



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 253-2010

MANDEVILLE PARK PLAYGROUND REDEVELOPMENT

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 MANDEVILLE PARK PLAYGROUND REDEVELOPMENT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, April 15, 2010.

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

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

B3. SITE INVESTIGATION

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

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

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

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

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with 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.
- B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B16.1(a).

B7. BID COMPONENTS

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

- (a) Form A: Bid;
- (b) Form B: Prices;
- (c) Design Drawings as per B11, and;
- (d) Component Descriptions as per B12.

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

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

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

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

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

B7.5.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.

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

B7.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B16.1(a).

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

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

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

B8. BID

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

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

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

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

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

B9. PRICES

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall include the Manitoba Retail Sales Tax (MRST, also known as PST), 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.
- B9.4 Prices from Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B10. QUALIFICATION

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and
 - (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
 - (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);
- B10.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B10.5 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.

B11. DESIGN DRAWINGS

- B11.1 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 information.

B12. COMPONENT DESCRIPTIONS

- B12.1 The bidder should submit component description and / or graphic or catalogue reference outlining specifications of play equipment components.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

- B13.1 Bids will not be opened publicly.
- 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 Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- 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 Division website 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 or acceptable deviation there from (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
 - (c) Total Bid Price; (10 points);
 - (d) Design Drawings/Component Descriptions (90 points);
 - (e) 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.
- B16.4.2 Further to B16.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B16.4.3 Further to B14.1(c) the Award Authority may reject a Bid as being non-responsive if it exceeds the budget as shown on Form B: Prices.

- B16.4.4** The Total Bid Price shall be evaluated with a weighting of 10 points out of a total of 100 possible points. As such, the lowest Bidder shall receive the full 10 points, and the second lowest Bidder and subsequent Bidders shall be pro-rated accordingly.
- B16.5** Further to B16.1(d) Play Areas shall be evaluated with a weighting of 90 points out of a total of 100 possible points. Play Areas will be evaluated considering the Bidder's Bid Submission and any other information required.
- B16.5.1** The Design shall be evaluated on the following criteria:
- (a) compliance with CSA Standards (pass/fail);
 - (b) play value (maximum 47 points):
 - (i) 10 points – Sensory/ Imaginative Play component(s), including fine motor skills;
 - (ii) 10 points – Climbing Component(s);
 - (iii) 10 points – Motion Component(s);
 - (iv) 10 points – Sliding Component(s) for 2-5 year old;
 - (v) 7 points - Provides opportunities for appropriate social / interpersonal interaction and cooperative play;
 - (c) Designed for inclusive play using Universal Design principles – Accessible Play Area only (maximum 10 points):
 - (i) Complies with section 4.5.4 of the 2006 City of Winnipeg Accessibility Design Standards (www.winnipeg.ca/ppd/UD/default.stm)(pass/fail);
 - (ii) 5 points - Layout of the play area for integration of the wheelchair accessible components to promote inclusive play;
 - (iii) 5 points – Provision of tactile and auditory play experiences.
 - (d) Layout/circulation (maximum 23 points):
 - (i) 5 points - Efficient use of space within and between play elements;
 - (ii) 5 points - Flow and relationship between play area activities;
 - (iii) 5 points - Layout / orientation of components on Site and in relation to park entrances and seating areas;
 - (iv) 5 points - Orientation to provide good visibility to play area from the adjacent road;
 - (v) 3 points - Slide orientation (metal facing north).
 - (e) Durability (maximum 10 points):
 - (i) Use of durable / temper-resistant materials, low maintenance finishes and connector systems & ease of repair / replacement of the products used with the playground area.
- B16.6** Further to B16.5.1(a), if Contractor states play equipment components are compliant with CSA Standards which are not, liquidated damages shall be charged as per D15 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 responsive Bid, having the highest points based on evaluation criteria.

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 Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

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

- (a) Excavation and Disposal;
- (b) Rough Grading;
- (c) Supply and Installation of concrete play edging, wood fibre safety surfacing and sub surface drainage;
- (d) Supply and Installation of play equipment;
- (e) Supply and Installation of granular pathway and seating areas;
- (f) Supply and Installation of soil and sod; and
- (g) Supply and Installation of site furniture.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Shauna Prociuk
Urban Designer
City of Winnipeg
Parks, Riverbanks and Community Initiatives Branch
Planning and Land Use Division
Planning, Property and Development Department
15-30 Fort Street
Winnipeg, MB R3C 4X5
Telephone No. (204) 986-3938
Facsimile No. (204) 986-7524

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

D4. CONTRACTOR'S SUPERVISOR

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

D5. NOTICES

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

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

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

D5.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg
Chief Financial 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
Internal 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 Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

D8. INSURANCE

D8.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;

- (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- (c) all risks course of construction insurance in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, 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 thirty (30) Calendar Days prior written notice to the Contract Administrator.

