



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 38-2006**

**SKATEPARK WEST PHASE 1 AND  
MICHAEL KOMENDA MEMORIAL SKATEPARK**

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## **PART B - BIDDING PROCEDURES**

### **B1. PROJECT TITLE**

SKATEPARK WEST PHASE 1 AND  
MICHAEL KOMENDA MEMORIAL SKATEPARK

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, March 29, 2006.
- B2.2 Bid Submissions 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 GC:3.1, the Bidder may view the Site without making an appointment.
- B3.2 The Bidder is advised that existing snow cover may require a more exhaustive site investigation by the Bidder.

### **B4. ENQUIRIES**

- B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.
- B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.
- B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.
- B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.
- B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B5. ADDENDA**

- B5.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
  - B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site for addenda shortly before submitting his Bid.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B6. SUBSTITUTES**

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

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

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

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

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

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

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

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

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

B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.

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

**B7. BID SUBMISSION**

B7.1 The Bid Submission consists of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;
- (c) Form G1: Bid Bond and Agreement to Bond, or  
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or  
a certified cheque or draft;

B7.2 All components of the Bid Submission 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 in ink, to constitute a responsive Bid.

B7.3 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.3.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.

B7.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.5 Bid Submissions shall be submitted to:

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

**B8. BID**

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

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

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

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

B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
  - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered City of the business name, or by the registered City's authorized officials if the City is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.
- B8.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid Submission and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

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

## **B10. QUALIFICATION**

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
  - (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
  - (c) be financially capable of carrying out the terms of the Contract;
  - (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
  - (e) have successfully carried out work, similar in nature, scope and value to the Work;
  - (f) employ only Subcontractors who:
    - (i) are responsible and not suspended, debarred or in default of any obligation to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>); and
    - (ii) have successfully carried out work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract;
  - (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);
- B10.2 Further to B10.1(g), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder

has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a valid COR certification number under the Certificate of Recognition (COR) Program - Option 1 administered by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association; or
- (c) 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 Branch internet site at <http://www.winnipeg.ca/matmgt.>)

B10.3 The Bidder shall be prepared to submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.4 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B11. BID SECURITY**

B11.1 The Bidder shall provide bid security in the form of:

- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
- (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking 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 included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
- (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B11.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.



## **B12. OPENING OF BIDS AND RELEASE OF INFORMATION**

- B12.1 Bid Submissions will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.
- B12.1.1 Bidders or their representatives may attend.
- B12.1.2 Bid Submissions determined by the Manager of Materials, or his designate, to not include the bid security specified in B11 will not be read out.
- B12.2 After the public opening, the names of the Bidders and their Total Bid Prices as read out (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B12.4 The Bidder is advised that any information contained in any Bid Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

## **B13. IRREVOCABLE BID**

- B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B13.2 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 until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

## **B14. WITHDRAWAL OF BIDS**

- B14.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B14.1.1 Notwithstanding GC:23.3, 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.
- B14.1.2 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 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials shall:
- (a) retain the Bid Submission until after the Submission Deadline has elapsed;
  - (b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 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, including the right to retain the Bidder's bid security.

## **B15. EVALUATION OF BIDS**

B15.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission 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 if the interests of the City so require.

B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid Submission or in other information required to be submitted, that he is responsible and qualified.

B15.4 This Contract may be awarded as a whole (Alternative 1) or separately by location (Alternative 2) as identified on Form B: Prices.

B15.4.1 Notwithstanding Prices.1, the Bidder may, but is not required to, bid on both alternatives, or on any one or more locations in Alternative 2.

B15.4.2 The City shall not be obligated to award any location to the responsible Bidder submitting the lowest evaluated responsive Bid for that location and shall have the right to choose the alternative which is in its best interests. If the Bidder has not bid on both alternatives or on all locations in Alternative 2, he shall have no claim against the City if his partial Bid is rejected in favour of an award of the Contract on the basis of an alternative or location upon which he has not bid.

## **B16. AWARD OF CONTRACT**

B16.1 The City will give notice of the award of the Contract by way of a letter of intent, or will give notice that no award will be made.

B16.2 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.

B16.2.1 Without limiting the generality of B16.2, 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.

B16.3 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.

