



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 527-2018**

**ST. JOHN'S PARK REDEVELOPMENT**

**Note to Bidders: Please be aware of revisions to B13.4**

## TABLE OF CONTENTS

### PART A - BID SUBMISSION

Form A: Bid	1
Form B: Prices	3

### PART B - BIDDING PROCEDURES

B1. Contract Title	1
B2. Submission Deadline	1
B3. Site Investigation	1
B4. Enquiries	1
B5. Confidentiality	1
B6. Addenda	2
B7. Substitutes	2
B8. Bid Components	3
B9. Bid	4
B10. Prices	4
B11. Disclosure	4
B12. Qualification	5
B13. Opening of Bids and Release of Information	6
B14. Irrevocable Bid	6
B15. Withdrawal of Bids	6
B16. Evaluation of Bids	7
B17. Award of Contract	7

### PART C - GENERAL CONDITIONS

C0. General Conditions	1
------------------------	---

### PART D - SUPPLEMENTAL CONDITIONS

#### General

D1. General Conditions	1
D2. Scope of Work	1
D3. Contract Administrator	1
D4. Contractor's Supervisor	1
D5. Ownership of Information, Confidentiality and Non Disclosure	1
D6. Notices	2

#### Submissions

D7. Authority to Carry on Business	2
D8. Safe Work Plan	3
D9. Insurance	3
D10. Performance Security	3
D11. Subcontractor List	4
D12. Detailed Work Schedule	4

#### Schedule of Work

D13. Commencement	4
D14. Substantial Performance	4
D15. Total Performance	5
D16. Liquidated Damages	5

#### Control of Work

D17. Job Meetings	5
D18. Prime Contractor – The Workplace Safety and Health Act (Manitoba)	5
D19. The Workplace Safety and Health Act (Manitoba) – Qualifications	5

#### Measurement and Payment

D20. Payment	6
--------------	---

**Warranty**

D21. Warranty	6
Form H1: Performance Bond	7
Form H2: Irrevocable Standby Letter of Credit	9
Form J: Subcontractor List	11
Form L: Detailed Work Schedule	12

**PART E - SPECIFICATIONS**

**General**

E1. Applicable Specifications and Drawings	1
E2. Existing Services and Utilities	2
E3. Access To Site	2
E4. Permits, Notices, Licenses, Certificates, Laws and Rules	2
E5. Damage to Existing Structures, Trees and Property	2
E6. Pedestrian Safety And Traffic Management	3
E7. Protection of the Survey Infrastructure	3
E8. Site Enclosures	4
E9. Site Restoration	4

**Site Development**

E10. Removals	4
E11. Excavation and grading	5
E12. Material Testing	7
E13. Sub-Surface Drainage	8
E14. Granular Walkway – SCD-646	10
E15. Asphalt Paving for Pathways and Basketball Court	11
E16. Plexipave Surfacing and Plexicolour Line Painting for Basketball Court	14
E17. Basketball Standards	15
E18. Chain Link Fencing	16
E19. Benches	16
E20. Site Furniture	17
E21. Limestone Seating Blocks	18
E22. Climbing Boulders	19
E23. Climbing and Balancing Logs	20
E24. Play Area Protective Surfacing	21
E25. Play Sand Safety Surfacing	23
E26. Log Retaining Edge	24
E27. Boulder Retaining Edge	25
E28. Timber Edging	26
E29. Wood Deck Stage	26
E30. Soil and Sod	28
E31. Plant Bed Preparation	29
E32. Tree Planting	30
E33. Shrubs and Perennials Planting	35

**Play Equipment**

E34. Play Equipment	37
E35. Foundations	38
E36. Maintenance Kits	39

## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 ST. JOHN'S PARK REDEVELOPMENT

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, June 5, 2018.

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. CONFIDENTIALITY**

B5.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

## **B6. ADDENDA**

- B6.1 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.
- B6.2 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.
- B6.3 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/>
- B6.4 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B6.5 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.

## **B7. SUBSTITUTES**

- B7.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B7.3 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.
- B7.4 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.
- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.
- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and

obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.

- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B16.
- B7.9 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.

## **B8. BID COMPONENTS**

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices;
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B7.
- B8.3 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.
- B8.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B8.5 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
- B8.5.1 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.
- B8.6 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to 204-949-1178.
- B8.6.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.
- B8.7 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.8 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).
- B8.8.1 Bids submitted by internet electronic mail (e-mail) will not be accepted.

## **B9. BID**

- B9.1 The Bidder shall complete Form A: Bid, making all required entries.
- B9.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.
- B9.3 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.
- B9.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
  - (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B9.4.2 All signatures shall be original.
- B9.5 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.

## **B10. PRICES**

- B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B10.2 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.
- B10.3 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.
- B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **B11. DISCLOSURE**

- B11.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full

disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B11.2 The Persons are:

- (a) Playworks
- (b) Jeff Jackson Playground Pro

## **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 Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

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 Further to B12.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) Written confirmation of a safety and health certification meeting SAFE Work Manitoba's SAFE Work Certified Standard (e.g., COR™ and SECOR™) or
  - (i) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
  - (ii) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>).

B12.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B12.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

### **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), their address(es) 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 The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law or by City policy or procedures (which may include access by members of City Council).

B13.4.1 To the extent permitted, the City shall treat as confidential information, those aspects of a Bid Submission identified by the Bidder as such in accordance with and by reference to Part 2, Section 17 or Section 18 or Section 26 of The Freedom of Information and Protection of Privacy Act (Manitoba), as amended.

### **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/her 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/her Bid after the Submission Deadline but before his/her 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 B12 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B7.

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/her Bid or in other information required to be submitted, that he/she 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 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.

## **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 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B16.

- B17.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.
- B17.4 Notwithstanding C4, the City may 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](http://www.winnipeg.ca/matmgt/gen_cond.stm)
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

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

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

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

D2.1 The Work to be done under the Contract shall consist of the construction of a basketball court and nature playground in St. John's Park.

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

- (a) Removal of existing asphalt, concrete, sod, basketball hoops & poles
- (b) Supply and install asphalt parkway paths, plexipave surfacing, granular parkway paths
- (c) Supply and install site furniture (Benches, waste receptacles, bike racks)
- (d) Supply and install of basketball hoops and poles
- (e) Supply and install of chain link fencing
- (f) Supply and install playground equipment, rock boulders, climbing logs and edging
- (g) Supply and install stage decking
- (h) Supply and install of berm w/ associated limestone block seating
- (i) Supply and install of planting beds, trees, shrubs and sod.

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

D3.1 The Contract Administrator is HTFC Planning & Design, represented by:

Robyn Gibson  
Landscape Architect  
Telephone No. 204-944-9907  
Email Address rgibson@htfc.mb.ca

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

D3.3 Bids Submissions must be submitted to the address in B8.

#### **D4. CONTRACTOR'S SUPERVISOR**

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

#### **D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE**

D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.

D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

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

## **D6. NOTICES**

- D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator identified in D3.1.
- D6.3 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:
- The City of Winnipeg  
Attn: Chief Financial Officer  
Office of the Chief Administrative Officer  
Susan A. Thompson Building  
2nd Floor, 510 Main Street  
Winnipeg MB R3B 1B9
- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg  
Legal Services Department  
Attn: Director of Legal Services  
Facsimile No.: 204 947-9155
- D6.1 Bids Submissions must not be submitted to the above facsimile number. Bids must be submitted in accordance with B8.**

## **SUBMISSIONS**

### **D7. AUTHORITY TO CARRY ON BUSINESS**

- D7.1 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.

## **D8. SAFE WORK PLAN**

- D8.1 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.
- D8.2 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>

## **D9. INSURANCE**

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg and HTFC Planning Inc. added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
  - (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
  - (c) all risks installation floater, carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 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.
- D9.4 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.

## **D10. PERFORMANCE SECURITY**

- D10.1 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.
- D10.1.1 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.

D10.2 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.

**D11. SUBCONTRACTOR LIST**

D11.1 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.

**D12. DETAILED WORK SCHEDULE**

D12.1 The Contractor shall provide the Contract Administrator with a detailed work schedule (Form L: 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 C4.1 for the return of the executed Contract.

**SCHEDULE OF WORK**

**D13. COMMENCEMENT**

D13.1 The Contractor shall not commence any Work until he/she is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.

D13.2 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 D7;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the Safe Work Plan specified in D8;
  - (iv) evidence of the insurance specified in D9;
  - (v) the performance security specified in D10;
  - (vi) the Subcontractor list specified in D11; and
  - (vii) the detailed work schedule specified in D12.
- (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.

D13.3 The Contractor shall order play equipment within seven (7) Working Days of receipt of Letter of Intent.

D13.4 The Contractor shall commence the Work on the Site within forty (40) Working Days of receipt of the Purchase Order.

**D14. SUBSTANTIAL PERFORMANCE**

D14.1 The Contractor shall achieve Substantial Performance within twenty-five (25) consecutive Working Days of the commencement of the Work as specified in D13.

D14.2 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.

D14.3 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.

**D15. TOTAL PERFORMANCE**

D15.1 The Contractor shall achieve Total Performance within thirty (30) consecutive Working Days of the commencement of the Work as specified in D13.

D15.2 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.

D15.3 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.

**D16. LIQUIDATED DAMAGES**

D16.1 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.

D16.2 The amount specified for liquidated damages in D16.1 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.

D16.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

**CONTROL OF WORK**

**D17. JOB MEETINGS**

D17.1 Frequency as determined by the Contract Administrator. 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.

D17.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

**D18. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D18.1 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).

**D19. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS**

D19.1 Further to B12.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety

and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B12.4.

## **MEASUREMENT AND PAYMENT**

### **D20. PAYMENT**

D20.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

## **WARRANTY**

### **D21. WARRANTY**

D21.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D21.2 Notwithstanding C13.2 or D21.1, 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.

D21.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

**FORM H1: PERFORMANCE BOND**  
(See D10)

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. 527-2018

ST. JOHN'S PARK 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 D10)

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

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 527-2018  
ST. JOHN'S PARK 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 (2007 Revision), International Chamber of Commerce Publication Number 600.

