor: _____			
(Name)			

(Address)			
Qualifications:			
<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>
3. Portion of Work:			
Subcontractor: _____			
(Name)			

(Address)			
Qualifications:			
<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>

FORM J: SUBCONTRACTORS
(See D10)

SHAMROCK SCHOOL PLAYGROUND DEVELOPMENT

4. Portion of Work:			
Subcontractor: _____			
(Name)			

(Address)			
Qualifications:			
<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>
5. Portion of Work:			
Subcontractor: _____			
(Name)			

(Address)			
Qualifications:			
<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>
6. Portion of Work:			
Subcontractor: _____			
(Name)			

(Address)			
Qualifications:			
<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>

Name of Bidder

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
S.32-D	SHAMROCK SCHOOL SITE REDEVELOPMENT - Existing Conditions and Removals
S.32-E1	SHAMROCK SCHOOL SITE REDEVELOPMENT – Proposed Site Development
S.32-E2	SHAMROCK SCHOOL SITE REDEVELOPMENT – Proposed Site Development – Enlargement of North Play Area
S.32-E3	SHAMROCK SCHOOL SITE REDEVELOPMENT – Proposed Site Development – Enlargement of South Area
S.32-E4	SHAMROCK SCHOOL SITE REDEVELOPMENT – Proposed Site Development – Layout Plan – North Area
S.32-E5	SHAMROCK SCHOOL SITE REDEVELOPMENT – Proposed Site Development – Layout Plan – South Area
S.32-F	SHAMROCK SCHOOL SITE REDEVELOPMENT – Sodding and Planting Plan
S.32-G	SHAMROCK SCHOOL SITE REDEVELOPMENT – Proposed Grading Plan
S.32-H	SHAMROCK SCHOOL SITE REDEVELOPMENT – Construction Details
SCD 106	EXPANDED METAL BASKET
SCD 638a	PLAYGROUND TIMBER EDGE DETAIL

- E1.3.1 Above Drawings are available on request in AutoCAD .dwg format or Vectorworks format from the Contract Administrator.

E2. PLAY EQUIPMENT INSTALLATION COORDINATION

- E2.1 General
- E2.1.1 The Contractor is responsible to coordinate the scheduling of playground equipment installation from two (2) separate local suppliers for installation into the designated areas on-site, as indicated on the plans.
- (a) The equipment has already been ordered and will be paid for by the parent association.
 - (b) The Contractor shall ensure that the installation is timed to coincide with the installation of the playground edging and safety base.
- E2.2 Materials
- E2.2.1 Supplier 1 – Gametime Equipment
- (a) For Play Area D: as shown on Drawing S.32-E3 and specified herein.

- (b) Equipment for this area is from the Gametime Play Equipment line, being supplied and installed by Crozier Agencies:
- (c) Contact for above Play Equipment:
 - Ken Crozier
 - Crozier Agencies
 - 8-1865 Sargent Ave.
 - Winnipeg. MB R3H 0E4
 - Telephone No. (204) 774-6084
 - Facsimile No. (204) 774-6099
- (d) The equipment includes:
 - (i) one (1) Gametime Tilted Sky Runner,
 - (ii) one (1) Gametime Space Loop Climber,
 - (iii) one (1) Gametime Side Stepper and
 - (iv) one (1) Gametime Challenge Station.

E2.2.2 Supplier #2 – Landscape Structures Equipment

- (a) For Play Areas A and C: as shown on Drawing S.32-E2 and specified herein.
- (b) Equipment for this area is from the Landscape Structures Play Equipment line, being supplied and installed by Playgrounds - R- Us:
- (c) Contact for above Play Equipment:
 - Bob Lacroix
 - Playgrounds-R-Us
 - 250 Transport Rd.
 - Box 7, GRP 582 RR#5
 - Winnipeg. MB R2Z 2Z2
 - Telephone No. (204) 632-7000
 - Facsimile No. (204) 632-7421
- (d) The equipment includes:
 - (i) one (1) Landscape Structures Sway Fun and ramp
 - (ii) and two (2) Landscape Structures Saddle Spinners
- (e) The Contractor shall provide coordination of the installation of the above equipment by a certified Landscape Structures installer

E2.3 Construction Methods

- E2.3.1 All play equipment is to be installed by a certified installer from each respective supplier.
- E2.3.2 All Work is to be located and installed in accordance with Drawings S.32-E2 and S.32-E3.
- E2.3.3 The Contractor shall confirm proposed locations of all play equipment with Contract Administrator prior to installation.

E2.4 Method of Measurement and Basis of Payment

- (a) The Work under this specification shall be considered incidental to the overall project. No separate measurement or payment shall be made for this Work
- (b) Cost of all equipment and its installation by others has been pre-paid and is not included in the contract.

E3. MAINTENANCE KITS

- E3.1 All play equipment installation includes the supply of maintenance kits by the Supplier. Maintenance kits shall include maintenance manuals, complete manufacturer's parts lists, touch-up paint, PVC repair paint, 10% extra of each bolt, washer and any other hardware utilized on the play equipment, and all special tools necessary for assembly and maintenance.
- E3.2 There shall be no payment for the maintenance kits. These shall be provided by the playground company directly to the Contract Administrator or designate.