## **PART C - GENERAL CONDITIONS**

### **C1. GENERAL CONDITIONS**

C1.1 The *General Conditions for Construction Contracts* (Revision 2000 11 09) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

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

- D1.1 In addition to the *General Conditions for Construction Contracts*, these Supplemental Conditions are applicable to the Work of the Contract.
- D1.2 The General Conditions are amended by striking out “The City of Winnipeg Act” wherever it appears in the General Conditions and substituting “The City of Winnipeg Charter”.
- D1.3 The General Conditions are amended by striking out “Tender Package” wherever it appears in the General Conditions and substituting “Bid Opportunity”.
- D1.4 The General Conditions are amended by striking out “Tender Submission” wherever it appears in the General Conditions and substituting “Bid Submission”.
- D1.5 The General Conditions are amended by deleting GC:6.16 and GC:6.17. The City of Winnipeg is now within the jurisdiction of the Manitoba Ombudsman pursuant to The Ombudsman Act.

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

- D2.1 The major components of the Work are as follows:

##### **SKATEPARK WEST PHASE 1**

- D2.1.1 Approximate quantities
- (a) Approx. 196 m<sup>3</sup> of architectural concrete of which a significant portion will be via Shotcrete
  - (b) Approx. 230 lin.m. of steel coping (flat, square, and pipe)
  - (c) Approx. 5,300 lin.m. of reinforcing steel
  - (d) Approx. 985 m<sup>2</sup> of Structural Base Preparation and Drainage
  - (e) Average 2 M of sod repair around entire park.
  - (f) Site Preparation including some tree and shrub removal

##### **MICHAEL KOMENDA MEMORIAL SKATEPARK**

- D2.1.2 Approximate quantities
- (a) Approx. 460 m<sup>3</sup> of architectural concrete of which a significant portion will be via Shotcrete
  - (b) Approx. 390 lin.m. of steel coping (flat, square, and pipe)
  - (c) Approx. 10,000 lin.m. of reinforcing steel
  - (d) Approx. 2275 m<sup>2</sup> of Structural Base Preparation
  - (e) Average 2 M of sod repair around entire park.
  - (f) Drainage modifications and installation (approx. 300 lin.m. of PVC pipe and 10 area drains)
  - (g) Site Preparation including modification to existing irrigation line

**D3. CONTRACT ADMINISTRATOR**

D3.1 The Contract Administrator is van der Zalm + Associates Inc., represented by:

Scatliff+Miller+Murray Inc.

Attention: Mr. Bob Somers MALA

Contract Administrator

8<sup>th</sup> Floor – 44 Princess Street, Winnipeg, Manitoba R3B 1K2

Telephone No. (204) 927-3454

Facsimile No. (204) 927-3443

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

**D4. CONTRACTOR'S SUPERVISOR**

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

**D5. NOTICES**

D5.1 Except as provided for in GC:23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

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

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

The City of Winnipeg

Chief Administrative Officer Secretariat

Administration Building, 3rd Floor

510 Main Street

Winnipeg MB R3B 1B9

Facsimile No.: (204) 949-1174

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

The City of Winnipeg

Corporate Services Department

Legal Services Division

185 King Street, 3rd Floor

Winnipeg MB R3B 1J1

Facsimile No.: (204) 947-9155

## **D6. FURNISHING OF DOCUMENTS**

- D6.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

## **SUBMISSIONS**

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

- D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

### **D8. INSURANCE**

- D8.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) all inclusive, with The City of Winnipeg being added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a products and completed operations endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;
  - (b) automobile liability insurance for owned and non-owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D8.2 Deductibles shall be borne by the Contractor.
- D8.3 The Contractor shall provide the City Solicitor with a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.
- D8.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator and the City of Winnipeg Legal Services Division as indicated in D5.4.

### **D9. PERFORMANCE SECURITY**

- D9.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
  - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or

- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

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

D9.2 If the bid security provided in his Bid Submission was not a certified cheque or draft pursuant to B11.1(c), 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 letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

#### **D10. SUBCONTRACTOR LIST**

D10.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

#### **D11. DETAILED WORK SCHEDULE**

D11.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

D11.2 The detailed work schedule shall consist of the following:  
(a) a critical path method (C.P.M.) schedule for the Work;  
(b) a daily manpower schedule for the Work;  
all acceptable to the Contract Administrator.