\_\_\_\_\_  
(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/matmgmt/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>Specification No.</u>	<u>Specification Title</u>
CSA 080	Wood Preservation
CW-3010	Clearing and Grubbing
CW-3110	Sub-Grade, Sub-Base And Base Course Construction
CW-3120	Installation of Sub Drains
CW-3130	Supply and Installation of Geotextile Fabrics
CW-3135	Supply and Installation of Geogrid
CW-3170	Earthwork and Grading
CW-3410	Asphaltic Concrete Pavement Works
CW-3510	Sodding
CW-3540	Topsoil and Finish Grading for Establishment of Turf Areas
CW-3550	Chain Link and Drift Control Fence

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L 0.0	KEY PLANS & COVERSHEET
17-267	PLAN OF TOPOGRAPHICAL SURVEY
L 1.0	EXISTING CONDITIONS & DEMOLITION PLAN – AREA A
L 1.1	EXISTING CONDITIONS & DEMOLITION PLAN – AREA B
L 1.2	LAYOUT & MATERIALS PLAN – AREA A
L 1.3	LAYOUT PLAN – AREA B
L 1.4	GRADING PLAN – AREA A
L 1.5	GRADING PLAN – AREA B
L 1.6	PLAY FEATURES & MATERIALS PLAN – AREA B
L 1.7	PLANTING PLAN – AREA B
L 2.0	DETAILS SHEET 1 – AREA A
L 2.1	DETAILS SHEET 1 – AREA B
L 2.2	DETAILS SHEET 2 – AREA B
SCD-501	Preparation of Planting Area
SCD-517	Standard Detail for Tree Planting
SCD-646	Parkway Path Crushed Limestone
SCD-648	Parkway Path Asphalt
SCD-650	Engineered Wood Fibre Safety Surfacing Drainage Diagram
SCD-651A	Double Timber Edging with Cap
SCD-659	Multi-Flow Drainage

## **E2. EXISTING SERVICES AND UTILITIES**

E2.1 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.

## **E3. ACCESS TO SITE**

E3.1 Access to the Site as required by the Contractor shall be provided and maintained by the Contractor at his/her own expense and approved by the Contract Administrator.

E3.2 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he/she shall be responsible for all damage resulting from his/her Work on private property.

## **E4. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES**

E4.1 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.

E4.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.

E4.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.

E4.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.

E4.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.

E4.6 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.

## **E5. DAMAGE TO EXISTING STRUCTURES, TREES AND PROPERTY**

E5.1 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.

E5.2 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.

E5.3 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.

E5.4 No separate measurement or payment will be made for the protection of trees.

## **E6. PEDESTRIAN SAFETY AND TRAFFIC MANAGEMENT**

E6.1 Further to CW 1130, 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/she is working near them. Any damage caused by the negligence of the Contractor or his/her Sub-Contractors to the adjacent Works or properties, shall be promptly repaired by him at his/her own expense, to the satisfaction of the Contract Administrator.

E6.2 Ambulance/ Emergency vehicle access must be maintained at all times.

## **E7. PROTECTION OF THE SURVEY INFRASTRUCTURE**

E7.1 Notwithstanding clause 4 "Persons and municipalities to protect Outline Monuments"; under [The Surveys Act](#), of Manitoba, the Contractor shall be responsible to protect the Survey Infrastructure from damage as a result of the Work.

E7.2 Further to C6.26 (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 204-918-1360 (8:00 am to 4:00 pm Monday to Friday, excluding holidays) to obtain underground clearance. Geomatics Services will locate and mark all known outline survey monuments and geodetic control monuments and confirm the physical condition of those monuments upon completion of construction, at no cost to the Contractor.

E7.3 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. 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.

E7.4 An approximate estimate of the cost to restore a legal survey monument is \$1,000 per bar and \$3,000 per control monument. Contractors shall ensure their landscaping and other subcontractors are aware of this clearance procedure and the potential restoration costs. Where possible, amounts owed to the City in accordance with the above will be deducted from payments to be made by the City to the Contractor.

## **E8. SITE ENCLOSURES**

- E8.1 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.
- E8.2 Site enclosures shall be considered incidental to the Contract Work.

## **E9. SITE RESTORATION**

- E9.1 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.

## **SITE DEVELOPMENT**

### **E10. REMOVALS**

#### **E10.1 Description**

- E10.1.1 This specification is supplemental to CW 3110. It shall cover the removal and legal disposal (including foundations) of the following: two (2) basketball standards; one (1) metal pole; two (2) benches; and one (1) metal slat waste receptacle.

- E10.1.2 The Work to be done by the Contractor under this specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to satisfactory performance and completion of all Work as shown on Drawings as herein specified.

#### **E10.2 Construction Methods**

- E10.2.1 Disposal of material shall be understood to mean hauling of all unsuitable material from the Site and the unloading in a legal manner acceptable to the Contract Administrator.
- E10.2.2 Removals include the removal of all footings and backfill.
- E10.2.3 Backfill holes with clean fill to subgrade elevations as indicated on drawings; compact to 95% standard proctor density.

#### **E10.3 Method of Measurement and Basis of Payment**

##### **E10.3.1 Method of Measurement shall be as follows:**

- (a) Removals shall be measured on a lump sum basis for:  
(i) "Removals", on Form B: Prices

##### **E10.3.2 Basis of Payment shall be as follows:**

- (a) Removals 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.

##### **E10.3.3 No separate payment shall be made for:**

- (a) Removal of granular base material under pads or filling pad holes with fill material as this work is incidental.
- (b) Filling associated holes with fill material as this work is incidental.

## **E11. EXCAVATION AND GRADING**

### **E11.1 Description**

E11.1.1 This specification shall cover the excavation and legal disposal of existing earth, topsoil & sod, asphalt paving & base layer to accommodate new play area, new sod and new basketball court, as well as site grading per Drawings.

E11.1.2 It shall amend and supplement CW 3110 and CW 3170. It shall also cover the provision of rough grading to ensure the newly sodded and asphalted areas, as well as new and modified pathways will drain.

E11.1.3 The Contractor must ensure that the site grading does not create tripping hazards and no areas of standing water remain. The mud grade of the play area must drain towards the subsurface drainage piping.

E11.1.4 All extraneous materials are to be removed from the Site and disposed of in a safe and legal manner. The Work to be done by the Contractor under this specification shall include all labour, equipment and material necessary for and incidental to the satisfactory performance and completion of the Work herein specified.

E11.1.5 Work shall include but not be limited to the following:

- (a) Asphalt basketball court
- (b) Nature Play area
- (c) Active play area
- (d) Asphalt and Granular Pathways
- (e) Bike Parking and Seating areas
- (f) Grassed Berms and Planting beds

E11.1.6 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:

- (a) New asphalt basketball court and pathway:
  - (i) Depths vary to a max.  $\pm$  260mm cut; refer to Grading Plan.
- (b) New topsoil and sod over built-up / bermed areas surrounding asphalt basketball court and pathway, and surrounding new play areas:
  - (i) Depths vary to a max.  $\pm$ 980mm fill (berm); refer to Grading Plan.
- (c) New Play Area Protective Surfacing:
  - (i) Depth of excavation varies; depth of drainage stone to be 75mm min. to  $\pm$ 430mm max.; depth of engineered wood fibre to be 300mm min.; refer to Grading Plan.
- (d) New Sand Circle:
  - (i) Depth of excavation varies; depth of drainage stone to be 100mm min.; depth of play sand to be 350mm min.; refer to Grading Plan.

### **E11.2 Materials**

E11.2.1 All fill materials to conform to CW 3170.

### **E11.3 Construction Methods**

E11.3.1 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.

- (a) Stockpile suitable, approved material on Site for reuse (clean topsoil, clean earth fill,) in a secure location. Remove and dispose of unsuitable material.
- (b) 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.
- (c) Contractor must coordinate with the Contract Administrator to ensure all removals have occurred.
- (d) The depth of excavation in the play area shall directly relate to the requirements of the play equipment proposed in the Bid Submission as well as the grades shown on the grading plan.
- (e) Excavate to the limits shown and as necessary to achieve finish grades as indicated on the Drawings. Where design grades are not shown, the new surface materials shall be installed to meet flush with surrounding grades, and sloped so as not to impede the existing drainage pattern.
- (f) Where new sod will meet existing, employ a vertical shearing operation, such as using a sharp spade or edger, along the outside edges of the excavation to create a clean and definite line for the new sod to abut flush to.
- (g) Excavation should be coordinated with the installation of play equipment and safety surfacing so as not to leave an open excavation area subject to ponding water.

E11.3.2 Site grading shall be as per Drawings.

- (a) The Contractor must ensure that the rough grading does not create tripping hazards and no areas of standing water remain. The subgrade of all excavated play areas must drain towards the subsurface drainage piping.
- (b) If necessary the Contractor shall import clean fill to achieve grades as per Drawings.
- (c) Backfill shall be placed in a dry, thawed condition and shall be maintained free of moisture or frost.
- (d) In fill areas where the difference between the existing ground elevation and the new finished design elevation is less than 300 mm, the Contractor shall scarify the existing ground to a minimum depth of 50 mm prior to placement of any fill.
- (e) All surplus fill material shall be removed and legally disposed off-site.
- (f) Do not disturb adjacent items designated to remain in place.

E11.4 Method of Measurement and Basis of Payment

E11.4.1 Method of Measurement shall be as follows:

- (a) Excavation shall be measured on a square metre basis for:
  - (i) "Excavate for basketball court nature play area, and sand circle" on Form B: Prices.
- (b) Grading shall be measured on a square metre basis for:
  - (i) "Site Grading" on Form B: Prices.

E11.4.2 Grading shall be measured on a cubic metre basis for:

- (i) "Berm" on Form B: Prices.
- (b) No measurement will be made for Excavation and Grading of sod areas that are not identified as "Excavation & Grading" as these items are incidental to E30.
- (c) No measurement will be made for the import of clean fill to achieve earthwork and site grading grades as this item is incidental to the work herein.

**E11.5 Basis of Payment shall be as follows:**

- E11.5.1 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.
- E11.5.2 No payment will be made for Excavation and Grading of sod areas that are not identified as "Site grading" as these items are incidental to E30.
- E11.5.3 No payment will be made for the import of clean fill to achieve site grading elevations as this item is incidental to the work herein.

**E12. MATERIAL TESTING**

**E12.1 Description**

- E12.1.1 This specification shall cover material testing including proctor, density and marshal testing of the sub-grade, sub-base, base course and asphalts for the basketball court.