D9. PERFORMANCE SECURITY

D9.1 If the Contract Price exceeds one hundred thousand dollars (\$100,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

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

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

D9.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of Purchase Order and prior to the commencement of any Work on the Site.

D10. SUBCONTRACTOR LIST

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

D11. DETAILED WORK SCHEDULE

D11.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) business days prior to the commencement of any work on the site but in no event later than the date specified in C 4.1 for the return of the executed contract.

D11.2 Detailed Work Schedule shall consist of the following dates:

- (a) Start date;
- (b) Excavation & disposal;

- (c) Installation of concrete edging, safety surfacing and sub-surface drainage;
- (d) Installation of play equipment;
- (e) Installation of granular pathway and seating areas;
- (f) Installation of site furniture;
- (g) Installation of soil and sod; and
- (h) 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) detailed work schedule specified in D11.
- (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D12.3 The Contractor shall order play equipment and submit this info to Contract Administrator within seven (7) working days of receipt of P.O.

D12.4 The Contractor shall commence work on Site by July 5, 2010.

D13. SUBSTANTIAL PERFORMANCE

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

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

D13.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D14. TOTAL PERFORMANCE

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

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

D14.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D15. LIQUIDATED DAMAGES

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

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

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

D15.4 If the Contractor misrepresents the CSA compliance of the play equipment being installed and this results in additional design and/or meeting time as the part of the Contract Administrator, the Contractor shall pay the City Five Hundred Dollars (\$500) per working day for each and every day during which such additional work continues.

D16. SITE RESTORATION

D16.1 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.

D17. EXISTING SERVICES AND UTILITIES

D17.1 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.

D18. ACCESS TO SITE

D18.1 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.

D18.2 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.

D19. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES

D19.1 Further to C6.12, the Contractor shall give all necessary notices, obtain all necessary permits and pay all fees in order that the Work may be carried out. The Contractor shall submit all plans

required by any inspection authority and obtain approval of same before proceeding with the Work, and pay any cost attached to the inspection of such plans.

- D19.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.
- D19.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- D19.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- D19.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.
- D19.6 The Contractor and Sub-contractors must be fully aware of all Work involving hazardous materials. All Work must be performed in compliance with the Manitoba Department of Labour Workplace Health and Safety Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification to the Contract Administrator of his/her encountering of suspected hazardous material during their course of Work.

D20. DAMAGE TO EXISTING STRUCTURES, TREES AND PROPERTY

- D20.1 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.
- D20.2 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing park trees within the limits of the construction area:
 - (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment within 2 metres of trees.
 - (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25x100x2400 wood planks, or suitable protection as approved by the Contract Administrator.
 - (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
 - (d) Operation of equipment within the drip line of the trees shall be kept to a minimum required to perform the Work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the drip lines of trees. The drip line of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- D20.3 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his/her designate.
- D20.4 No separate measurement or payment will be made for the protection of trees.

D21. PEDESTRIAN SAFETY AND TRAFFIC MANAGEMENT

- D21.1 Further to CW 1130-R1, the Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is Working near them. Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.
- D21.2 Ambulance/ Emergency vehicle access must be maintained at all times.

D22. PROTECTION OF THE SURVEY INFRASTRUCTURE

- D22.1 Notwithstanding clause 4 "Protection of Survey Bars" of the Standard Provisions; Current legislation, The Surveys Act, places the onus on those undertaking construction to protect the Survey Infrastructure from damage as a result of their activity.
- D22.2 Further to C:6.26 (g), at least 72 hours prior to the commencement of the On-Site Work the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 986-4826 (8:00 am to 4:00 pm Monday to Friday excluding holidays) to obtain underground clearance. Geomatics Services will locate and mark all known outline survey monuments and geodetic control monuments and confirm the physical condition of those monuments upon completion of construction, at no cost to the Contractor.
- D22.3 Where a survey post, bar or control monument lies in the line of the proposed Work and must be disturbed, the Contractor shall provide the Contract Administrator with 48 hours notice to permit referencing for future replacement, at no cost to the Contractor. Failure to provide the specified notice shall result in the Contractor paying for all costs associated with replacing or relocating the disturbed outline survey monuments and geodetic control monuments.
- D22.4 Survey monuments and geodetic control monuments at or adjacent to the Site, not in the line of the proposed construction that are damaged or disturbed by the Contractor shall be replaced or relocated by the City or its agent and all associated costs shall be paid for by the Contractor. An approximate estimate of the costs involved to restore a legal survey monument is \$1,000 per bar and \$3,000 per control monument. Contractors must ensure their landscaping and other subcontractors are aware of this clearance procedure and the potential restoration costs.
- D22.5 Where possible, amounts owed to the City in accordance with the above will be deducted from any payments to be made by the City to the Contractor.