D11.3 Further to D11.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:

- (a) Commencement of the Work,
- (b) Base preparation and drainage works
- (c) Test panel construction
- (d) Pour sequencing per SK- 6 Joint Plan
- (e) Date of Substantial Performance,
- (f) Site restoration and demobilization, and
- (g) Date of Total Performance

D11.4 Further to D11.2(b), the daily manpower schedule shall list the daily number of individuals on the Site for each trade.

#### **SCHEDULE OF WORK**

##### **D12. COMMENCEMENT**

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



- D12.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence that the Contractor is 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;
    - (ii) evidence of the workers compensation coverage specified in GC:6.14;
    - (iii) the Safe Work Plan specified in D7;
    - (iv) evidence of the insurance specified in D8;
    - (v) the performance security specified in D9;
    - (vi) the Subcontractor list specified in D10;
    - (vii) the detailed work schedule specified in D11; and
  - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator and the appropriate City of Winnipeg personnel.

### **D13. SUBSTANTIAL PERFORMANCE**

- D13.1 The Contractor shall achieve Substantial Performance by August 4, 2006.
- D13.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D13.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

### **D14. TOTAL PERFORMANCE**

- D14.1 The Contractor shall achieve Total Performance by August 11, 2006.
- D14.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D14.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

### **D15. LIQUIDATED DAMAGES**

- D15.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City eight hundred dollars (\$800.00) per Calendar Day for each and every Calendar Day following the day fixed herein for Total Performance during which such failure continues.
- D15.2 The amount specified for liquidated damages in D15.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

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

## **CONTROL OF WORK**

### **D16. JOB MEETINGS**

- D16.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D16.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

- D17.1 Further to GC:6.26, 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).

**FORM H1: PERFORMANCE BOND**  
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

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

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

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

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for:

BID OPPORTUNITY NO. 38-2006

**SKATEPARK WEST PHASE 1 AND**  
**MICHAEL KOMENDA MEMORIAL SKATEPARK**

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

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

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

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

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

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

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

SIGNED AND SEALED  
in the presence of:

\_\_\_\_\_  
(Witness)

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

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

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

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

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

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

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

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 38-2006

**SKATEPARK WEST PHASE 1 AND  
MICHAEL KOMENDA MEMORIAL SKATEPARK**

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

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

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

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

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

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

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

Partial drawings are permitted.

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

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

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

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

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

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

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

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

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

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

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

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



## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

- E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.2 The following Drawings are applicable to the Work:

#### SKATEPARK WEST PHASE 1

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
	Cover Sheet
SW-SK-1 Rev 0	Context Plan
SW-SK-2 Rev 0	Site Plan
SW-SK-3 Rev 0	Layout and Dimensions Plan
SW-SK-4 Rev 0	Grading Plan
SW-SK-5 Rev 0	Steel and Blend Areas
SW-SK-6 Rev 0	Joint Plan
SW-SK-7 Rev 0	Sections
SW-SK-8 Rev 0	Ordinate Layout Plan
SW-SK-D-1 Rev 0	Detail Reference
SW-SK-D-2 Rev 0	Details 1
SW-SK-D-3 Rev 0	Details 2
SW-SK-D-4 Rev 0	Details 3
SW-SK-D-5 Rev 0	Details 4
SW-SK-D-6 Rev 0	Ledge Construction Sequence
SW-SK-D-7 Rev 0	Rail on Bank Construction Sequence
SW-SK-D-8 Rev 0	Transition Panel Construction Sequence
SWS-1-R0	Extents of Base Preparation
SWS-2-R0	Base Preparation Details

#### MICHAEL KOMENDA MEMORIAL SKATEPARK

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
KM-SK-1 Rev 0	Context Plan
KM-SK-2 Rev 0	Site Plan
KM-SK-3 Rev 0	Layout and Dimensions Plan
KM-SK-4 Rev 0	Ordinate Layout Plan
KM-SK-5 Rev 0	Grading Plan
KM-SK-6 Rev 0	Drainage Plan
KM-SK-7 Rev 0	Steel and Blend Areas