**E12.2 Construction Methods**

- E12.2.1 The Contractor shall arrange for all material testing and provide results to the Contract Administrator for approvals.
- E12.2.2 The Contractor is responsible to submit a sample of their construction material to be used in the pavement structure for proctor analysis prior to beginning the project. Material testing shall be performed by an accredited independent laboratory with the experience and knowledge to perform the tasks as approved by the Contract Administrator.
- E12.2.3 Material testing is required on each lift of the pavement structure including sub-grade, sub-base, base-course and asphalt pavements. At a minimum, these shall include three field density tests by nuclear gauge, performed on each lift as defined in the Winnipeg Construction Specifications CW 3110 and CW 3410 for each material type and to the satisfaction of the Contract Administrator.
- E12.2.4 Field test results must meet specifications set out in CW 3110 and CW 3410 for acceptance by the Contract Administrator, Additional field tests shall be performed until each lift of the pavement structure has uniformly met City of Winnipeg proctor minimums as defined in the City of Winnipeg's Construction Specifications and to the satisfaction of the Contract Administrator.
- E12.2.5 A copy of each test result and location of the tests shall be submitted to the Contract Administrator for approval. The Contract Administrator may direct as required, the Contractors testing authority to provide additional tests at no additional cost to the City of Winnipeg until satisfied.
- E12.2.6 A minimum of one complete Marshal analysis of Type 1A asphaltic concrete paving mix, includes asphalt content, stability, flow, density, air voids, VMA, gradation and crushed content of extracted aggregates is to be completed for the project. The Contractor shall submit the results to the Contract Administrator for approval

**E12.3 Method of Measurement and Basis of Payment**

**E12.3.1 Method of Measurement shall be as follows**

- (a) Materials Testing will be measured on a lump sum bases for:
  - (i) "Materials testing for basketball court" on Form B: Prices.

- E12.3.2 Materials testing will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations

herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

**E13. SUB-SURFACE DRAINAGE**

**E13.1 Description**

E13.1.1 This Work shall consist of providing and placing a geocomposite prefabricated drain system to drain the play area and planting bed, as shown on Drawings.

E13.1.2 This Work shall include:

- (a) Subsurface drainage to drain new playground surfacing described in the plans and as per SCD-650 and SCD-659.

**E13.2 Material**

E13.2.1 Drainage pipe will be Multi-Flow or approved substitute in accordance with **B7**. Drainage pipe will 150 mm (6"). The manufacturer will size and approve all fittings for use with Multi-Flow or approved substitute drainage pipe.

E13.2.2 The drain conduit shall be of flexible, prefabricated, rounded rectangular shaped, composite product. The drain conduit will be wrapped with a non-woven geotextile and will be a non-woven needle-punched construction and consist of long-chain polymeric fibres composed of polypropylene, polyethylene or polyamide. The fibres will be oriented into a multi-directional stable network whereby they retain their positions relative with each other and allow the passage of water as specified. The fabric will be free of any chemical treatment or coating, which reduces permeability and will be inert to chemical commonly found in soil. The geotextile will conform to the following minimum average roll values.

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

E13.2.3 The drainage core shall be made of a high-density polyethylene. The core shall be constructed using interconnected corrugated pipes that define and provide the flow channels and structural integrity of the drain. The geotextile shall function only as a filter. The core of the edge drain shall conform to the following physical property requirements.

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

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

E13.2.4 Fittings

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

E13.2.5 Pipe

- (a) Pipe for drain outlet laterals will be either 100 mm (4") PVC pipe meeting the requirements of ASTM D-2729 or ASTM F-949, or high-density polyethylene pipe meeting the requirements of AASHTO M252.
- (b) A rodent screen made of 0.3 inch by 0.3-inch square opening size, 0.063-inch gauge, stainless steel or galvanized, welded wire mesh shall be installed in each outlet lateral line. When using galvanized welded wire mesh, the rodent screen shall be galvanized after it has been formed to the shape and dimensions shown on the plans or specified by the Contract Administrator.

E13.2.6 Drainage Rip Rap – CW 3615

- (a) Install drainage rip rap at pipe outlets over geotextile on compacted subgrade.
  - (i) Geotextile Fabric shall be as per CW 3130.
  - (ii) Rock for riprap shall consist of hard, dense, durable rock. The rock shall be quarried rock or fieldstone, dense and durable, and resistant to the action of frost and water and suitable in all other respect for the purpose intended. Stone rip-rap shall be free of sod, roots, organic material and debris prior to placement. Individual pieces of stone shall be free of defects such as seams or cracks prior to placement. Where stipulated, rock is to be of the same type as that existing in place. In other installations, the stones shall range in size from 100 mm to 350 mm in diameter with at least seventy-five (75%) percent ranging from 200 mm to 300 mm in diameter. The Contract Administrator shall approve the rock for riprap prior to placing.
  - (iii) Quarried rock shall have a maximum Los Angeles Abrasion Loss of 32% when tested in accordance with ASTM C535 and a maximum Magnesium Sulphate Soundness Loss of 13% when tested in accordance with ASTM C88.

E13.2.7 Backfill for Trenches

- (a) As per most up to date version of SCD-659.

E13.3 Methods

E13.4 Installation of Subdrain is not to proceed until after the excavation/grading has been approved by the Contract Administrator.

E13.5 The layout of the subdrain is to be marked on Site and approved by the Contract Administrator prior to trenching.

E13.6 Trenches are to be excavated with a trenching machine or by hand. Locations, where the trench crosses existing utilities, irrigation pipes and all other sub-surface pipes or fixtures, are to be excavated by hand. The amount of trench excavated at any time shall not exceed the amount of drain that can be set and backfilled completely prior to the end of that Working Day. Trench width shall be as specified on the Drawings.

E13.7 The bottom surface of the trench is to be free of loose particles and is to have the slope minimum of 1.5%. Over excavation in the bottom of the trench shall be backfilled to the proper grade with the excavated material or sand prior to the placement of the drain. Where sand or excavated material is used to fill the trench to the proper elevation that material shall be compacted to 95% of standard proctor density using appropriate means. Where the trench is to

pass through an area of existing turf, backfill shall be removed from the Site daily and disposed of legally.

- E13.8 Multi-Flow drain pipe is to be placed in the trench using a Multi-Flow centering device. Trench is to be backfilled with coarse sand to the surface. Backfill shall be placed in maximum of 45 cm loose lifts. Backfill is to be lightly tamped into place and watered.
- E13.9 Fittings for the drain will be installed in accordance with the manufacturer's recommendations and Specification.
- E13.10 Any damaged edge drain or outlet lateral will be replaced or repaired by splicing in an undamaged section of drain at the Contractor's expense. The repair must be in accordance with the manufacturer's specification and to the satisfaction of the Contract Administrator.
- E13.11 Contractor is to protect subdrain from excessive weight during the duration of construction and to repair and make good any pipe collapsed prior to acceptance.
- E13.12 The Contractor shall be responsible for restoration of any surfaces damaged during the Work under this section.
- E13.13 The top of the trench is to be finished as shown on the Drawings.
- E13.14 The sand backfill is to be installed to meet existing grades and seeded with grass seed where the trench is located in existing turf.
- E13.15 The Multi-Flow drain system is to be connected to a solid pipe in accordance with manufacturer's recommendations and per Drawings.
- E13.16 Trenches are to be inspected by the Contract Administrator prior to backfilling.
- E13.17 Method of Measurement and Basis of Payment
- E13.17.1 Method of Measurement shall be as follows:
- (a) Sub-surface Drainage shall be measured on a lineal metre basis for:
    - (i) "Sub-surface drainage",
    - (ii) "Drainage pipe" on Form B: Prices.
- E13.17.2 Basis of Payment shall be as follows:
- (a) Sub-surface Drainage 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.
- E13.17.3 No separate payment shall be made for:
- (a) The drainage rip rap at the pipe outlet as this work is incidental.

#### **E14. GRANULAR WALKWAY – SCD-646**

##### **E14.1 Description**

- E14.1.1 This Specification shall amend and supplement the City of Winnipeg Specification CW 3110. The Work to be done by the Contractor under this Specification shall cover all phases of supply and placement of crushed limestone surfacing materials necessary to install a Granular Walkway as shown on Drawings.

##### **E14.2 Materials**

- E14.2.1 Sub-grade, Sub-base, Base Course and Surface of the Walkway shall be crushed limestone and as per CW3110 and Drawing SCD-646.

- (a) Geotextile Fabric shall be non-woven and in accordance with CW 3130.

#### E14.3 Construction Method

E14.3.1 The Work included in the establishment of the Granular Walkway shall include:

- (a) The Contractor shall survey and stake out the proposed Granular Walkway prior to the start of construction as shown on the construction drawings. Layout shall be checked and confirmed with Contract Administrator prior to construction.
- (b) Excavation of Walkway shall be as per CW3110 - E11.
- (c) Subgrade to be compacted.
- (d) All granular base course shall be placed and compacted to the finished thickness as specified on the drawings.
- (e) Base Course and Surface shall be compacted to a minimum of ninety five percent (95%) of Standard Proctor Density.

#### E14.4 Method of Measurement and Basis of Payment

E14.4.1 Method of Measurement shall be as follows:

- (a) Asphalt will be measured on a square metre basis for:
  - (i) "Granular pathway" on Form B: Prices.

E14.4.2 Basis of Payment shall be as follows:

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

### **E15. ASPHALT PAVING FOR PATHWAYS AND BASKETBALL COURT**

#### E15.1 General Description

E15.1.1 This Specification shall amend and supplement the City of Winnipeg Specification CW 3110, CW 3130, and CW 3410. The Work to be done by the Contractor under this Specification shall cover all phases of Excavation, Sub-base Compaction, Geotextile Fabric, Crushed Limestone Sub-Base, Crushed Limestone Base and Asphaltic Pavement Layer as per Drawing SCD-648 for pathways, per detail 4.L2.0 on Drawings for basketball court and as indicated below.

#### E15.2 Excavation

##### E15.2.1 Description

- (a) This specification shall be done in accordance the City of Winnipeg's Standard Construction Specification CW 3110 – "Sub-Grade, Sub-Base and Base Course Construction" and as per SCD-648 for pathways, per detail 4.L2.0 on Drawings.
- (b) Excavation shall be understood to include all removal of existing in-situ material necessary to achieve finished grade and as indicated on drawings, all in accordance with - E11.

##### E15.2.2 Construction Methods

- (a) Excavation shall be performed as outlined in CW 3310 – 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 to Asphalt Pathway.