E4. SITE GRADING

E4.1 General Description

- E4.1.1 The contractor is advised that land drainage work is being (or has been) undertaken under a separate contract prior to works commencing under the subject contract. The separate land drainage contract was to install new catch basins and some rough grading, as per Drawing S.32-G.
- E4.1.2 This specification shall cover the provision of some rough grading but primarily finished grading, to the limits of grading as shown on Drawing S.32-G, to tie in paths and play area grades under this contract to the newly provided land drainage amenities.
- E4.1.3 This specification shall supplement and amend The City of Winnipeg CW 3170 Earthwork and Grading.

E4.2 Materials

- E4.2.1 Shall be in accordance with CW 3170.

E4.3 Construction Methods

- E4.3.1 Shall be in accordance with CW 3170.

E4.4 Method of Measurement and Basis of Payment:

- E4.4.1 Method of Measurement shall be as follows:
- (a) Grading shall be measured on a square meter basis for grading necessary to achieve finished grades and swales to promote positive drainage in accordance with Drawing S.32-G.
- E4.4.2 Basis of Payment shall be:
- (a) Grading shall be paid for at the Contract Unit Prices for "Site Grading" on Form B: 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.

E5. REMOVALS AND EXCAVATION

E5.1 General Description

- E5.1.1 This specification shall cover the removal and legal disposal of some existing play equipment, some existing timber edging, some existing play stone as indicated and excavation for play equipment, sitting area, pathway and site furnishing bases.
- E5.1.2 Work shall include but not be limited to the following:
- (a) Remove and dispose existing climbers in Play Area B;
 - (b) Remove and dispose play structure in Play Area C;
 - (c) Remove and dispose existing timber edging;

- (d) Excavate for new Play Area D; this includes coordination with the playground company to establish the appropriate “work grade” for the equipment installation;
- (e) Excavate and dispose for part of existing Play Area B in preparation for sod;
- (f) Excavation for base preparation for Retaining Wall Surfacing (note payments for this work shall be included under E8)
- (g) Excavation for Limestone Surfacing (note payments for this work shall be included under E9); and
- (h) Excavation for Asphalt Surfacing (note payment for this work shall be included under E10).

E5.1.3 All extraneous materials are to be removed from the Site and disposed of in a safe and legal manner. This specification shall amend and supplement City of Winnipeg Standard Construction Specifications CW 3110-R7. 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.

E5.2 Construction Methods

E5.2.1 Removals

- (a) Removal of components, climbers and playstructure shall include the removal and disposal of any and all associated footings or bases. The resulting holes shall be backfilled with clay, compacted in 150mm (6”) lifts.
- (b) Removal of timber edging:
 - (i) Where only a portion is being removed with additions to be added, the contractor shall ensure the remaining timbers are not damaged or shifted in the process of the removals.
 - (ii) All cut ends shall be treated with the product listed under E6.2.4

E5.2.2 Excavation

- (a) Excavation and disposal includes the removal of surface areas such as turf, playstone or sand to the depths necessary to achieve finished grades as indicated on the Drawings and as directed by the Contract Administrator. Work includes the satisfactory disposal of unneeded and unsuitable Site material such as clays susceptible to frost-heaving, silts, rock rubble rubbish and any surplus suitable Site material.
- (b) Areas of the Site planned as new play areas are to be excavated to the depths required to construct timber edging and to provide a “work grade” in preparation for the playground company to install their respective equipment.
 - (i) The “work grade” shall be the compacted excavated base set to an elevation to provide the minimum 300mm depth of safety play stone in accordance with Drawing SCD 638a.
 - (ii) Contractor must coordinate excavation with play equipment installation. Where equipment is being installed, ensure the safety surfacing (E7) is being installed immediately afterwards. The contractor should meet with the respective playground company representatives and Contract Administrator to confirm the necessary requirements prior to commencement.
 - (iii) The Work shall be limited to the intended areas for new play equipment as shown on Drawing S.32-E1.
- (c) Do not disturb adjacent items designated to remain in place.
- (d) When abutting existing asphalt, the Contractor shall take care and caution so as not to damage same during excavation process.
- (e) Areas of the Site which are to be sodded or seeded are to be excavated to meet the required depths as per E11.

- (f) 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.
- (g) Contractor must coordinate with the Contract Administrator to ensure all removals have occurred.

E5.3 Method of Measurement and Basis of Payment

E5.3.1 Method of Measurement shall be as follows:

- (a) Removal of existing equipment shall be measured on a lump sum basis for removal of 3 climbers in Play Area B and playstructure in Play Area A, including any concrete bases and backfill holes.
- (b) Timber Edging removal shall be measured on a linear metre basis for the total lengths of double-tier timbers being removed.
- (c) Excavation and disposal for the removal of surface areas such as turf, playstone or sand shall be measured on a cubic metre basis.
- (d) Excavation and disposal of material for the construction of the segmental retaining wall, shall be as specified in, and considered incident to, work performed under E8.
- (e) Excavation and disposal of material for the construction of crushed limestone surfacing for paths and base for site furnishings, shall be as specified in, and considered incident to, work performed under E9.
- (f) Excavation and disposal of materials for the construction of asphalt surfacing, shall be as specified in, and considered incident to, work performed under E10.