KM-SK-8 Rev 0	Joint Plan
KM-SK-9 Rev 0	Sections
KM-SK-D-1 Rev 0	Detail Reference
KM-SK-D-2 Rev 0	Details 1
KM-SK-D-3 Rev 0	Details 2
KM-SK-D-4 Rev 0	Details 3
KM-SK-D-5 Rev 0	Details 4
KM-SK-D-6 Rev 0	Details 5
KM-SK-D-7 Rev 0	Ledge Construction Sequence
KM-SK-D-8 Rev 0	Rail on Bank Construction Sequence
KM-SK-D-9 Rev 0	Transition Panel Construction Sequence
KMS-1-R0	Extents of Base Preparation
KMS-2-R0	Base Preparation Details

## **GENERAL REQUIREMENTS**

### **E2. PRE-CONSTRUCTION MEETING**

- E2.1 After the Contract has been awarded, a meeting will be arranged between the City, Contractor and the Contract Administrator to review construction methods and schedule as per D11.2.

### **E3. SETTING OUT THE WORK**

- E3.1 The Contractor shall be responsible for all setting out and levelling required for the project.
- E3.1.1 In setting out, include the preparation of grade sheets, installation of stakes, offsets, site rails and similar operations.
- E3.1.2 Be responsible for the correctness of the position, levels, dimensions and alignment of the Work, and for the provision of necessary instruments and labour in connection therewith. Checking of the setting out of line or level by the Contract Administrator does not relieve the Contractor of his responsibility for the correctness thereof.
- E3.1.3 Further to GC 6.28 (g) & (h), carefully protect and preserve stakes, lot pins, marks and reference points, and replace if destroyed or removed.
- E3.1.4 Further to GC 11.1, whenever necessary suspend Work temporarily, at no cost to the City, to permit the Contract Administrator to inspect the Work, and check the line and grade of any portion of the Work.

### **E4. PROTECTION**

- E4.1 Further to GC 10, the Contractor will be responsible for protecting the Work in each area, until work in that area has been completed, fully cured, and set; also for protecting other surfaces during execution of Work in accordance with the Specifications.
- E4.2 Should the Work be suspended for any cause whatsoever, the Contractor shall assume all responsibility for proper protection during such a period. He shall make suitable arrangements for protection of any of the Work liable to damage.

### **E5. TRAFFIC AND ACCESS**

- E5.1 Further to GC 6.28 (b), the Contractor or his Subcontractors shall not close or obstruct access to public and shall not place or store materials or park vehicles or equipment on public roads.

## **E6. USE OF PREMISES**

- E6.1 The Contractor shall confine apparatus, the storage of materials and the operations of workers to limits indicated by laws, ordinances, permits or by direction of the Contract Administrator, and shall not unreasonably encumber the site with his materials. The Contractor shall not load or permit to be loaded any part of the Work with a weight that will endanger its safety. The Contractor shall enforce instructions regarding signs, advertisements, and fires.
- E6.2 Confine activities relevant to the work to immediate areas. No fires, explosions or similar dangerous activities shall be permitted on City's property without City's permission.

## **E7. SITE SECURITY**

- E7.1 Further to GC 6.28, the Contractor shall be responsible for securing the site at all times and the making good of all deficiencies at no extra to the Contract Price. No security will be provided or compensation paid by the City for material or work stolen, lost, damaged or destroyed.
- E7.2 Experience has shown that a site security guard is required 24/7 during the critical concrete curing stages to prevent unauthorized trespassing onto the Site. Security fencing is not sufficient to prevent such trespassing.

## **E8. EXISTING SERVICES**

- E8.1 Further to GC 3.1, it is the responsibility of the Contractor to satisfy themselves by examination of the Site of the Work and existing conditions and materials which may be encountered on the site. It is the responsibility of the Contractor to notify all agencies regarding the installation of any services in this contract and to obtain stakeouts and permits for the services. The Contractor shall inquire as to the location of existing, abandoned, or potentially undocumented utilities that may cross the worksite.

## **E9. DELIVERY AND STORAGE**

- E9.1 Further to GC 10, materials shall be handled and stored on the job in such a manner that no damage shall be done to the material. An area of the site shall be allocated by the Contractor for the storage of materials brought to the job by all Subcontractors except materials to be stored under cover. The storage area shall be kept tidy at all times and no other part of the property shall be used.
- E9.2 Materials shall be protected from damage during handling, storage and installation.