- (c) All excavated material shall be removed, hauled and disposed of off-site to the satisfaction of the Contract Administrator.

### E15.3 Sub-base Compaction

#### E15.3.1 Description

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

#### E15.3.2 Construction Methods

- (a) Sub-grade compaction shall be performed as outlined in CW 3110 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.

### E15.4 Geogrid

#### E15.4.1 Geogrid shall be per CW 3135.

### E15.5 Geotextile Fabric

#### E15.5.1 Description

- (a) Geotextile Fabric shall be placed in accordance with City of Winnipeg's Standard Construction Specification CW 3130 "Supply and Installation of Geotextile Fabrics".

#### E15.5.2 Materials

- (a) The separation/ reinforcement geotextile fabric shall be **Non-Woven** and conform to the Products Approved as listed in City of Winnipeg Specification for Approved Products for Surface Works.

#### E15.5.3 Construction Methods

- (a) Separation/ Reinforcement geotextile fabric shall be installed as outlined in CW 3110 item 3.1 "Separation/Reinforcement Geotextile Fabric".

### E15.6 Crushed limestone sub-base course material

#### E15.6.1 Description

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

#### E15.6.2 Materials

- (a) Sub Base: shall be per Drawing SCD-648 for pathways and per detail 4.L2.0 on Drawings for basketball court.

#### E15.6.3 Construction Methods

- (a) Crushed limestone sub-base material shall be supplied and installed as outlined in CW 3110 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.

### E15.7 Crushed Limestone Base Course Material

#### E15.7.1 Description

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

E15.7.2 Materials

- E15.7.3 Base course material shall be per Drawing SCD-648 for pathways and per detail 4.L2.0 on Drawings for basketball court.

E15.7.4 Construction Methods

- (a) Crushed limestone base material shall be supplied and installed as outlined in CW 3110 item 3.4 "Placement of Sub-Base Material with Geotextile Fabric".
  - (i) All limestone base course material shall be placed and compacted as specified to finished thickness as shown on the drawings.

E15.8 Asphaltic Pavement

E15.8.1 Description

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

E15.8.2 Materials

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

E15.8.3 Construction Methods

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

E15.8.4 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.
- (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.

E15.8.5 Quality Control for Hard Surfaced Areas

- (a) Further to Section 10, Quality Control, of CW 3110 and CW 3410, 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.
  - (i) The Contractor shall not proceed with each granular fill placement or asphalt installation until test results have been reviewed and approval to proceed is granted by the Contract Administrator.
  - (ii) The Contract Administrator will conduct a survey of the operation to verify installation of specified layer thickness.
  - (iii) Non-conformity with the specified test requirements or compacted layer thickness will constitute sufficient grounds for rejection of the Work.

E15.9 Method of Measurement and Basis of Payment

E15.9.1 Method of Measurement shall be as follows:

- (a) Asphalt will be measured on a square metre basis for:
  - (i) "Asphalt paving for basketball court",
  - (ii) "Asphalt Pathway repair for nature playground" on Form B: Prices.

E15.9.2 Basis of Payment shall be as follows:

- (a) Asphalt 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.

**E16. PLEXIPAVE SURFACING AND PLEXICOLOUR LINE PAINTING FOR BASKETBALL COURT**

E16.1 Description

E16.1.1 This specification shall cover the supply and installation of the coating on the asphalt surface and the line painting of the court markings.

E16.2 Materials:

E16.2.1 Patching Mix (Court Patch Binder): for use in cracks, holes, depressions and other imperfections in the asphalt surface. This material will be used in accordance with the manufacturer's specifications with regard to sand sizes, prime coats, and depth of depression, hole or crack.

E16.2.2 Crack filler: for use in fine cracks and for minor cosmetic thin repairs and fills prior to filler course.

E16.2.3 Acrylic Color Playing Surface:

- (a) Job Mixed Fortified Plexipave, a field-mixed combination of California Products Corporation's Plexichrome and Plexipave Color Base, or approved equal, blended in accordance with the manufacturer's specifications, consisting of lightfast mineral oxide pigments and fillers uniformly dispersed in a non-oxidizing 100% acrylic base.
- (b) Basketball court colour to be Cape Grey with Blue key and centre circle as shown on the Drawings.
- (c) Plexi-Colour Line Paint – colour white.

E16.3 Construction Method:

E16.3.1 Clean all asphalt surfaces of loose dirt, oil, grease, leaves and other debris in strict accordance with manufacturer's directions.

E16.3.2 Clean all holes and cracks.

E16.3.3 Depressions holding enough water to cover a five cent piece shall be filled with Court Patch binder mix. This step shall be accomplished prior to the squeegee draining. Define and mark all areas holding enough water to cover a nickel. Spread court patch binder mix true to grade using a straight edge for strike off. Steel trowel or wood float patch so that the texture matches the surrounding area. Never add water to the mix. Light misting on surfaces and edges to feather in allowed as needed to maintain workability. All areas should be allowed to dry thoroughly and cure.

E16.3.4 Filler course shall be applied to the clean underlying surface in one application to obtain a total quantity of not less than 47.3 to 63.2 square metres per litre (915 to 20 square yards per gallon) based on the material prior to dilution. Acrylic Resurfacer may be used to precoat depressions and crack/hole repairs to achieve better planarity prior to filler course application.

E16.3.5 Over a properly prepared surface of asphalt apply one coat of acrylic resurfacer according to the following mix:

- (a) Acrylic Resurfacer 208.2 litres (55 gallons)
- (b) Water 75.7 litres to 151.4 litres (20 to 40 gallons)

- (c) Sand 272.2 Kg. to 408.2 Kg (600 to 900 pounds)
- (d) Liquid Yield 424 litres to 522.4 litres (112 to 138 gallons)
- E16.3.6 Mix the ingredients thoroughly using accepted mixing devices and use a 70 Durometer rubber blade squeegee to apply each coat of acrylic resurfacer as required.
- E16.3.7 Allow the application of acrylic resurfacer to dry thoroughly. Scrape off all edges and rough spots prior to the subsequent application of acrylic resurfacer or subsequent cushion or color surface system.
- E16.4 Method of Measurement and Basis of Payment
  - E16.4.1 Method of Measurement shall be as follows:
    - (a) Asphalt will be measured on a square metre basis for:
      - (i) "Plexipave surfacing" on Form B: Prices.
  - E16.4.2 Basis of Payment shall be as follows:
    - (a) Plexipave 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.

## **E17. BASKETBALL STANDARDS**

- E17.1 Description
  - E17.1.1 This specification shall cover all aspects of the supply and installation of one (1) pair of basketball standards including post, backboard, goal, net, and piles.
- E17.2 Materials
  - E17.2.1 Basketball Standard shall either be:
    - (a) Sportsplay single heavy duty basketball standards, product # 541-616, 114mm O.D. galvanized steel post, 1828mm extension, aluminum backboard, super goal (double rimmed) and chain net, **OR**
    - (b) Douglas goose neck heavy duty basketball standards, Model # 39180M, 141mm (59/16") O.D. galvanized steel post, 1828mm (72") extension and Douglas FAL aluminum backboard, Model # 39166 and Dura Goal II (double rimmed) goal and chain net, Model # 39157.
    - (c) Or approved substitute in accordance with B7.
- E17.3 Concrete Piles
  - E17.3.1 As per CW 2160.
  - E17.3.2 Concrete Type A, compressive strength 32 MPa at 28 days, minimum cementitious content 340 Kg/m<sup>3</sup>, sulfate resistant.
  - E17.3.3 6.0 M deep, 400mm diameter reinforced concrete piles as shown on the Drawings.
- E17.4 Construction Methods
  - E17.4.1 Basketball standards are to be installed in concrete piles according to Drawings and manufacturer's specifications.
  - E17.4.2 Layout of the posts and piles are to be such that the basketball goals are located correctly in relationship to the fence and basketball line painting as shown on the Drawings.
- E17.5 Method of Measurement and Basis of Payment

E17.5.1 Method of Measurement shall be as follows:

- (a) Play Equipment shall be measured on a lump sum basis for:
  - (i) "Basketball hoop & poles", on Form B: Prices

E17.5.2 Basis of Payment shall be as follows:

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

## **E18. CHAIN LINK FENCING**

E18.1 Description

E18.1.1 Chain Link Fencing shall be supplied and installed as per CW 3550.

E18.1.2 This specification supplements and amends CW 3550 - Chain Link Fencing

E18.2 Materials

E18.2.1 Chain link fencing as specified in CW 3550 and on Drawings.

E18.2.2 Fencing height shall be as per Drawings, with knuckled top and bottom fabric.

E18.3 Construction Methods

E18.3.1 As per CW 3550 and the Drawings.

E18.3.2 Fencing is to be installed minimum 100 mm in from the edge of the paving.

E18.4 Method of Measurement and Basis of Payment

E18.4.1 Method of Measurement shall be as follows:

- (a) Chain Link Fencing will be measured on a lineal meter basis for the following items:
  - (i) "Chain link fence" on Form B: Prices.

E18.4.2 Basis of Payment shall be as follows:

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

## **E19. BENCHES**

E19.1 Description

E19.1.1 This specification shall cover the **pick-up** and installation of Standard City of Winnipeg Parks benches.

E19.2 Materials

E19.2.1 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.

E19.2.2 Standard City of Winnipeg Parks Benches include:

- (a) Tache Bench Composite with Arms – as per SCD-121A. Composite Cedar tone slats. Metal Options include: Black Powdercoated #52501085.

E19.2.3 For ordering Benches please email:

(a) [pwd-cps-orderdesk@winnipeg.ca](mailto:pwd-cps-orderdesk@winnipeg.ca)

### E19.3 Construction Methods

- E19.3.1 All Work is to be located and installed in accordance with the Drawings, SCDs, and following manufacturer's 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;
- E19.3.2 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;
- E19.3.3 All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- E19.3.4 Install as per manufacturer's instructions and the attached drawings.
- E19.3.5 Concrete foundations shall be as per Drawings and **E35**

### E19.4 Method of Measurement and Basis of Payment

- E19.4.1 Method of Measurement shall be as follows:
- (a) Site Furniture will be measured on a per item basis for the following items:
- (i) "Benches" on Form B: Prices.
- E19.4.2 Basis of Payment shall be as follows:
- (a) Benches will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

## E20. SITE FURNITURE

### E20.1 Description

- E20.1.1 This specification shall cover the **pick-up** and installation of two (2) waste receptacles, and the **supply** and installation four (4) bike racks.
- E20.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawings and specified herein.