E5.3.2 Basis of Payment shall be as follows:

- (a) Excavation and Removals will be paid for at the Contract Unit Prices (on Form B: Prices) for each item listed below.
 - (i) "Remove and legally dispose existing Climbers and Playstructure, Play Areas B and C";
 - (ii) "Remove and legally dispose existing Timber Edging"; and
 - (iii) "Excavate for new surfacing areas and restoration areas".
- (b) 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.

E6. TIMBER EDGING

E6.1 General Description

E6.1.1 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the drawings and specifications.

E6.1.2 This specification shall cover the supply and installation of timber edging to contain the safety surfacing for the playground areas.

E6.2 Materials and Method

E6.2.1 Layout of edging shall be as per Drawings S.32-E4 and S.32-E5, or as approved, to adequately provide extents of safety surfacing beneath play equipment, based on the most recent CSA safety zone requirements.

E6.2.2 Top course shall be stained spruce, No. 2 or better, and bottom course shall be pressure-treated timbers.

- (a) No wane, bark, checking or splitting permitted.

- (b) Wood shall be smooth and free of rough areas.
- (c) All timbers to be 150 x 150mm with a minimum length of 1200mm. Contractor to use longest lengths possible.
- (d) Top edges of all exposed timbers shall have an 8mm (45°) chamfer.

E6.2.3 Timbers shall be installed as per Drawing SCD-638a.

E6.2.4 All timbers shall be cut neatly for a proper fit with no spaces or gaps between. All cuts shall be stained before being secured. All wood should be pre-stained prior to installation. Finished elevations shall ensure that all timbers are smooth, level, set plumb and spaced uniformly.

- (a) End-cut wood preservative to be applied to the cuts of all pressure treated wood; and
- (b) Olympic Waterproofing Sealant or equivalent to be applied to all sides of spruce top course.

E6.2.5 Turf shall be repaired as required around edging in accordance with the latest version of City of Winnipeg Standard Specifications CW 3520 for Topsoil and Seeding and as per Drawing SCD-638a.

E6.2.6 The layout of the timber edging shall be coordinated with the installation of the play equipment to ensure that the proper safety zones are created and maintained around the equipment to comply with the latest version of CAN/CSA Z614.

E6.3 Method of Measurement and Basis of Payment

E6.3.1 Method of Measurement shall be as follows:

- (a) Timber Edging will be measured on a linear metre basis for the supply and installation of the double row of timbers. All anchors, wood stain, and end cut preservative shall be incidental to the Work.

E6.3.2 Basis of Payment shall be as follows:

- (a) Timber Edging will be paid for at the Contract Unit Prices for "Supply and install new Timber Edging" on Form B: 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.

E7. SAFETY SURFACING

E7.1 General Description

E7.1.1 This specification shall cover the supply and installation of Safety Surfacing within Play Areas A, B, C and D as indicated on Drawing S.32-E1.

E7.2 Materials

E7.2.1 Safety Surfacing shall be 6.0mm Playground Stone, composition shall be Typical Birds Hill glacial till material, 100% clean river-washed granite conforming to the following sizes of sieve:

- 100% passing 10mm
- 45% passing 5mm
- Up to 10% passing 2.5mm
- Up to 4% passing 1.25mm
- 0% passing 0.8mm sieve

E7.3 Construction Methods

- E7.3.1 Playground Stone shall be installed within all existing and proposed play areas as defined by the timber edging, to achieve a minimum depth of 300 mm and a minimum 50mm below top of timber edging.
- E7.3.2 The installation of the Safety Stone shall be done immediately after the play equipment has been installed.
- E7.3.3 Care shall be taken not to mix soil or clay into safety surfacing.
- E7.3.4 Installation shall be done by equipment sized to suit the Work being done and the Stone shall be spread by hand as necessary in the immediate vicinity of the play equipment so as not to damage same. The play equipment shall be swept clean to the satisfaction of the Contract Administrator after installation of the Stone.

E7.4 Method of Measurement and Basis of Payment

- E7.4.1 Method of Measurement shall be as follows:
- (a) Protective Surfacing will be measured on a cubic metre basis for supply and installation of playstone safety surfacing.
- E7.4.2 Basis of Payment shall be as follows:
- (a) Protective Surfacing will be paid for at the Contract Unit Prices for "Supply and install Playstone, 300mm depth". 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.

E8. SEGMENTAL RETAINING WALLS AND BERM

E8.1 General Description

- E8.1.1 This specification shall cover the supply and installation of retaining wall as shown on the Drawings. Construction of the berm behind the wall shall be considered incidental to this Work.
- E8.1.2 Location and layout of segmental retaining wall and berm to be as per Drawings S.32-E3 and Drawings S.32-E5 and as directed on site by Contract Administrator.
- E8.1.3 Installation of wall as per manufacturer's instructions.

E8.2 Materials:

E8.2.1 Retaining Wall:

- (a) Barkman Roman Pisa, colour Sierra Grey with Roman Coping, colour Charcoal.

E8.2.2 Unit Pavers:

- (a) Barkman Holland Stone, colour Sierra Grey.

E8.2.3 Granular base:

- (a) The footing shall be non-frost susceptible, compacted granular base course material, in accordance with requirements of base course material specified in CW 3110-R7, to a depth of 6".

E8.2.4 Adhesive:

- (a) Snap Edge, Bond-Loc All Weather Landscape Products Adhesive or approved equal.