D23. SITE ENCLOSURES

- D23.1 Temporary Site enclosures, as determined necessary at the pre-construction meeting, shall be erected and maintained as required for the duration of the construction period.
- D23.2 Site enclosures shall be considered incidental to the Contract Work.

CONTROL OF WORK

D24. JOB MEETINGS

- D24.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

D24.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D25. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D25.1 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).

D26. MEASUREMENT AND PAYMENT

D27. PAYMENT

D27.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

D28. WARRANTY

D28.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D28.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.

FORM H1: PERFORMANCE BOND
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$ _____ ._____)

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

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

BID OPPORTUNITY NO. 253-2010

MANDEVILLE PARK PLAYGROUND REDEVELOPMENT

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

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

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

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

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

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

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

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

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO.253-2010
MANDEVILLE PARK PLAYGROUND REDEVELOPMENT

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
M.40-C1	MANDEVILLE PARK REDEVELOPMENT - EXISTING CONDITIONS AND REMOVALS
M.40-C2	MANDEVILLE PARK REDEVELOPMENT- PROPOSED PLAYGROUND
M.40-C3	RENOVATIONS
	MANDEVILLE PARK REDEVELOPMENT – DETAILS AND LAYOUT PLAN
SCD-645R	PARK PATH CRUSHED LIMESTONE
SCD-119	WASTE RECEPTACLE METAL SLAT TYPE
SCD-139	TACHE BENCH COMPOSITE with ARMS
SCD-130A	TACHE STYLE WHEELCHAIR METAL FRAME PICNIC TABLE

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

Site Development

E2. EXCAVATION & GRADING

- E2.1 General Description
- E2.1.1 This specification shall cover the excavation and legal disposal of existing sand safety surfacing and earth to accommodate new surfacing materials and installations. It shall amend and supplement CW 3110-R11 and CW 3170. It shall also cover the provision of rough grading to ensure re-sodded areas at former play areas are installed at the appropriate levels, as per Drawings.
- E2.1.2 The Contractor must ensure that the rough grading does not create tripping hazards and no areas of standing water remain.
- E2.1.3 All extraneous materials are to be removed from the Site and disposed of in a safe and legal manner. The Work to be done by the Contractor under this specification shall include all labour, equipment and material necessary for and incidental to the satisfactory performance and completion of the Work herein specified.
- E2.1.4 Work shall include but not be limited to the following:
- (a) Excavate, add clean fill if necessary, and rough grade excess soil to the limits shown on Drawings to the depths necessary to achieve finish grade for:

- (i) Topsoil and Sod that is to cover portions of former play area and around the new concrete edge and granular pathways;
- (ii) Removal of playstone around existing swings to enable the installation of appropriate wood fibre safety surfacing depth;
- (iii) New play areas; and
- (iv) Granular path and seating areas;

E2.2 Construction Methods

- E2.2.1 Excavation includes the removal of items (i.e., sand, earth) as indicated on the Drawings and as directed by the Contract Administrator. Work includes the satisfactory disposal of unsuitable Site material such as clays susceptible to frost-heaving, silts, rock, rubble, rubbish and any surplus suitable Site material.
- E2.2.2 Do not disturb adjacent items designated to remain in place.
- E2.2.3 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.
- E2.2.4 Contractor must coordinate with the Contract Administrator to ensure all removals have occurred.
- E2.2.5 Excavation should be coordinated with the installation paths and sodding so as not to leave an open excavation area subject to ponding water.
- E2.2.6 Items such as re-sodding over former play areas may require additional clean fill, either used from excavated areas within the site or brought to the site. The cost of additional clean fill shall be incidental to the excavation and rough grading price of the item.
- E2.2.7 Excavate and Grade to the limits shown and as necessary to achieve finish grades as indicated on the Drawings.
- (a) Re-Sod over former play areas, in accordance with Drawings and as per E7;
 - (b) Play areas – to accommodate drainage layer, appropriate depth of safety surfacing;
 - (c) Granular path and seating areas – 200mm depth, in accordance with SCD-645R and Drawings and per E5;
 - (d) Rough grading to blend new area with existing grades as per Drawing M.40-C2;

E2.3 Method of Measurement and Basis of Payment

- E2.3.1 Method of Measurement shall be as follows:
- (a) Excavation and Grading shall be measured on a cubic metre basis for:
 - (i) "Excavate and Legally dispose of sand safety surfacing"; and
 - (ii) "Remove and Legally dispose of existing play stone" on Form B: Prices
 - (b) Excavation and Grading shall be measured on a Square Metre basis, as accepted by the Contract Administrator for "Rough Grading" on Form B: Prices.
 - (c) No measurement will be made for the Excavation and Disposal for the granular path and seating area as these items are incidental to E5;
- E2.3.2 Basis of Payment shall be as follows:
- (a) Excavation and Grading will be paid for at the Contract Unit Prices on Form B: Prices. The amount to be paid for shall be the total number of units, measured as specified herein, which price shall be for full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.
 - (b) No Payment will be made for the Excavation and Disposal for the granular path and seating area as these items are incidental to E5.