### E20.2 Materials

- E20.2.1 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.
- E20.2.2 Concrete foundations shall be as per **E35**.

### E20.3 Site Furniture shall be:

- E20.3.1 Metal Slat Waste Receptacle – as per SCD-119. Metal Slat WR - Black finish: # 52501063BLK. Wire Basket – Black finish: # 52501058.
- E20.3.2 For ordering Waste Receptacles please email:
- (a) [pwd-cps-orderdesk@winnipeg.ca](mailto:pwd-cps-orderdesk@winnipeg.ca)
- E20.3.3 Bike Rack - "Arc Rack", as supplied by DERO [www.dero.com](http://www.dero.com) or Playgrounds-r-us, 1-800-889-4305, or approved substitute in accordance with B7.
- (a) Finish: Powdercoat
- (b) Colour: RAL 9007 (Silver)

(c) Mounting: In ground.

#### E20.4 Construction Methods

- E20.4.1 All Work is to be located and installed in accordance with the Drawings, SCDs, and following manufacturer's 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;
- E20.4.2 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;
- E20.4.3 All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- E20.4.4 Install as per manufacturer's instructions and the attached drawings.
- E20.4.5 Concrete foundations shall be as per Drawings and **E35**

#### E20.5 Method of Measurement and Basis of Payment

- E20.5.1 Method of Measurement shall be as follows:
- (a) Site Furniture will be measured on a per item basis for the following items:
    - (i) "Waste receptacles",
    - (ii) "Bike Racks" on Form B: Prices.
- E20.5.2 Basis of Payment shall be as follows:
- (a) Site Furnishings 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.

### **E21. LIMESTONE SEATING BLOCKS**

#### E21.1 Description

- E21.1.1 This specification shall cover the supply and installation of limestone seating blocks as shown on Drawings.
- E21.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawings and specified herein.

#### E21.2 Materials

- E21.2.1 Geotextile Fabric shall be as per CW 3130.
- E21.2.2 Granular Base Course
- (a) Granular base course material shall consist of 20mm down crushed limestone and shall conform to CW3110 for crushed limestone base course material.
  - (b) Sub-base to be compacted.
- E21.2.3 Limestone blocks:
- (a) to ASTM C568-03, category II, high density sound hard stone, free of clay pockets.
  - (b) Quality: stone shall be free from all defects which would affect appearance or durability. Quarry seams shall be well back from finished face. Fossils and other natural markings shall be permitted only to the extent that they do not disfigure the finished appearance of the stone. Loose fossils or large white fossils are not permitted.
  - (c) Colour: buff white - yellow.

- (d) Finish: as indicated on the Drawings.
- (e) Acceptable supplier: Mariash Quarries, Box 425, Stoney Mountain MB, R0C 3A0, phone: 204-344-5115, email: [kmariash@mymts.net](mailto:kmariash@mymts.net), or approved substitute in accordance with B7.
- (f) Stone sizes as indicated on the Drawings.

### E21.3 Construction Methods

#### E21.3.1 Rough Grading:

- (a) Reshape surrounding landforms where blocks to be situated as indicated on the drawings and determined in the field with the Contract Administrator.
- (b) Ensure subgrade preparation conforms to compaction requirements and levels required for installation of geotextile and granular base materials.

#### E21.3.2 Geotextile and Granular Base:

- (a) Place granular base to compacted thickness as indicated on the drawings.
- (b) Install geotextile layer per CW3130.
- (c) Spread and compact granular base material in uniform layers not exceeding 150mm compacted thickness.
- (d) Compact each layer to 100% Standard Proctor Density.
- (e) Obtain approval of base prior to installing limestone blocks.

#### E21.3.3 Installation of Limestone Blocks:

- (a) Ensure blocks are delivered to site and installed with appropriate size equipment that does not damage stone during installation. Use a small crane or cherry picker. Do not use Bobcats and manual straps unless absolutely necessary to the location of the blocks.
- (b) Set bottom face of limestone blocks directly on prepared granular base. Ensure blocks are level and plumb and with top at required elevation.
- (c) Wrap geotextile around stone where it is to be backfilled with organic material as indicated on the drawings.

#### E21.3.4 Cleaning:

- (a) Brush stonework with stiff brush using mild alkaline abrasive cleaner that contains no caustic or harsh fillers.
- (b) Rinse with clear water to remove foreign matter.

### E21.4 Method of Measurement and Basis of Payment

#### E21.4.1 Method of Measurement shall be as follows:

- (a) Limestone seating block will be measured on a per item basis for the following items:
  - (i) "Limestone seating blocks" on Form B: Prices.

#### E21.4.2 Basis of Payment shall be as follows:

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

## E22. CLIMBING BOULDERS

### E22.1 Description

E22.1.1 This specification shall cover the supply and installation of climbing boulders as shown on Drawings.

E22.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawings and specified herein.

## E22.2 Materials

E22.2.1 Geotextile Fabric shall be as per CW 3130.

E22.2.2 Granular:

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

E22.2.3 Climbing Boulders to be:

- (a) Granite field stone boulder with smooth edges and corners and a size range of 600mm (2') to 1200mm (4').
- (b) Hard, dense, clean stone, free from seams, cracks or other structural defects.

## E22.3 Construction Methods

E22.3.1 Excavate and backfill with compacted granular base around boulders. Tamper down in 150mm lifts and compact to 95% SPD. Supply and Installation of granular base is incidental to the Work in this section.

E22.3.2 Boulders shall have a minimum of 1.8m clear area from edging.

E22.3.3 Safety surfacing shall be installed by contractor soon afterwards. If the safety surfacing cannot be installed immediately orange safety fencing shall be installed around the boulder play area until such time as it can be installed.

E22.3.4 Cleaning:

- (a) Brush stonework with stiff brush using mild alkaline abrasive cleaner that contains no caustic or harsh fillers.
- (b) Rinse with clear water to remove foreign matter.

## E22.4 Method of Measurement and Basis of Payment

E22.4.1 Method of Measurement shall be as follows:

- (a) Climbing Boulders will be measured on a per item basis for the following items:
  - (i) "Climbing Boulders" on Form B: Prices.

E22.4.2 Basis of Payment shall be as follows:

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

## E23. CLIMBING AND BALANCING LOGS

E23.1 Description

E23.1.1 This specification shall cover the pickup and installation of climbing logs as indicated on the Drawings.

E23.2 Materials

E23.2.1 Logs

- (a) Logs shall be reviewed and approved by Contract Administrator prior to delivery to site.
- (b) They shall be between the sizes of 450mm and 1000mm diameter, by 1.8m to 2.4m lengths.
- (c) Heights of logs above grade shall vary between below grade to 1.2m max.
- (d) Logs shall have a minimum 1.8 offset from edging.
- (e) Acceptable species include tamarack, cedar or oak.
- (f) Debarked, sanded smooth and chamfered top as shown on Drawings.

#### E23.2.2 Granular Base Course

- (a) Granular base course material shall consist of 20mm down crushed limestone and shall conform to CW3110 for crushed limestone base course material.

#### E23.3 Construction Methods

E23.3.1 Lumber brought to the site shall be carefully handled to avoid damaging the outer fibres. Dropping of the timber from the back of the truck to the ground will not be allowed.

E23.3.2 The lumber shall be stored in an orderly fashion and must be stacked in neat regular piles. The bottom pieces in each pile shall be placed on blocks to prevent bending of the timber.

E23.3.3 Stake and layout logs as coordinate with Contract Administrator on site and as indicated in Drawings. Layout shall be checked and approved by Contract Administrator prior to construction.

E23.3.4 Subgrade to be compacted to 95% Standard Proctor Density.

E23.3.5 Backfill excavation with granular base material as per Drawing. Position and spike the logs and footing securely in place, place granular base course backfill material and compact as required. Dry fit and spike logs together securely

E23.3.6 Ensure logs are stable and unmovable once placed.

E23.3.7 Ensure that there are no sharp edges and all spikes have been sufficiently countersunk.

E23.3.8 Edge of logs to be min. 1.8m from edging.

#### E23.4 Method of Measurement and Basis of Payment

E23.4.1 Method of Measurement shall be as follows:

- (a) Climbing Boulders will be measured on a per item basis for the following items:
  - (i) "Climbing and balancing logs" on Form B: Prices.

E23.4.2 Basis of Payment shall be as follows:

E23.4.3 Climbing and balancing logs 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

### **E24. PLAY AREA PROTECTIVE SURFACING**

E24.1 Description

E24.1.1 This specification shall cover the supply and install of engineered wood fibre safety surfacing.

E24.2 Engineered Wood Fibre Surfacing

E24.2.1 Description

- (a) This specification shall cover the supply and installation of Wood Fibre Surfacing within the Play Equipment Area.

#### E24.2.2 Materials

- (a) Engineered Wood Fibre product shall be either Zeagar Woodcarpet System 1 or Fibar FibarSystem 200 products, or approved substitute in accordance with B7.
- (b) Engineered Wood Fibre surfacing shall be supplied by an authorized distributor and delivery slips are to be submitted to the Contract Administrator prior to installation.

- (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](mailto:sales@zeager.com)  
<https://www.zeager.com/products/recreation/woodcarpet-system-1/>

- (ii) Contact for FibarSystem 200:

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](mailto:info@FibarPlaygrounds.com)

- (c) If substitute to Zeagar Woodcarpet or Fibar FibarSystem 200 is proposed, it must meet the following conditions:
  - (i) materials must be IPEMA certified Engineered Wood Fiber
  - (ii) material must consist of random-sized, clean, engineered hardwood chips. Standard wood chips or bark mulch are not acceptable.
  - (iii) materials must meet or exceed ASTM F1292 standards for impact attenuation
  - (iv) materials must be certified by the CSA and approved for playground use
  - (v) materials must comply with ASTM F1951 for accessibility under the Canadians with Disabilities Act
  - (vi) materials must be covered by \$10,000,000.00 product liability insurance as well as provide a minimum 10 year warranty against loss of resiliency
- (d) Engineered Wood Fibre surfacing shall include wood fibre, filter cloth, subsurface drainage system and mats under swings and ends of slides.
- (e) Mats are to be installed directly on top of the geotextile fabric and secured in place with two (2) duckbill anchors per mat.