E8.2.5 Foundation Soil:

- (a) The foundation soil shall be the native undisturbed on site soil.

E8.2.6 Geotextile Filter:

- (a) Filter cloth shall be Pro Pex 4530 polypropylene non-woven needle punched fabric.

E8.2.7 Concrete Adhesive:

- (a) The adhesive is used to permanently secure every course to the course below it as well as the coping stone to the top course of the wall. The adhesive must provide sufficient strength and remain flexible.

E8.2.8 Source

- (a) Barkman Concrete Pisa II Retaining Wall, sizes and finish as stated above.
Barkman Concrete
909 Gateway Road
Winnipeg, MB
R3K 3L1
Ph: (204) 667-3310
Fax: (204) 663-4854.

E8.3 Construction Methods

E8.3.1 Retaining Walls

- (a) Wall layout and grading shall be subject to inspection by the Contract Administrator.
- (b) Retaining walls, base and drainage system shall be installed as per Drawings and according to manufacturer's specifications.
- (c) Subgrade preparation shall conform to levels and compaction required to allow for installation of granular base.
- (d) Base shall be compacted to 95% standard Proctor Density.
- (e) Retaining walls shall be installed true to grade such that the top of the finished wall is level across its entire length. The wall is to step down in equal increments at the wall ends.
- (f) The lower wall is to be level across entire length. The distance between the back of that wall and the front of the upper wall shall be adjusted such that the unit pavers fit between, tight and without cutting.
- (g) The base course stones shall be levelled and compacted with a mechanical plate vibrator using a 19mm thick plywood or neoprene pad under the plate. Stones are to be true to grade and free of movement.
- (h) All courses shall be fixed down with adhesive as the wall is being constructed, to the satisfaction of the Contract Administrator.
- (i) The area on top of the lower wall is to be paved with unit pavers set on compacted granular and a 25mm layer of leveling sand, and according to manufacturer's specifications. Unit pavers are to be set tight to each other and fit with minimal cutting.

E8.3.2 Berm

- (a) The berm behind the walls shall be constructed from clean compacted fill to the grades shown on the Drawings.
- (b) In fill areas, the Contractor shall scarify the existing ground to a minimum depth of 150mm prior to the placement of any fill.
- (c) Compaction shall include the use of sheep's foot or other suitable compaction equipment as approved by the Contract Administrator to achieve a minimum compaction of 95% Proctor Density.

(d) The transition areas from slope to flat shall be eased to facilitate maintenance.

E8.4 Method of Measurement and Basis of Payment

E8.4.1 Method of Measurement shall be as follows:

(a) Segmental Retaining Wall will be measured on a lump sum basis for supply and installation of Retaining walls and berm.

E8.4.2 Basis of Payment shall be as follows:

(a) Segmental Retaining Wall will be paid for at the Contract Unit Prices for "Supply and install Retaining Walls and Berm". The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall include all costs of material supply including the granular, sub-grade preparation, and proper material installation. Site grading and berm construction shall be considered incidental to the Work.

E9. LIMESTONE SURFACING

E9.1 Description

E9.1.1 This Specification shall amend and supplement the City of Winnipeg Specification CW 3110-R7. 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 Limestone Surfacing for path and picnic table bases.

E9.2 Materials

- (a) New Limestone Surfacing shall be as per Drawing S.32-H.
- (b) Culvert shall consist of 200mm diameter PVC pipe.

E9.2.2 Construction Method

- (a) The Contractor shall survey and stake out pathway prior to the start of construction as shown on the construction drawings. Layout and grades of pathway shall be checked and confirmed with Contract Administrator prior to construction.
- (b) All granular base courses shall be placed and compacted to the finished thickness as specified on the drawings.
- (c) Base Course and Capping Course shall be compacted to a minimum of Hundred (100%) of Standard Proctor Density.
- (d) PVC Culvert shall be installed perpendicular to and under the base course of the limestone path at the location near Play Areas A and B as indicated on Drawing S.32-E2 and S.32-H. It shall be installed at the level of the bottom of the existing swale and the ends of the pipe left exposed so as to promote the flow of water underneath the path. The ends shall extend no more than 50mm (2") beyond the edge of the path and be sanded smooth.

E9.3 Method of Measurement and Basis of Payment

E9.3.1 Method of Measurement shall be as follows:

(a) Limestone Surfacing will be measured on a per square metre basis for excavation, supply and installation of limestone surfacing for picnic table base and limestone path, including culvert.

E9.3.2 Basis of Payment shall be as follows:

(a) Limestone Surfacing will be paid for at the Contract Unit Prices for Item 9: "Supply and install Limestone Pathway, incl. PVC Culvert" on Form B: 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.

E10. ASPHALT SURFACING

E10.1 This specification shall cover the supply and installation of asphalt for the Sitting Area.

E10.2 Excavation

E10.2.1 Description

- (a) This specification shall be done in accordance the City of Winnipeg's Standard Construction Specification CW 3110-R7 – “Sub-Grade, Sub-Base and Base Course Construction” and as per SCD-645.
- (b) Excavation shall be understood to include all removal of existing insitu material necessary to achieve finished grade and as indicated on Drawing S.32-H, all in accordance with E4.