E3. POURED IN PLACE CONCRETE EDGING

E3.1 General Description

E3.1.1 This section shall cover the supply and installation of the poured in place concrete playground curb. It shall be read as supplementing City of Winnipeg Standard Construction Specifications section 3310.

E3.2 Materials

E3.2.1 Concrete shall be Type 1 as per City of Winnipeg Standard Construction Specifications section 3310 and shall adhere to the dimensions on Drawing M.40-C2.

E3.2.2 Granular base shall be 20mm diameter crushed limestone.

E3.2.3 Reinforcing steel shall be 10m with 10 m ties at 600 mm O.C.

E3.3 Construction Methods

E3.3.1 Layout is to be established on Site, after excavation and grading operations and reviewed by Contract Administrator prior to formwork being completed.

(a) General Contractor is to confirm and warrant that play equipment complete with required safety surfacing zones will fit within curbs as laid out on Site.

E3.3.2 Granular base, formwork and reinforcing are to be reviewed on Site by the Contract Administrator prior to pouring of concrete

E3.3.3 Concrete is to be trowel finish. All exposed edges are to be bull nose as shown on the Drawings. Front, top and back of curb are to be finished.

E3.3.4 Concrete edging and curb shall have saw cut control joints at 1.5m intervals.

E3.4 Method of Measurement and Basis of Payment

E3.4.1 Method of Measurement shall be as follows:

(a) Concrete Edging will be measured on a Linear Metre basis for:
(i) "Supply and Install Concrete Edging" on Form B: Prices

E3.4.2 Basis of Payment Shall be as follows:

(a) Concrete Edging will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

(b) This payment shall be understood to include all concrete, excavation, base, reinforcing, compaction, placement and finishing.

E4. SUB-SURFACE DRAINAGE

E4.1 Description

E4.1.1 This Work shall consist of providing and placing a geocomposite prefabricated drain system as described in the plans. The drainage system shall be installed in accordance with these specifications and in close conformity with the locations and dimensions as shown on the plans or specified by the Contract Administrator. The quantities of drain as shown on the plans may be increased or decreased at the direction of the Contract Administrator based on actual site conditions that occur during construction of the project. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the Work.

E4.2 Material

E4.2.1 Drainage pipe will be Multi-Flow or approved substitute in accordance with B6. Drainage pipe will 150 mm (6"). The manufacturer will size and approve all fittings for use with Multi-Flow or approved substitute drainage pipe.

E4.2.2 The drain conduit shall be of flexible, prefabricated, rounded rectangular shaped, composite product. The drain conduit will be wrapped with a non-woven geotextile and will be a non-woven needle-punched construction and consist of long-chain polymeric fibres composed of polypropylene, polyethylene or polyamide. The fibres will be oriented into a multi-directional stable network whereby they retain their positions relative with each other and allow the passage of water as specified. The fabric will be free of any chemical treatment or coating, which reduces permeability and will be inert to chemical commonly found in soil. The geotextile will conform to the following minimum average roll values.

Weight	ASTM D-3776	3.0 - 4.0
Tensile Strength	ASTM D-4632	100 - 130
Elongation %	ASTM D-4632	50 - 70
Puncture, lb	ASTM D-751	35 - 60
Mullen Burst, psi	ASTM D-3786	110 - 215
Trapezoidal Tear, lb	ASTM D-4533	40 - 42
Coefficient of Permeability	ASTM D-4491	.2 - .4 cm/sec
Flow Rate, gpm/ft ²	ASTM D-4491	100 - 140
Permittivity, 1/sec	ASTM D-4491	1.3 – 2.0
Apparent Opening Size	ASTM D-4751	60/70 Max. US Std Sieve Opening
Seam Strength, lb/ft	ASTM D-4595	100
Fungus	ASTM G-21	No Growth

E4.2.3 The drainage core shall be made of a high-density polyethylene. The core shall be constructed using interconnected corrugated pipes that define and provide the flow channels and structural integrity of the drain. The geotextile shall function only as a filter. The core of the edge drain shall conform to the following physical property requirements.

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

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

E4.2.4 Fittings

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

E4.2.5 Pipe

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

after it has been formed to the shape and dimensions shown on the plans or specified by the Contract Administrator.