#### E24.2.3 Construction Methods

- (a) Engineered Wood Fibre shall be installed within the play areas, as defined by the edging to a minimum depth of 300 mm (after compaction). In the case where proposed play equipment includes a maximum fall height greater than 3m (10'), depth of material to directly correspond to maximum fall height of play equipment in accordance with manufacturer's specifications.
- (b) The installation of the Engineered 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 under swings and slide ends shall be done according manufacturer's instructions. Adequate drainage within play equipment area must be ensured as per same.
- (d) Mud grade of play area shall be graded to drain to one edge of the play area, and area cleared of any debris which inhibit proper drainage or installation of products. Drainage pipe shall be installed from the subsurface drainage system within the play area to run outside of the play area perimeter to drain into an existing catch basin. The cost of this shall be included in the price for the wood fibre supply and installation.
- (e) Filter fabric must be cut and fit around playground equipment footings and overlap seams by 300mm.
- (f) Installation shall be done by equipment sized to suit the Work being done and the Engineered 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.

#### E24.3 Method of Measurement and Basis of Payment

##### E24.3.1 Method of Measurement shall be as follows:

- (a) Protective Surfacing will be measured on a square metre basis for:
  - (i) "Protective surfacing" on Form B: Prices.

##### E24.3.2 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.

### **E25. PLAY SAND SAFETY SURFACING**

#### E25.1 Description

E25.1.1 This specification shall cover the supply and installation of Play Sand Safety Surfacing as shown on drawings.

#### E25.2 Materials

E25.2.1 Play Sand Safety Surfacing shall be course sand of the following Sieve breakdown:

Sieve Size	Cumulative % passing
10 mm stone	99
5 mm	88
1.25	69
315 um	11
80 um	1.75

#### E25.3 Construction Methods

E25.3.1 Play Sand Safety Surfacing shall be installed as per Drawings.

E25.3.2 The installation of the Play Sand Safety Surfacing shall be done immediately after the Play Equipment has been installed.

E25.3.3 Do not compact the material during installation.

E25.4 Installation shall be done by equipment sized to suit the Work being done and the sand shall be spread by hand as necessary in the immediate vicinity of the play equipment so as not to damage same.

## E25.5 Method of Measurement and Basis of Payment

### E25.5.1 Method of Measurement shall be as follows:

- (a) Play sand will be measured on a square metre basis for:
  - (i) "Play sand" on Form B: Prices.

### E25.5.2 Basis of Payment shall be as follows:

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

## E26. LOG RETAINING EDGE

### E26.1 Description

- E26.1.1 This specification shall cover the pickup and installation of log stump "Wiggle Wall" and "Log Retaining Wall" as indicated on the Drawings.

### E26.2 Materials

#### E26.2.1 Logs

- (a) Logs shall be reviewed and approved by Contract Administrator prior to delivery to site.
- (b) Vertical logs (Wiggle Wall):
  - (i) They shall be between the sizes of 200mm and 300mm diameter, by 700mm to 900mm lengths.
  - (ii) Heights of logs above grade shall vary between 350mm and 450mm max.
- (c) Horizontal logs (Log Retaining Wall):
  - (i) They shall be between the sizes of  $\pm 400$ mm diameter, by  $\pm 2$ m lengths.
  - (ii) Heights of logs above grade shall be  $\pm 260$ mm.
- (d) Acceptable species include oak, elm or ash.
- (e) Debarked, sanded smooth and chamfered top as show on Drawings.

#### E26.2.2 Granular Base Course

- (a) Granular base course material shall consist of 20mm down crushed limestone and shall conform to CW3110 for crushed limestone base course material.

### E26.3 Construction Methods

- E26.3.1 Lumber brought to the site shall be carefully handled to avoid damaging the outer fibres. Dropping of the timber from the back of the truck to the ground will not be allowed.

- E26.3.2 The lumber shall be stored in an orderly fashion and must be stacked in neat regular piles. The bottom pieces in each pile shall be placed on blocks to prevent bending of the timber.

- E26.3.3 Stake and layout logs as coordinate with Contract Administrator on site and as indicated in Drawings. Layout shall be checked and approved by Contract Administrator prior to construction.

- E26.3.4 Subgrade to be compacted to 95% Standard Proctor Density.

- E26.3.5 Backfill excavation with granular base material as per Drawing. Position the log and hold or spike securely in place in the excavation, place granular base course backfill material and compact around the post to within 75mm of the finished grade. After the granular material has been satisfactorily compacted, 75mm of compacted limestone base course is to be placed on top.

- E26.3.6 All logs thoroughly tamped and granular mounded for future settling and drainage way from wall.
- E26.3.7 Logs to be set flush and /or plumb with no gaps between. Contractor shall support features while sufficient compacted granular fill is installed to level the features.
- (ii) Ensure logs are stable and unmovable once placed.
  - (iii) Ensure steel spikes for horizontal logs are sufficiently countersunk.
- E26.4 Method of Measurement and Basis of Payment
- E26.4.1 Method of Measurement shall be as follows:
- (a) Log retaining edge will be measured on a linear metre basis for:
    - (i) "Wiggle Wall",
    - (ii) "Log retaining wall" on Form B: Prices.
- E26.4.2 Basis of Payment shall be as follows:
- (a) Timber edging will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

## **E27. BOULDER RETAINING EDGE**

### **E27.1 Description**

- E27.1.1 This specification shall cover the supply and installation of boulder retaining edge as shown on Drawings.
- E27.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawings and specified herein.

### **E27.2 Materials**

- E27.2.1 Geotextile Fabric shall be as per CW 3130.
- E27.2.2 Granular:
- (a) Base coarse shall be 150mm (6") min. crushed limestone, 20mm (3/4") down;
  - (b) Sub-base to be compacted.
- E27.2.3 Climbing Boulders to be:
- (a) Granite field stone boulder with smooth edges and corners and size range of 450mm (18") to 600mm (2').
  - (b) Hard, dense, clean stone, free from seams, cracks or other structural defects.

### **E27.3 Construction Methods**

- E27.3.1 Excavate and backfill with compacted granular base around boulders. Tamper down in 150mm lifts and compact to 95% SPD. Supply and Installation of granular base is incidental to the Work in this section.
- E27.3.2 Safety surfacing shall be installed by contractor soon afterwards. If the safety surfacing cannot be installed immediately orange safety fencing shall be installed around the boulder play area until such time as it can be installed.
- E27.3.3 Cleaning:
- (a) Brush stonework with stiff brush using mild alkaline abrasive cleaner that contains no caustic or harsh fillers.
  - (b) Rinse with clear water to remove foreign matter.

#### E27.4 Method of Measurement and Basis of Payment

##### E27.4.1 Method of Measurement shall be as follows:

- (a) Climbing Boulders will be measured on a per item basis for the following items:
  - (i) "Boulder retaining edge" on Form B: Prices.

##### E27.4.2 Basis of Payment shall be as follows:

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

### **E28. TIMBER EDGING**

#### E28.1 General Description

E28.1.1 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the drawings and specifications.

E28.1.2 This specification shall cover the supply and installation of one and two tier timber edging to contain the wood fibre safety surfacing in the new play area.

#### E28.2 Materials and Method

E28.2.1 Cap and screws shall be as per most up to date version of SCD-651A.

E28.2.2 All wood for the bottom rows shall be pressure treated spruce, pine or fir, No. 2 or better, no wane, bark, checking or splitting permitted. Wood shall be smooth and free of rough areas. All timbers to be 140 x 140mm with a minimum length of 1200mm. All ends and cuts shall be treated with preservative before being secured. Use longest lengths possible.

E28.2.3 Edging material shall be cut neatly for a proper fit with no spaces or gaps between. Finished elevations shall ensure that all edging material is smooth, level, set plumb and spaced uniformly. Joints to be butt joints. Joints in straight runs are to be lapped over timber by a minimum of 600mm.

E28.2.4 Turf shall be repaired as required around edging in accordance with City of Winnipeg Standard Specifications for Topsoil and Sodding.

#### E28.3 Method of Measurement and Basis of Payment

##### E28.3.1 Method of Measurement shall be as follows:

- (a) Timber Edging will be measured on a linear metre basis for:
  - (i) "Timber edging – two tier w/ cap",
  - (ii) "Timber edging – three tier w/ cap", on Form B: Prices.

##### E28.3.2 Basis of Payment shall be as follows:

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

### **E29. WOOD DECK STAGE**

#### E29.1 Description

E29.1.1 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the drawings and specifications.

- E29.1.2 This specification shall cover the supply and installation of a wood deck stage as indicated in Drawings.
- E29.1.3 American Wood-Preservers' Association (AWPA)
- (a) AWPA M2, Standard for Inspection of Treated Wood Products.
  - (b) AWPA M4, Standard for the Care of Preservative-Treated Wood Products
- E29.1.4 American Society for Testing and Materials International, (ASTM)
- (a) ASTM A53/A53M, Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
  - (b) ASTM A269, Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service
  - (c) ASTM Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- E29.1.5 Canadian Standards Association (CSA International)
- (a) CSA B111, Wire Nails, Spikes and Staples
  - (b) CSA O141 Softwood Lumber
  - (c) CSA O80, Wood Preservation
  - (d) CSA O80.20, fire-retardant treatment of lumber by pressure processes
  - (e) CAN/CSA-G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel
  - (f) CAN/CSA-G164, Hot Dip Galvanizing of Irregularly Shaped Articles
  - (g) CAN/CSA-S16.1, Limit States Design of Steel Structures.
- E29.2 Materials
- E29.2.1 Kebony Wood Decking, or approved substitute in accordance with B7.
- (a) Kebony Clear RAP boardwalk smooth. [www.kebony.com](http://www.kebony.com) as manufactured by Kebony and supplied distributed by Bacon Veneer Architectural, 1-403-250-3757 (Contact John Masciola; [john@baconvener.ca](mailto:john@baconvener.ca)).
- E29.2.2 Pressure Treated Lumber
- (a) Material: to be pressure treated wood, no. 1 grade, colour: brown, moisture content 19% or less in accordance with following standards: CAN/CSA-O141; NLGA Standard Grading Rules for Canadian Lumber; Forest Stewardship Council (FSC) certified.
  - (b) Preservative for above ground use: to CSA-O80 Series, ACQ-C treatment, clear finish. Minimum net retention: 4.0 kg/m<sup>3</sup>.
  - (c) Preservative for ground contact: to CSA-O80 Series, ACQ-C treatment, clear finish. Minimum net retention: 6.4 kg/m<sup>3</sup>.
- E29.2.3 Hardware
- (a) Nails and spikes: to CAS B111, galvanized, for exterior works and for treated lumber. Use spiral thread nails.
  - (b) Threaded rods, bolts nuts, washers, lag screws, joist hangers to be hot dipped galvanized, sizes to suit application.
- E29.3 Submittals
- E29.3.1 Submit product data and samples for:
- (a) Kebony Wood Decking.
- E29.4 Quality Assurance