E10.2.2 Construction Methods

- (a) Excavation shall be performed as outlined in CW 3310 –R7 – item 3.2 – “Excavation”.
- (b) If any pavement exists at the limits of the designated area of removal, these shall be saw cut for the full depth of the pavement prior to the demolition and removal operations. All costs in connection with saw cutting are incidental and shall be included in the unit price bid for excavation.
- (c) All excavated material shall be removed, hauled and disposed of off-site to the satisfaction of the Contract Administrator.

E10.3 Sub-Grade Compaction

E10.3.1 Description

- (a) Sub grade compaction shall be done in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R7 - “Sub-Grade, Sub-Base and Base Course Construction”.

E10.3.2 Construction Methods

- (a) Sub-grade compaction shall be performed as outlined in CW 3110 – R7 – item 3.3 – “Preparation of Sub-Grade and Placement of Sub-Base material.
- (b) Sub-grade shall be free of any fibrous organics, softened and disturbed soil. The prepared sub-grade shall be proof rolled with a heavy sheep's foot roller (min 25 passes) and inspected by the Contract Administrator to detect for any soft spots prior to the placement of overlying granular fills.

E10.4 Crushed limestone sub-base course material

E10.4.1 Description

- (a) Crushed limestone sub-base material shall be supplied and installed in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R7 - “Sub-Grade, Sub-Base and Base Course Construction”.

E10.4.2 Materials

- (a) Crushed Limestone sub-base material shall be 50 mm (2”) as specified and to the depth of 150 mm (6”) as shown on the drawings.

E10.4.3 Construction Methods

- (a) Crushed limestone sub-base material shall be supplied and installed as outlined in CW 3110 –R7 – item 3.4 “Placement of Sub-Base Material with Geotextile Fabric”.

- (b) All limestone sub-base material shall be placed and compacted as specified to a finished thickness as shown on the drawings.

E10.5 Crushed Limestone Base Course Material

E10.5.1 Description

- (a) Crushed limestone base material shall be supplied and installed in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R7 -. "Sub-Grade, Sub-Base and Base Course Construction".

E10.5.2 Materials

- (a) Crushed Limestone base coarse material shall be 20 mm (3/4") as specified and to the depth of 50 mm (2") as shown on the drawings.

E10.5.3 Construction Methods

- (a) Crushed limestone base coarse material shall be supplied and installed as outlined in CW 3110 –R7 – item 3.5 "Placement of Base Course Material ".
- (b) All limestone base coarse shall be placed and compacted as specified to a finished thickness as shown on the drawings.

E10.6 Asphaltic Pavement

E10.6.1 Description

- (a) Asphaltic Concrete shall be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3410-R5 – "Asphaltic Concrete Pavement Works".

E10.6.2 Materials

- (a) Asphaltic Concrete shall be Type 1A as specified and to a thickness of 75 mm (3") as shown on the drawings.

E10.6.3 Construction Methods

- (a) Asphaltic Concrete shall be supplied and installed in accordance with the lines, grades and thickness shown on the Construction Drawings and to City of Winnipeg Standard Construction Specification CW 3410-R5. Asphalt shall be placed in one lift.

E10.7 Crack Sealing

- (a) As a warranty requirement, the Contractor shall rout and seal any and all cracks which may appear during the one-year warranty period. Crack sealing shall conform to the requirements of City of Winnipeg Standard Construction CW 3250 – R3.
- (b) No separate payment will be made for this item as it is considered a warranty issue and shall fall under G.C. 13 – Warranty.

E10.8 Quality Control for Hard Surfaced Areas

- (a) Further to Section 10, Quality Control, of CW 3110-R5 and CW 3410-R5, the Contract Administrator may obtain a qualified independent testing lab to conduct tests on materials to determine the acceptability of the sub-grade, sub-base, base course and asphaltic concrete as placed by the Contractor in accordance with the requirements of this Specification.
- (b) The Contractor shall not proceed with each granular fill placement or asphalt installation until test results have been reviewed and the approval to proceed is granted by the Contract Administrator.
- (c) The Contract Administrator will conduct a survey of the operation to verify installation of specified layer thickness.
- (d) Non-conformity with the specified test requirements or compacted layer thickness will constitute sufficient grounds for rejection of the work.

E10.9 Method of Measurement and Basis of Payment

E10.9.1 Method of Measurement shall be as follows:

- (a) Asphalt Path will be measured on a square metre basis for the supply and installation of asphalt surfacing for area indicated.
- (b) Excavation and base work shall be incidental to the measurement of Asphalt Path listed above.

E10.9.2 Basis of Payment shall be as follows:

- (a) Asphalt Path will be paid for at the Contract Unit Prices for "Supply and install Asphalt Surfacing" on Form B: Prices. The amount to be paid for shall be the total number of units 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.

E11. SODDING AND SEEDING

E11.1 Description

E11.1.1 This Specification shall amend and supplement the City of Winnipeg Specifications CW 3510-R8, CW 3520-R5 and CW 3540-R4.

E11.1.2 The Contractor shall install mineral sod over a minimum of 75mm compacted depth of topsoil and seed over a minimum of 100mm compacted depth of topsoil, as required.

E11.1.3 Topsoil and sod shall be applied in the following locations:

- (a) in Play Areas A and B as shown on Drawing S.32-F, as well as any other existing play areas where surfacing is removed and not re-established as play area, or where play surfacing is not proposed.
- (b) a single strip along the edge of all limestone and asphalt surfaces.