E4.3 Backfill for Trenches

- (a) Backfill will be coarse sand whose particle size is defined as less than 5% retained on a # 10 screen and less than 5% passing through a # 30 (US Std Sieve) In no case will more than 1% pass a # 60 screen.

E4.4 Methods

E4.4.1 The layout of the subdrain is to be marked on Site and approved by the Contract Administrator prior to trenching.

E4.4.2 Subdrain is to be laid on the prepared surface to facilitate cross movement of water. Subdrain shall be installed below geotextile and in conformance with details provided.

- (a) Play area to be graded to drain towards subdrain. This subdrain is to be used in conjunction with the appropriate wood fibre drainage layer to bring excess water out of the play area.

E4.4.3 Contractor is to protect subdrain from excessive weight during the duration of construction and to repair and make good any pipe collapsed prior to acceptance.

E4.4.4 Fittings for the drain will be installed in accordance with the manufacturer's recommendations and Specification.

E4.4.5 Any damaged edge drain or outlet lateral will be replaced or repaired by splicing in an undamaged section of drain at the Contractor's expense. The repair must be in accordance with the manufacturers specification and to the satisfaction of the Contract Administrator.

E4.5 Measurement and Payment

E4.5.1 Method of Measurement shall be as follows:

- (a) Sub-surface drainage shall be measured on a linear metre basis for:
 - (i) "Supply and Install subsurface drainage w/ emitter" on Form B: Prices.

E4.5.2 Basis of Payment Shall be as follows:

- (a) Subsurface Drainage will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.
- (b) This payment shall be understood to include all trenching, backfill, fittings, cleanouts, topsoil and seeding/sodding, and items incidental to the Work included in the Specification.

E5. GRANULAR PATH AND SEATING AREA

E5.1 Description.

E5.1.1 This Specification shall amend and supplement the City of Winnipeg Specification CW 3110-R11. The Work to be done by the Contractor under this Specification shall cover all phases of supply and placement of crushed limestone surfacing materials necessary to install a Granular Path and Seating Areas as shown on Drawing M.40-C2.

E5.2 Materials

E5.2.1 The materials of the Granular Path and Seating Areas shall be as per Drawing SCD-645R, "Park Path – Crushed Limestone."

E5.3 Construction Method

- E5.3.1 The Work included in the establishment of the Granular Path and Seating area shall include:
- (a) The Contractor shall survey and stake out the proposed Granular Path and Seating Area(s) prior to the start of construction as shown on the construction drawings. Layout of expanded Seating Area shall be checked and confirmed with Contract Administrator prior to construction.
 - (b) Excavation of Granular Path and Seating Area shall be as per E2.
 - (c) Subgrade to be compacted.
 - (d) All granular base coarse shall be placed and compacted to the finished thickness as specified on the drawings.
 - (e) Base Coarse and Capping Coarse shall be compacted to a minimum of ninety five percent (95%) of Standard Proctor Density.
- E5.4 Method of Measurement and Basis of Payment
- E5.4.1 Method of Measurement shall be as follows:
- (a) Granular Path and Seating Area shall be measured on a square metre basis for: "Supply and Install granular path" on Form B: Prices.
- E5.4.2 Basis of Payment shall be as follows:
- (a) Granular Path and Seating Area shall be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for excavation, subgrade compaction, supply and installation of base coarse and top coarse, supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E6. SITE FURNITURE

- E6.1 Description
- E6.1.1 This specification shall cover the supply and installation of two (2) metal slat waste receptacles and two (2) benches w/ backs, and one (1) picnic table.
- E6.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawing M.40-C2 and specified herein. Supply includes pick up and payment from source identified below.
- E6.2 Materials
- E6.2.1 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.
- E6.2.2 Site Furniture shall be:
- (a) Waste Receptacle – Metal Slat Type, as per SCD 119, Product #52501062, or substitute approved in accordance with B6.
 - (b) Benches: Tache Composite Benches w/ Arms, Product # 52501085 with inground mounting or approved equal in accordance with B6.
 - (c) Picnic Table: Tache Style Wheelchair Metal Frame Picnic Table, Product #52501108 with duckbill anchors or approved equal in accordance with B6.
 - (i) Contact for Waste Receptacles and Benches and Picnic Table:
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
Email: ALennon@winnipeg.ca

E6.3 Construction Methods

- (a) All Work is to be located and installed in accordance with the Drawing M.40-C2, SCD-119, SCD-139, SCD-130A and following manufacturers instructions, 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;
- (b) All furnishings and fixtures to be installed plumb and true to correct elevations and location, as directed by the Contract Administrator. The Contractor shall confirm proposed locations of all site furnishings with Contract Administrator prior to installation;
- (c) All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- (d) Install as per manufacturer's instructions and the attached drawings.