- E29.4.1 Carpentry shall be performed by trained and qualified craftspeople with demonstrable experience sourcing and work.
- E29.4.2 Conduct a pre-installation meeting with the Contract Administrator to verify requirements.
- E29.4.3 Lumber Identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- E29.4.4 For products treated with preservative by pressure impregnation, submit following information certified by authorized signing officer of treatment plant:
- (a) Information listed in AWPAM2 and revisions specified in CAN/CSA-080 Series, Supplementary Requirement to AWPAM Standard M2 applicable to specified treatment.
  - (b) Moisture content after drying following treatment with water-borne preservative.
- E29.4.5 All wood to be free of defects. Any warped, checked or bent materials will be rejected.
- E29.5 Construction Method
- E29.5.1 Handle and use treated and non-treated wood in a manner which will avoid damage or field fabrication causing alteration in original treatment.
- E29.5.2 Re-treat pressure treated wood surfaces exposed by cutting, trimming or boring with liberal brush application of clear preservative and fire retardant before installation. Ensure that damaged areas such as abrasions, nail and spike holes, area thoroughly saturated with field treatment solutions as per CSA-O80 and CSA-O80.20
- E29.5.3 Construct all work as indicated on the Drawings using adequate fastening methods to ensure solid durable finished work suitable for the purpose intended.
- E29.5.4 Do all nailing and fastening neatly, evenly and thoroughly. Pre-drill all screw holes.
- E29.5.5 Frame anchor, fasten, tie and brace members to provide necessary strength and rigidity. Install all members true to line, levels and elevations.
- E29.5.6 Set plumb and space uniformly. Countersink bolts where necessary to provide clearance for other work.
- E29.6 Method of Measurement shall be as follows:
- E29.6.1 Wood Deck Stage will be measured on a lump sum basis for:
- (i) "Wood deck stage", on Form B: Prices.
- E29.6.2 Basis of Payment shall be as follows:
- (a) Timber edging will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

### **E30. SOIL AND SOD**

- E30.1 Description
- E30.1.1 This Specification shall amend and supplement the most up to date revisions of City of Winnipeg Specifications CW 3510, CW 3520 and CW 3540. The Contractor shall install mineral sod and a **minimum** 75mm compacted thickness of topsoil, as required bringing up level of finished grade as necessary.
- E30.1.2 The Contractor shall install topsoil and sod over all graded areas including; around the perimeter of new basketball court and play areas, and the grassed berm.
- E30.1.3 Any areas damaged beyond the areas indicated on the Drawings shall be the responsibility of the Contractor to restore through use of topsoil and sod, unless otherwise approved by the Contract Administrator.

- E30.1.4 Areas to be Sodded are to be laid out on Site and approved by the Contract Administrator before commencing Work. Work outside the limit approved by the Contract Administrator will not be measured and will not be paid for under this section but considered incidental to the Work. Such incidental items that will not be measured include but are not limited to topsoil and sod placed at the edge of new paving. Incidental Site restoration shall conform to the same Specifications.
- E30.1.5 Where new sod will meet existing, employ a vertical shearing operation, such as using a sharp spade or edger, along the outside edges of the excavation to create a clean and definite line for the new sod to abut flush to.
- E30.1.6 Restoration shall be achieved using topsoil and sod unless otherwise directed by the Contract Administrator.
- E30.1.7 Thirty (30) day maintenance period on sod will commence at Total Performance and acceptance.
- E30.2 Method of Measurement and Basis of Payment
- E30.2.1 Method of Measurement shall be as follows:
- (a) Soil and Sod will be measured on a square metre basis for:
    - (i) "Soil & Sod" on Form B: Prices.
- E30.2.2 Basis of Payment shall be as follows:
- (a) Soil and sod 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.

## **E31. PLANT BED PREPARATION**

- E31.1 Description
- E31.1.1 This specification shall cover supply and installation of planting beds for shrubs, perennials and grasses. The Work to be done by the Contractor shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as shown on the Drawings and SCD-501 and as hereinafter specified.
- E31.2 Materials
- E31.2.1 Planting Soil
- (a) The planting soil shall be topsoil that complies with CW 3540, Section 5.2 - Topsoil.
  - (b) At the discretion of the Contract Administrator, planting soil may be subject to tests for nitrate, phosphate, potassium, sulphate, pH, E.C. (salinity), and volume of organic matter, by a testing laboratory designated by the Contract Administrator.
  - (c) The Contract Administrator reserves the right to reject planting soil not conforming to the requirements of these Specifications.
- E31.2.2 Woodchip Mulch
- (a) Woodchip Mulch to be placed within all proposed plant beds unless otherwise indicated.
  - (b) Woodchip mulch to be same engineered wood fibre material as in the play are per - E24.
- E31.3 Construction Methods
- E31.3.1 Plant Bed Preparation shall be as per SCD-501.

- E31.3.2 Layout of beds shall be as per Drawings and confirmed on site by Contract Administrator before excavation occurs.
- E31.3.3 Upon excavation of the planting bed, the excavation shall be backfilled with a topsoil mixture to a depth to permit adequate installation and stabilization of the plant material.
- E31.3.4 Protect bottom of excavations against freezing.
- E31.3.5 Remove water, which enters excavations prior to planting. Ensure source of water is not ground water and notify Contract Administrator.
- (a) After filling, excavation of top of bed shall be level with surrounding grade. Soil should be firmly compacted.
  - (b) Woodchip Mulch to be carefully spread to a consistent depth over the entire plant bed.
- E31.4 Method of Measurement and Basis of Payment
- E31.4.1 Method of Measurement shall be as follows:
- (a) Planting bed preparation will be measured on a square metre basis for:
    - (i) "Planting medium & wood mulch " on Form B: Prices.
- E31.4.2 Basis of Payment shall be as follows:
- (a) Planting bed preparation 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.

## **E32. TREE PLANTING**

- E32.1 Description:
- E32.1.1 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as shown on the Drawings and as hereinafter specified, including, but not necessarily confined to the following:
- (a) Supply and Installation of trees.
- E32.2 Materials
- E32.2.1 General
- (a) All nursery stock supplied shall be Canadian prairie nursery grown, of the species and sizes indicated on the drawings. Quality shall be in accordance with the latest "Guide Specification for Nursery Stock of the Canadian Nursery Trades Association".
  - (b) Any nursery stock dug from native stands, wood lots, orchards or neglected nurseries and which have not received proper cultural maintenance as advocated by the Canadian Nursery Trades Association shall be designated as "collected plants". The use of "collected plants" will not be permitted unless approved by the Contract Administrator.
  - (c) The Contract Administrator reserves the right to inspect the plant material at their original source, and to instruct the supplier on root and branch pruning requirements.
  - (d) Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of standardized Plant Names. The names of varieties not names therein are generally in conformity with the names accepted in the nursery trades.

- (e) Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.
- (f) All nursery stock shall be measured when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip.
- (g) All nursery stock shall be well branched, true to type, structurally sound, possess a well developed, undamaged root system and shall be free of disease, insect infestations, rodent damage, sunscald, frost cracks and other abrasion or scare to the bark. All parts of the nursery stock shall be moist and show live, green cambium when cut.
- (h) At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.

#### E32.2.2 Miscellaneous Materials

- (a) Water shall be potable and free of minerals which may be detrimental to plant growth.
- (b) Stakes shall be metal T-Bar, steel, 40x40x5x2440mm. Stakes must be adequately installed into sub-base as to ensure they are not easily removed by vandalism.
- (c) Guying Wire shall be 3mm diameter multi-strand galvanized steel cable.
- (d) Guying Collar shall be plastic tube, 13mm diameter, nylon reinforced.
- (e) Trunk Protection shall be plastic perforated spiraled strip.
- (f) Fertilizer shall be a slow release formulation of low nitrogen and high phosphorus e.g. 10-50-12. Apply quantities at rates stated by product manufacturer.
- (g) Planting Soil:
  - (i) 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 stonessand other extraneous matter. It shall not contain couch or crab grass rhizomes.
- (h) Wood Chip Mulch:
  - (i) Mulch to be placed within the proposed planting beds.
  - (ii) 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.
- (i) Root Ball Burlap shall be 150 g Hessian burlap, biodegradable.
- (j) Wire Baskets shall be horticultural accepted product designed to carry the weight and to contain a burlap-covered root ball. Minimum diameter basket size is to conform to the same minimum diameter of the tree root ball for the respective minimum tree caliper sizes.

#### E32.2.3 Plant Material

- (a) Nomenclature of specified trees is to conform to the International Code of Nomenclature for Cultivated Plants and is to be in accordance with the approved scientific names given in the latest edition of the Standardized Plant Names.
- (b) Trees are to be characteristically developed for their species and structurally sound, well branched, healthy and vigorous and densely foliated when in leaf. The tree is to have a healthy, well developed, fibrous root system which may be verified through a testing procedure that destructively samples one or more randomly selected root balls.
- (c) Trees are to have been root pruned regularly, but not later than one growing season prior to arrival on Site. The Contractor may be required to furnish documentation to the client on their root-pruning program. Trees in excess of 75mm caliper are to have

been half root pruned during each of two successive growing seasons, the latter at least, one growing season prior to arrival on Site.