E11.1.4 Topsoil and seed shall be applied:

- (a) around the perimeter of newly cribbed areas to re-establish turf disturbed by the Work. Seed and topsoil shall be installed as shown on Drawing S.32-F, extending maximum of 500mm from the timber edging as per detail on Drawing SCD-638a.
- (b) in all other areas that have been graded but not designated for sod, within the limits as identified on plan.

E11.1.5 Damaged areas: Restoration of damaged areas other than as outlined above shall be incidental to the Work. No separate payment shall be made. Restoration shall be achieved using topsoil and seed unless otherwise directed by the Contract Administrator.

E11.1.6 Thirty (30) day maintenance period on sod and seed will commence at Total Performance.

E11.2 Method of Measurement and Basis of Payment

E11.2.1 Method of Measurement shall be as follows:

- (a) Sodding will be measured on a per square metre basis for the supply and installation of topsoil and sod for areas indicated.
- (b) Seeding will be measured on a square metre basis for the supply and installation of topsoil and seed for areas indicated.
- (c) Topsoil will be considered incidental to Sod and Seed operations. No separate measurement shall be made.

E11.2.2 Basis of Payment shall be as follows:

- (a) Sodding will be paid for at the Contract Unit Prices for "Supply and install Sod as required, includes 75mm compacted topsoil"

- (b) Seeding will be paid for at the Contract Unit Prices for "Supply and install Seed as required, includes 100mm topsoil"
- (c) The amount to be paid for shall be the total number of units, as indicated 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.

E12. WOODCHIP MULCH

E12.1 Description

- E12.1.1 This specification shall cover the supply and installation of Woodchip Mulch to be placed next to the new Seating Plaza, as shown on Drawing S.32-E3.

E12.2 Materials

- (a) 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.

E12.3 Construction Methods

E12.3.1 Installation

- (a) Woodchip Mulch shall be installed next to the seating plaza, as shown on Drawing S.32-E3, to a minimum depth of 75mm.

E12.4 Method of Measurement and Basis of Payment

E12.4.1 Method of Measurement shall be as follows:

- (a) Woodchip Mulch shall be measured on a per square metre basis for the supply and installation of woodchips for area indicated. "Supply and install Woodchips" on Form B: Prices.

E12.4.2 Basis of Payment shall be as follows:

- (a) Woodchip Mulch will be paid for at the Contract Unit Prices for "Supply and install Woodchips" 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 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. SITE FURNISHINGS

E13.1 Description

- E13.1.1 This specification shall cover the supply and installation of:

- (a) one (1) Waste Receptacle; and
- (b) two (2) Picnic Tables.

- E13.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawing S.32-E3 and specified herein.

E13.1.3 Related specifications:

- (a) Crushed limestone base for picnic table shall be as outlined in specification E9.

E13.2 Materials

- E13.2.1 All materials supplied under this specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.

E13.2.2 Waste Receptacle shall be "Waste Receptacle Expanded Metal Basket" as per SCD 106, Product #52501051, or substitute acceptable to Contract Administrator.

E13.2.3 Picnic Tables shall be one (1) "round Picnic Table with Wheelchair Access" and one (1) Round Picnic Table" or substitute acceptable to Contract Administrator.

E13.2.4 Contact for Waste Receptacle:

Aaron Lennon
Supervisor of Central Repair/Manufacturing Facility
City of Winnipeg
Fleet Management Agency Division
Public Works Department
215 Tecumseh St
Winnipeg, MB R3E 3S4
Telephone No. (204) 986-5505
Facsimile No. (204) 986-1248

E13.2.5 Contact for Picnic Tables:

Barkman Concrete
909 Gateway Road
Winnipeg, MB
R3K 3L1
Ph: (204) 667-3310
Fax: (204) 663-4854.

E13.3 Construction Methods

E13.3.1 All Work is to be located and installed in accordance with Drawing S.32-E3 using approved non-rusting, vandal resistant fasteners to ensure solid, durable, finished work suitable for the purpose intended. Fasteners and assembly hardware shall be incidental to the Work.

E13.3.2 All furnishings and fixtures to be installed plumb and true to correct elevations and location, as directed the Contract Administrator. The Contractor shall confirm proposed locations of all site furnishings with Contract Administrator prior to installation.

E13.3.3 Where a granular bases is to be provided below the site furnishings, said bases shall be install first – and shall provide for a level surface upon which to locate the site furniture.

E13.3.4 All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering, which will injure or distort fixture, is prohibited.

E13.3.5 Picnic Tables shall be installed in approximate locations as noted on the plan and as directed by the Contract Administrator, and shall be plumb and level.

E13.4 Method of Measurement and Basis of Payment

E13.4.1 Method of Measurement shall be as follows:

- (a) Site Furnishings shall be measured on a per unit basis for each Waste Receptacle and Picnic Table provided.

E13.4.2 Basis of Payment shall be as follows:

- (a) Site Furnishings will be paid for at the Contract Unit Prices for the following items as indicated on Form B: Prices.
 - (i) "Supply and install Waste Receptacle"
 - (ii) "Supply and install new Picnic Table".
- (b) The amount to be paid for shall be the total number of units 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.