E6.4 Method of Measurement and Basis of Payment

E6.4.1 Method of Measurement shall be as follows:

- (a) Site Furniture will be measured on a per unit basis for the following items:
 - (i) "Supply and Install new metal slat waste receptacle";
 - (ii) "Supply and Install Tache bench - composite w/ arms" and
 - (iii) "Supply and Install Wheelchair Accessible Picnic Table".

E6.4.2 Basis of Payment shall be as follows:

- (a) Site Furniture will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E7. SODDING

E7.1 Description

E7.1.1 This Specification shall amend and supplement the City of Winnipeg Specifications CW 3510-R8, CW 3520-R5 and CW 3540-R4. The Contractor shall install mineral sod or seed and a minimum 75mm (for sod) or 100mm (for seed) compacted thickness of topsoil, as required.

E7.1.2 Path and Play areas: The Contractor shall install topsoil and sod around the perimeter of newly constructed paths, sitting area, and concrete edging to clean up turf disturbed by the Work, if necessary.

E7.1.3 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 seed and topsoil unless otherwise directed by the Contract Administrator.

E7.1.4 Thirty (30) day maintenance period on sod will commence at Total Performance and acceptance.

E7.2 Method of Measurement and Basis of Payment

E7.2.1 Method of Measurement shall be as follows:

- (a) Sodding will be measured on a square metre basis for:
 - (i) "Supply and Install soil and sod" on Form B: Prices.

E7.2.2 Basis of Payment shall be as follows:

- (a) Sodding and Seeding will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E8. LANDSCAPE ROCK

E8.1 General Description

E8.1.1 The following list generally describes the scope of this Section:

- (a) Supply and install rough field stone rock on geotextile fabric.

E8.2 Samples

E8.2.1 Submit to the Contract Administrator samples of the following materials:

- (a) Rock: 1 -350mm-450mm O.D.
(b) Geotextile: 1 sq.m

E8.3 Products

E8.3.1 Limestone and granite rock to be from a Manitoba quarry, colour to be approved by Contract Administrator. Size range to be:
350mm-450mm O.D. – 50%
550mm-600mm O.D. – 40%
650mm-800mm O.D. – 10%

E8.4 Subgrade Inspection

E8.4.1 Verify grades of compacted subgrade (to 95% SPD) and adjacent features for conformity with existing grades before placing boulder.

E8.4.2 Remove and dispose of unsuitable subgrade material as directed by Contact Administrator.

E8.5 Placement and Compaction of Landscape Rock

E8.5.1 Supply and installation of Geotextile as per the Drawings. The cost to supply and install geotextile is incidental to the Work in this section.

E8.5.2 Place landscape rock in locations specified by Contract Administrator for use as retaining wall. Install as per Drawings.

E8.5.3 Excavate and backfill with compacted granular base around boulder. Tamper down in 150mm lifts and compact to 95% SPD. Supply and installation of granular base is incidental to the Work in this section.

E8.6 Method of Measurement and Basis of Payment

E8.6.1 Method of Measurement shall be as follows:

- (a) Rock Boulders will be measured on a linear metre basis for:
(i) "Supply and Install boulder play edging" as indicated on Form B: Prices.
(b) Rock Boulders will be measured on a cubic metre basis. The items to be paid for shall be the total cubic metres that are placed in the completed Work in accordance with this specification, acceptable to the Consultant.

E8.6.2 Basis of Payment shall be as follows:

- (a) Rock Boulders will be paid for at the Contract Unit Prices per cubic metre for Items noted as and measured as specified herein. 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.

E9. PROTECTIVE SURFACING

E9.1 General Description

E9.1.1 This specification shall cover the supply and install of engineered wood fibre safety surfacing.

E9.2 Wood Fibre Safety Surfacing

E9.2.1 Description

(a) This specification shall cover the supply and installation of Wood Fibre Surfacing within the Play Area, as shown on Drawing M.40-C2.

E9.2.2 Materials

(a) Wood Fibre product shall be either Zeager Woodcarpet or Fibar FibarSystem 300 products or substitute in accordance with B6.

(i) Contact for Woodcarpet:

Zeagar Bros. Inc.
4000 East Harrisburg Pike ·
Middletown, PA 17057
USA
Ph: (1-888) 346-8524 or (717) 944-7481 ·
Fax (717) 944-7681
sales@zeager.com

(ii) Contact for FibarSystem 300:

The Fibar Group LLC
80 Business Park Drive, Suite 300
Armonk, NY 10504-1705
USA
Ph: (800) 342-2721
Fax: (914) 273-8659
info@FibarPlaygrounds.com

(b) Wood Fibre surfacing shall include wood fibre, filter cloth, subsurface drainage system and mats for bottom of slides, if applicable, under swings, and at each accessible entrance to the Play Area.