- (d) All parts of the trees, especially the lower branches, are to be moist and show live, green cambium tissue when cut.
- (e) Trees are to have only one, sturdy, reasonably straight and vertical trunk, and a well balanced crown with fully developed leader.
- (f) Trees are to be free of disease, insect infestation, rodent damage, sun scald, frost cracks, abrasions, unhealed scars, scars exceeding 5cm in diameter, major forks or crooks in the trunk, broken branches, or angled leaders. Trees having the above defects will not be accepted by the Contract Administrator.
- (g) Trees having a leader which has developed at a sharp angle to the trunk as a result of pruning or trunk damage will not be accepted.
- (h) Trees exhibiting suppressed, weakly developed branches due to competition from other closely spaced trees in the nursery will not be accepted. Trees exhibiting dead branches will not be accepted.
- (i) Any tree that has come out of dormant stage and is too far advanced will not be accepted unless prior approval obtained. Approval is required for any tree which has been held in cold storage.
- (j) Balled and burlapped trees in excess of a 3m height must have been dug with large firm ball. Roots in root balls must be comprised of 75% fibrous and feeder root systems. Secure root balls with burlap, heavy twine and rope. For trees 75mm or more in caliper, wrap ball in double layer of burlap and drum lace with minimum 10mm diameter rope. Protect root balls against sudden changes in temperature and exposure to heavy rainfall.
- (k) Tree spade dug trees are to be dug with mechanized digging equipment with hydraulic spade. Lift root ball from hole, place in wire basket designed for purpose and lined with burlap. Tie basket to ball with heavy rope. Take care not to injure trunk of tree with wire basket ties or rope,
- (l) Use of collected or native trees is not permitted.

#### E32.2.4 Plant Quantity and Size

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

#### E32.2.5 Shipment and Pre-Planting Care

- (a) Coordinate shipping of trees and excavation of holes to ensure minimum time lapse between digging and planting.
- (b) Tie branches of trees securely, and protect trees against abrasion, exposure and extreme temperature change during transit. Avoid binding of trees with rope or wire which would damage bark, break branches or destroy natural shape of tree. Give full support to root ball of trees during lifting.

- (c) Cover tree foliage with tarpaulin, and protect bare roots by means of dampened straw, peat moss, saw dust or other acceptable material to prevent loss of moisture during transit and storage.
- (d) Remove broken and damaged roots with sharp pruning shears. Make clean cuts, and cover cuts over 10mm diameter with a tree wound dressing.
- (e) Keep roots moist and protected from sun and wind. Heel-in trees which cannot be planted immediately in shaded areas and water well.

### E32.3 Construction Methods

#### E32.3.1 Workmanship

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

#### E32.3.2 Planting Time

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

#### E32.3.3 Excavation

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

#### E32.3.4 Installation

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

#### E32.3.5 Fertilizing

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

E32.3.6 Trunk Protection

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

E32.3.7 Pruning

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

E32.3.8 Protection of Stock

- (a) All nursery stock shall be well protected from damage and drying out from the time of digging until the time of planting on site. All roots shall be cleanly cut; split roots are not acceptable.
- (a) Nursery stock shall be transplanted with care to prevent damage. Branches shall be carefully tied in such a manner so as not to break or damage trunks. Points of contact with equipment shall be padded. All nursery stock, which cannot be planted immediately upon arrival at the site, shall be well protected to prevent drying out and shall be kept moist until commencement of planting.

E32.3.9 Wound Dressing

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

E32.3.10 Maintenance

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

- (iii) Preventative or corrective measures required which are outside Contractor's responsibility.

#### E32.3.11 Warranty

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

#### E32.3.12 Replacements

- (a) During the Maintenance Period, the Contractor shall remove from Site any plant material that has died or failed to grow satisfactorily as determined by the Contract Administrator and replace as per Specifications within a maximum ten (10) day period from notification.
- (b) Defective plants shall be replaced within three (3) days of notification to the Contractor.
- (c) The Contractor shall extend Maintenance and Warranty on replacement tree for a period equal to the original Maintenance and Warranty Periods.
- (d) The Contractor shall continue such replacement, Maintenance and Warranty until tree is acceptable.

#### E32.4 Method of Measurement and Basis of Payment

##### E32.4.1 Method of Measurement shall be as follows:

- (a) Tree Planting will be measured on a per unit basis for:
  - (i) "Delta Hackberry" on Form B: Prices.

##### E32.4.2 Basis of Payment shall be as follows:

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

### **E33. SHRUBS AND PERENNIALS PLANTING**

#### E33.1 Description:

E33.1.1 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as shown on the Drawings and as hereinafter specified, including, but not necessarily confined to the following:

- (a) Supply and Installation of shrubs, perennials, and grasses.

#### E33.2 Materials

##### E33.2.1 General

- (a) All nursery stock supplied shall be Canadian prairie nursery grown, of the species and sizes indicated on the drawings. Quality shall be in accordance with the latest "Guide Specification for Nursery Stock of the Canadian Nursery Trades Association".
- (b) Any nursery stock dug from native stands, wood lots, orchards or neglected nurseries and which have not received proper cultural maintenance as advocated by the Canadian Nursery Trades Association shall be designated as "collected plants". The use of "collected plants" will not be permitted unless approved by the Contract Administrator.
- (c) The Contract Administrator reserves the right to inspect the plant material at their original source, and to instruct the supplier on root and branch pruning requirements.
- (d) Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of standardized Plant Names. The names of varieties not names therein are generally in conformity with the names accepted in the nursery trades.
- (e) Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.
- (f) All nursery stock shall be measured when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip.
- (g) All nursery stock shall be well branched, true to type, structurally sound, possess a well developed, undamaged root system and shall be free of disease, insect infestations, rodent damage, sunscald, frost cracks and other abrasion or scare to the bark. All parts of the nursery stock shall be moist and show live, green cambium when cut.
- (h) At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.

#### E33.2.2 Miscellaneous Materials

- (a) 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. All costs to provide water for the watering operation and all associated costs shall be borne by the Contractor.

E33.2.3 Planting Soil shall be as per specification E31 – Plant Bed Preparation.

#### E33.3 Plant Quantity and Size

E33.3.1 Shrubs, perennials and grasses are to be supplied and planted at the quantities and size listed on the Planting Lists which are shown on the drawings. Any variations to species or size of specified plants will require a request for approval from the Contract Administrator.

E33.3.2 Any changes in planting locations will be determined on-site by the Contract Administrator.

#### E33.4 Construction Methods

##### E33.4.1 Workmanship

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

##### E33.4.2 Planting Time

- (a) Plant only under conditions that are conducive to health and physical conditions of plants.

##### E33.4.3 Installation

- (a) Plants shall be installed into Plant Beds, as per E31, unless otherwise noted.
- (b) Installation of plants shall be as per SCD-501 for perennials, grasses and shrubs.

- (c) Planting shall be done during periods of suitable weather conditions and in accordance with locally accepted practice.
- (d) All nursery stock shall be set plumb in the center 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 structure and to the approval of the Contract Administrator.

E33.4.4 Fertilizing

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

E33.4.5 Pruning

- (a) Employ clean, sharp tools and make cuts flush with branch collars. Remove dead and injured branches.

E33.4.6 Protection of Stock

- (a) All nursery stock shall be well protected from damage and drying out from the time of digging until the time of planting on site. All roots shall be cleanly cut; split roots are not acceptable.
- (b) Nursery stock shall be transplanted with care to prevent damage. Branches shall be carefully tied in such a manner so as not to break or damage trunks. Points of contact with equipment shall be padded. All nursery stock, which cannot be planted immediately upon arrival at the site, shall be well protected to prevent drying out and shall be kept moist until commencement of planting.

E33.4.7 Wound Dressing

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

E33.5 Method of Measurement and Basis of Payment

E33.5.1 Method of Measurement shall be as follows:

- (a) Shrub and Perennial Planting will be measured on a per unit basis for:
  - (i) "Artic Fire' Dogwood",
  - (ii) "Prairie Petite' Lilac",
  - (iii) "Swamp Milkweed",
  - (iv) Prairie Dropseed Grass" on Form B: Prices.

E33.5.2 Basis of Payment shall be as follows:

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

**PLAY EQUIPMENT**

**E34. PLAY EQUIPMENT**

E34.1 Description:

E34.1.1 This specification shall cover the supply and installation of the Play Equipment as listed below and specified herein.

E34.1.2 Play equipment shall be installed in the play areas as shown on the attached Drawing. The play equipment and their safety zones should fit into the proposed play areas.

E34.1.3 Proponents are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B7.

E34.1.4 Further to CW 1110 Shop drawing shall be submitted to the Contract Administrator for all the play equipment specified herein.

#### E34.2 Materials

E34.2.1 All materials supplied under this specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection by the Contract Administrator.

E34.2.2 Concrete foundations shall be as per **E35**.

E34.2.3 Play equipment shall be as follows:

- (a) "Bloqx 2", as supplied by Kompan [www.kompan.us](http://www.kompan.us) or Parkworks, 1-800-667-4264; or approved substitute in accordance with B7.
  - (i) Colour: Lime green/grey sky blue, Model #BLX410202-3017
  - (ii) Mounting: Per manufacturer's details and written instructions.
  - (iii) Provide engineered, stamped shop drawings for play equipment and foundations including required type, depth and compaction of granular base and/or sub-base for review and approval prior to installation.
- (b) "Bamboo Jungle", as supplied by TrekFit [www.trekfit.ca](http://www.trekfit.ca) or Jeff Jackson Playground Pro, 1-306-352-7597; or approved substitute in accordance with B7.
  - (i) Mounting: Per manufacturer's details and written instructions.
  - (ii) Provide engineered, stamped shop drawings for play equipment and foundations including required type, depth and compaction of granular base and/or sub-base for review and approval prior to installation.

#### E34.3 Method of Measurement and Basis of Payment

E34.3.1 Method of Measurement shall be as follows:

- (a) Play Equipment shall be measured on a lump sum basis for:
  - (i) "Bloqx 2 play feature",
  - (ii) "Bamboo Jungle play feature", on Form B: Prices

E34.3.2 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.

### **E35. FOUNDATIONS**

#### E35.1 General Description

E35.1.1 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.

#### E35.2 Materials

- (a) The specific concrete requirements shall be:
- (b) Sulfate resistant, Type 50 Cement;
- (c) 28 day compressive strength of 30 Mpa;

- (d) maximum aggregate size of 20mm, nominal;
- (e) slump 80 +/- 20mm;
- (f) maximum water/cement ratio 0.49.

### E35.3 Installation

- E35.3.1 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.
- E35.3.2 All concrete footings for play equipment shall be a **minimum of 3' depth**, or in accordance with Manufacturer's specifications, whichever is greater

### E35.4 Method of Measurement and Basis of Payment

- E35.4.1 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.
- E35.4.2 Basis of Payment shall be as follows:
  - (a) No separate payment shall be made for play equipment foundations.

## E36. MAINTENANCE KITS

- E36.1 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.
- E36.2 There shall be no payment for the maintenance kits.