E14. TREE PLANTING

E14.1 Description:

E14.1.1 This specification shall cover the supply and installation of nursery grown trees.

E14.2 Materials

E14.2.1 General

- (a) Trees shall be the size and variety noted on the Plant List attached to the end of this specification section. Plant material which does not have the specified root ball diameter as mentioned in plant list will be rejected.
- (b) 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".
- (c) 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.
- (d) 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.
- (e) 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.
- (f) Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.
- (g) 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.
- (h) Where trees are measured by calliper (cal.), reference is made to the diameter of the trunk measured 300 mm above ground as the tree stands in the nursery.
- (i) 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.
- (j) All trees shall have one only, sturdy, reasonably straight and vertical trunk and a well balanced crown with fully developed leader. All evergreens shall be symmetrically grown and branched from ground level up, and must be balled and burlapped unless noted otherwise on the plant list. At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant
- (k) Protection of Stock
 - (i) 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.
 - (ii) Nursery stock shall be transplanted with care to prevent damage. Points of contact with equipment shall be padded. All nursery stock, which cannot be planted immediately upon arrival at the site, shall be well protected to prevent drying out and shall be kept moist until commencement of planting.

E14.2.2 Plant Material

Quantity	Common Name/botanical name	Size / Remarks
6	Colorado Blue Spruce / <i>Picea pungens glauca</i>	2400mm ht. Straight trunk. Evenly branched, full bushy tree, no broken leaders, well branched to grade. Two stakes per tree
7	Patmore Green Ash / <i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i> 'Patmore'	Min. 65 mm calliper, 3000mm ht. Single straight trunk. Specimen quality. Well branched head above 1830mm ht. Minimum 800 mm dia. rootball. Two stakes per tree
7	American Basswood / <i>Tilia americana</i>	Min. 65 mm calliper, 3000mm ht. Single straight trunk. Specimen quality. Well branched head above 1830mm ht. Minimum 800 mm dia. rootball. Two stakes per tree
7	Discovery American Elm / <i>Ulmus americana</i> 'Discovery'	Min. 65 mm calliper, 3000mm ht. Single straight trunk. Specimen quality. Well branched head above 1830mm ht. Minimum 800 mm dia. rootball. Two stakes per tree

E14.2.3 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.

E14.2.4 Wood Chip Mulch

- (a) Mulch shall be a clean bark or wood chip mulch with chips not less than 15 mm nor larger than 75 mm in size and not less than 75 mm thick. Mulch shall be free of leaves, branches and other extraneous matter.

E14.2.5 Stakes

- (a) T-rail iron stakes 40 x 40 x 5 x 1540 mm long, primed with 1 brush coat of black zinc rich plant paint to CGSB 1-GP-181B. Paint section of stake above ground with 1 coat of green enamel paint.

E14.2.6 Water

- (a) The Contractor shall provide water for the watering operation and shall be borne by the Contractor. These costs may include hydrant permit and meter rental fees.
- (b) Water shall be free of oils, acids, alkalis, salts and other substances that may be detrimental to plant growth. Water suitable for human consumption shall be acceptable without testing.
- (c) Water from rivers and streams shall not be used without prior approval of the Contract Administrator.
- (d) Should the Contract Administrator determine that water quality testing is necessary, an approved testing laboratory shall perform the test at the sole expense of the Contractor.

E14.3 Construction Methods

E14.3.1 General

- (a) Tree pits shall be excavated as per drawing SCD-P3, to depth as required so that tree root ball is just below existing finished grade as shown.

E14.3.2 Installation

- (a) Upon excavation of the tree pit, 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 – R2 to depth as required.
- (b) Each tree shall be handled with great care, to ensure that the roots will not be broken. Broken roots of deciduous stock shall be pruned back prior to planting.
- (c) After inserting the shrub and filling the planting hole with topsoil, 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 75 mm below rounding and grade elevation. After filling, the planting shall be watered at frequent intervals.
- (d) Planting shall be done during periods suitable to weather conditions and locally accepted practice. 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.
- (e) Nursery stock shall be faced to give the best appearance or relationship to adjacent structures and to the approval of the Contract Administrator.
- (f) Wood chip mulch shall be installed in tree pits to a depth of 100mm.

E14.3.3 Pruning

- (a) All trees shall be pruned immediately after planting. The amount of pruning shall be limited to the minimum necessary to remove dead or injured branches and to compensate for the loss of roots as a result of transplanting operations. Pruning shall be done in such a manner as to preserve the natural character of the plants. Leaders shall not be removed. Only clean, sharp tools shall be used. All cuts shall be clean and flush, leaving no stubs. Cuts, bruises or scars on the bark shall be traced back to living tissue and removed. The affected areas shall be shaped so as not to retain water and all cuts of more than 25 mm in diameter shall be painted with approved tree paint.

E14.3.4 Staking

- (a) Trees shall be staked using metal T-BAR stakes. Refer to drawing SCD-P3. The tree trunk shall be completely encircled and protected with two rubber tree rings and secured to each tree stake. Top of each tree stake shall be at the same elevation above finished grade, approximately 1200 – 1500 mm height. At the end of the Two year maintenance period the Contractor is to remove the tree stakes and associated fasteners.