E9.2.3 Construction Methods

- (a) Wood Fibre shall be installed within the play area, as defined by the existing timber edging, to a minimum depth of 200 mm (after compaction). In play areas where the maximum fall height is greater than 2.4m (8'), depth of material to directly correspond to maximum fall height of play equipment in accordance with manufacturer's specifications.
- (b) The installation of the Wood Fibre shall be done immediately after the play equipment has been installed.
- (c) Installation of entire system, including fibre, filter cloth, subsurface drainage and mats shall be done according to manufacturer's instructions. Adequate drainage within play equipment area must be ensured as per same.
- (d) A minimum of one (1) mat must be placed at each Accessible Entrance point to the Play Area, as well as where it is required based on manufacturer's specifications.
- (e) Installation shall be done by equipment sized to suit the Work being done and the Wood Fibre 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 Wood Fibre.

E9.3 Method of Measurement and Basis of Payment

E9.3.1 Method of Measurement shall be as follows:

- (a) Protective Surfacing will be measured on a square metre basis for the following:
 - (i) "Supply and Install engineered wood fibre safety surfacing" on Form B: Prices.

E9.3.2 Basis of Payment shall be as follows:

- (a) Protective Surfacing will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E10. PLAY EQUIPMENT

E10.1 This specification shall cover the supply and installation of the Play Equipment as listed below and specified herein.

E10.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the drawings and specifications.

E10.3 The Contractor shall obtain all approvals including permit if required

E10.4 Play Area:

- (a) Play equipment to be designed for children ages 2-12;
- (b) Play equipment must provide the following play activities:
 - (i) Sensory & Imaginative Play;
 - (ii) Climbing;
 - (iii) Motion; and
 - (iv) Sliding.
- (c) The design submission shall be evaluated as per B16.
- (d) If a playstructure is proposed, it must include 1 (one) transfer station for access of adult caregiver or reduced mobility access;
- (e) The playstructure should have a minimal amount of platforms and should focus on physical activity and challenge.

E10.5 If colour is a feature of posts, top caps and panels, the Contract Administrator shall have the ability to modify specified colours from the proposed design after Contract Award. If the price of the equipment in the Bid Submission is subject to the colours of the proposed design, this must be indicated in the Bid Submission.

E10.6 Components which are unacceptable are the following:

- (a) Wooden structures;
- (b) Tube (enclosed) slides and enclosed crawl tubes;
- (c) Play panels with many small moving parts;
- (d) Talk Tubes;
- (e) Barrel rollers; and
- (f) Large number of plastic components.

E10.7 Components which are generally not accepted but may be considered are the following:

- (a) Cable rides;
- (b) Sand diggers;

- (c) Merry-go-rounds; and
- (d) Tire Swings.

E10.8 Playstructures

E10.8.1 General Description

- (a) If a Playstructure is specified, this specification shall cover the supply and installation of it.
- (b) Play equipment shall be installed in the play areas as shown on the attached Drawing O.2-A2. The play equipment and their safety zones should fit into the proposed play areas as shown on Drawing M.40-C2. Efficiency and good use of space will be considered in the evaluation of submissions.

E10.8.2 Materials

(a) Posts / Caps

- (i) All posts shall be a minimum 5" O.D. round or 4" square tubing.
- (ii) 3.5 " O.D. round or 3.0" square tubing will be permitted in circumstances where a multi-deck structure has decks of varied heights which are all under 4', or for structures with 2 decks or less.
- (iii) All posts shall be fabricated from either aluminum (0.125" min. wall thickness) or galvanized steel (0.120" min. wall thickness) tubing. All fabrication cuts, drill holes and weld joints shall be sprayed with a corrosion resistant coating. The bottom end of the posts is to be sealed with a moisture barrier.
- (iv) Top caps shall be made of steel construction and shall be factory installed and secured in place with tamper proof, self-sealing rivets. Plastic top caps will be accepted if made of solid construction (hollow caps not accepted).
- (v) If painted colour is a feature of posts and top caps, it shall be a baked-on polyester powder coating. The powder coating finish shall meet or exceed ASTM standards for hardness, adhesion, impact and salt spray resistance.

(b) Decks (if applicable)

- (i) All decks shall be manufactured from vinyl-coated perforated steel or a steel core composite. Deck heights may vary to a maximum height of 6'.

(c) Clamping System

- (i) All deck, rail and play component clamping systems shall be fabricated from zinc plated, galvanized steel, stainless steel or aluminum. Tamper proof, corrosion resistant fasteners shall be used to retain clamping systems.

(d) Handrails, Safety Rails and Handloops (if applicable)

- (i) All handrails, safety rails and handloops shall be fabricated using a minimum of 15/16" (24mm) O.D. with a 120" wall thickness steel tubing. After all fabrication activities have occurred including end cuts, drill holes, bends and weld joints, all components shall be hot dipped galvanized.
- (ii) Smooth all cut edges and weld joints prior to hot dip galvanizing and ensure that all tubing is free from burrs, cracks, defects and other imperfections.

(e) Hardware

- (i) All fasteners shall be socketed and tamper proof in design, and either carbon steel plated with zinc/nickel and iridescent chromate finish or stainless steel.
- (ii) All necessary hardware shall be provided.

(f) Poly Components

- (i) Poly components such as slides and hoods shall be fabricated from U.V. stabilized, rotationally molded linear low-density polyethylene.
- (ii) Poly components such as play panels shall be fabricated from compression molded solid colour, U.V. stabilized, high-density polyethylene.

- (g) Slides (if applicable)
 - (i) Stainless steel is preferred for slide beds, although a plastic slide may be used. North or east orientation preferred.
- (h) Each playstructure shall have kick plates and hand loops as required to meet the most recent Canadian Standards Association Standards.
- (b) Installation
 - (a) Play equipment shall be installed as per manufacturer's specifications and in accordance with the most recent Canadian Standards Association Standards.
 - (b) All posts and other vertical items shall be plumb and true to vertical, if so designed.
 - (c) All decks shall be level, if so designed.

E10.9 Independent Components

E10.9.1 General Description

- (a) The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the specifications.
- (b) This specification shall cover the supply and installation of Independent Components as specified herein.
- (c) Independent Components shall be installed as per the proposed design, as the proposed budget will allow.
- (d) Independent Components shall be installed in the available areas as shown on Drawing M.40-C2. The Components and their safety zones must fit into the proposed play area.

E10.9.2 Materials

- (a) All materials shall be structurally sound and suitable for safe play. Durability shall be ensured on all parts and materials.
- (b) There shall be a minimum (or no) amount of hollow plastic components. Solid plastic is acceptable.
- (c) There shall be a minimum amount of solid elements which limit visibility through the Site.
- (d) Fasteners
 - (i) All hardware shall be tamper-proof in design and requiring special tools. It shall be either carbon steel plated with zinc/nickel and iridescent chromate finish or stainless steel. All necessary hardware and tools shall be provided.
- (e) Finishes
 - (i) Finishes shall meet or exceed ASTM standards for hardness, adhesion, impact and salt spray resistance. All fabrication cuts, drill holes and weld joints shall be sprayed with a corrosion resistant coating.
- (f) Slides
 - (i) If an independent slide is proposed, stainless steel is preferred. If other slides are proposed on the Site one may be plastic. North or east orientation preferred. If independent slide over 4' high is proposed, support posts must be minimum 5"O.D.
 - (ii) Tube (enclosed) slides and plastic spiral slides will not be accepted.

E10.10 Method of Measurement and Basis of Payment

E10.10.1 Method of Measurement shall be as follows:

- (a) Play Equipment shall be measured on a lump sum basis for:
 - (i) "Supply and Install Play Equipment"; and

(ii) "Supply and Install Elevated sand table" on Form B: Prices.

E10.10.2 Basis of Payment shall be as follows:

- (a) Play Equipment will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E11. FOUNDATIONS

E11.1 General Description

E11.1.1 All playground equipment posts, bases and anchors are to be set in concrete footings or piles to ensure stability and prevent frost heaving. An alternative to concrete footings or piles that may be approved includes a welded and secured rail mounting system. The current Standard Construction Specifications of the City of Winnipeg, CW 2160 –latest revision - Concrete to be used in Underground Works, is to be utilized in the installation of the concrete works for all below ground components.

E11.2 Materials

E11.2.1 The specific concrete requirements shall be:

- (a) Sulfate resistant, Type 50 Cement;
- (b) 28 day compressive strength of 30 Mpa;
- (c) maximum aggregate size of 20mm, nominal;
- (d) slump 80 +/- 20mm;
- (e) maximum water/cement ratio 0.49.

E11.3 Installation

E11.3.1 All posts and supports shall be centred in the concrete footing such that there is a complete collar of concrete around each post and support. Where posts are not perfectly centred there should be a minimum of 2" concrete at any point around the post.

E11.3.2 All concrete footings for play equipment shall be a minimum of 3' depth, or in accordance with Manufacturer's specifications, whichever is greater.

E11.4 Method of Measurement and Basis of Payment

E11.4.1 Method of Measurement shall be as follows:

- (a) Foundations shall be incidental to the measurement of Play Equipment listed above and as shown on Form B: Prices.

E11.4.2 Basis of Payment shall be as follows:

- (a) No separate payment shall be made for play equipment foundations.

E12. MAINTENANCE KITS

E12.1 All play equipment shall include the supply of maintenance kits. 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.

E12.2 There shall be no payment for the maintenance kits.