E14.4 Method of Measurement and Basis of Payment

E14.4.1 Method of Measurement shall be as follows:

- (a) Tree Planting will be measured on a per unit basis for the supply and installation of deciduous and coniferous trees, soil for trees, wood chip mulch and stakes.
- (b) Soil, wood chip mulch and tree stakes shall be considered incidental to the cost of Tree Planting. No separate measurement shall be made.

E14.4.2 Basis of Payment shall be as follows:

- (a) Tree Planting will be paid for at the Contract Unit Prices for the following items:
 - (i) Item 16: "Supply and install Coniferous Tree"
 - (ii) Item 17: "Supply and install Deciduous Tree" on Form B: Prices.
- (b) The amount to be paid for shall be the total number of units 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. MAINTENANCE OF NEW TREE PLANTINGS

E15.1 General

E15.1.1 The Contractor shall cover the maintenance of trees for a period of two (2) years from the date of the tree planting. The Contractor shall furnish all labour, materials, equipment and services necessary to perform ongoing care of the plant material, which shall include but not be limited to:

- (a) Mulching, in accordance with E14.2.4 and E15.2.1(d);
- (b) Watering, in accordance with E14.2.6 and E15.2.1(f);
- (c) Weed Control, in accordance with E15.2.1(g).

E15.2 Methods

E15.2.1 The Contractor shall:

- (a) program the timing of operations to plant growth, weather conditions and use of the Site;
- (b) do each operation continuously and completely within a reasonable time period;
- (c) store equipment and materials off-site;
- (d) add additional mulch as required to maintain minimum constant depth of mulch;
- (e) clean up edges and contain mulch within the designated area;
- (f) water trees as follows:
 - (i) immediately upon being planted and every week for the first three (3) weeks after planting;
 - (ii) thereafter, watering shall be done every 7-14 days between May and October or as frequently as necessary (compensating appropriately for weather) to sustain vigour plant growth;
 - (iii) by watering slowly to ensure that water does not run away from the root zone and so the top 300 mm of soil around the root system of the tree is well saturated;
 - (iv) by using a low pressure open flow nozzle and hose. The water stream must not gouge out a hole in the soil or mulch;
 - (v) by using the recognized standard for tree watering as approximately 8-10 times during the growing season with the following amounts of water depending on the calliper of the tree – the rule of thumb is 40 litres of water per 25 mm calliper;
 - (vi) by recognizing watering requirements of trees dependent upon a number of variables such as tree species, soil type, when planted, and weather including precipitation. These watering requirements are a minimum standard and shall be followed unless otherwise directed by the Contract Administrator;
 - (vii) by applying a final watering for all trees, regardless of when planted, that shall be completed after temperatures fall below freezing to ensure adequate moisture in root zone at freeze-up; The Contractor must inform the Contract Administrator of watering progress and schedule by 9:00 AM each day.
- (g) maintain surface of tree pit by hand weeding during the watering process as follows:
 - (i) do not allow weeds to establish for a period longer than two (2) weeks; and
 - (ii) do not use any herbicides for weed control near trees.
- (h) The Contractor must inform the Contract Administrator of watering progress and schedule by 9:00 AM each day.
- (i) The Contractor must inform the Contract Administrator immediately of any equipment breakdown or delay in watering and maintenance. Once a watering cycle

is completed, submit a log-sheet to the Contract Administrator identifying the following:

- (i) the location where maintenance Work is carried out; and
- (ii) preventative or corrective measures required which are outside the Contractor's responsibility.

E15.3 Guarantee of Nursery Stock

E15.3.1 The Contractor shall agree and guarantee to replace and replant any nursery stock found dead and/or in poor condition within two years from the date of the Certificate of Total Performance, at his cost. "Poor condition" shall be interpreted as meaning nursery stock on which branches are dying, or have not shown satisfactory growth of leaves. All replacements plants shall be installed within 30 days from the date of notification from the City, unless the City extends the time period, as a result of seasonal or climatic considerations.

E15.3.2 All required replacements shall be by plants of at least the same size and species as specified, and shall be supplied and planted in accordance with the original drawings and Specifications, and the replaced material shall carry an additional two-year guarantee and maintenance period. All shrubs and trees must be in a healthy conditional for a full two years before the warranty on the year will be considered fulfilled.

- (a) The Contractor must inform the Contract Administrator immediately of any equipment breakdown or delay in watering and maintenance. Once a watering cycle is completed, submit a log-sheet to the Contract Administrator identifying the following:
 - (i) the location where maintenance Work is carried out; and
 - (ii) preventative or corrective measures required which are outside the Contractor's responsibility.

E15.4 Method of Measurement and Basis of Payment

E15.4.1 Method of Measurement shall be as follows:

- (a) Tree maintenance shall be paid for on a unit bases for each year of maintenance and priced separately for coniferous and deciduous species.

E15.4.2 Basis of Payment shall be as follows:

- (a) Tree Maintenance will be paid for at the Contract Unit Prices (on Form B: Prices) for the following items:
 - (i) "Year 1 Maintenance on Coniferous Tree";
 - (ii) "Year 1 Maintenance on Deciduous Tree";
 - (iii) "Year 2 Maintenance on Coniferous Tree"; and
 - (iv) "Year 2 Maintenance on Deciduous Tree".
- (b) The amount to be paid for shall be the total number of units 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.