## **E10. OTHER CONTRACTORS**

- E10.1 Further to GC 6.25, contracts arranged for by the City, for other types of work may be in progress by more than one Contractor.
- E10.2 The Contractor must make early arrangements and be prepared with persons and materials to fully cooperate with the Contractor(s) of adjoining work.

## **E11. SITE MAINTENANCE**

- E11.1 Further to GC 6.29, the Contractor shall be responsible for maintaining the work in a neat, clean and workmanlike manner at all times and for regular clean-up of the Work to the satisfaction of the City.

E11.1.1 Keep public streets, internal roads and other construction areas clean and free from mud and debris. If it is necessary to haul wet material, use suitable watertight trucks. Clean up any internal or public roads as required and or when directed by the City.

E11.1.2 Control dust by the use of water.

E11.2 Further to GC 6.30, the Contractor shall dispose of all rubbish and surplus materials and leave the site in a neat and presentable condition, prior to Total Performance.

## **E12. SITE RESTORATION**

E12.1 The Contractor shall be responsible for the reinstatement and repair of all items damaged as a result of the work. These include, but are not limited to, curbs, municipal sidewalks, and boulevards. Such repairs shall be made equal to or better condition than the original item, and shall be inspected and approved by the Contract Administrator. Repairs must be completed prior to Total Performance.

## **E13. PROGRESS REVIEWS**

E13.1 Further to GC 11, the Contract Administrator shall carry out scheduled and un-scheduled on-site reviews of the Work.

E13.2 The Contractor shall notify the Contract Administrator, when in the Contractor's opinion, Work has progressed to a point that requires direction or approval prior to proceeding (ie: concrete test panels).

## **E14. SAMPLES**

E14.1 Submit samples called for in the Specification or requested by the Contract Administrator within fifteen (15) calendar days of request.

E14.1.1 Identify samples with name of project, date, name of contractor, name of supplier/manufacturer and use of material represented by sample.

E14.1.2 Do not proceed with delivery of materials until samples are reviewed by the Contract Administrator; no deviation permitted after approval of sample.

E14.1.3 Approval of samples does not imply acceptance of finished work.

E14.1.4 Where required, submit range of samples, as may be reasonable.

## **E15. TEST REPORTS**

E15.1 Where required by the Contract Administrator, provide certified copies of tests upon materials to be used in the construction of the Work, indicating that the materials comply with the Specifications.

E15.2 Submit test reports to the Contract Administrator within ten (10) calendar days of request.

## **E16. MATERIALS TESTING**

E16.1 All materials supplied under this specification shall be subject to inspection and testing by the Contract Administrator or an independent Testing Laboratory designated by the Contract Administrator. There shall be no charge to the City for any materials taken by the Contract Administrator for testing purposes.

- E16.2 The City shall pay for all tests and inspections called for in the specifications, which may include but are not limited to
- (a) compaction of backfill, base course and sub-base granular materials,
  - (b) concrete and asphalt.
- E16.3 Provide and maintain facilities conforming to C.S.A. Standards acceptable to the testing agency for storing and curing of test cylinders.
- E16.4 Advise the testing agency sufficiently in advance of concrete placement to allow for the scheduling of testing.
- E16.5 The Contractor may, at his own expense, conduct additional testing of materials, to assist in determining whether prepared or completed portions of the Work are in compliance with the technical requirements of the specifications.
- E16.6 Cost of any re-testing and all related expenses, if required, shall be paid for by the Contractor.

**E17. AS-BUILT RECORD DRAWINGS**

- E17.1 The Contract Administrator will provide a set of white prints for RECORD drawing purposes.
- E17.1.1 Maintain record drawings and accurately record significant changes from Contract Documents caused by site conditions and changes ordered by the Contract Administrator.
- E17.1.2 Mark up all record drawing changes, on the white prints, in red ink.
- E17.1.3 Record the following information:
- (a) Horizontal and vertical location of underground utilities or drainage structures and referenced to permanent surface improvement.
  - (b) Field changes of dimension and detail.
  - (c) Changes made by Change Order or Field Order.
- E17.1.4 At completion of project and prior to final inspection submit marked up "record" drawings to the Contract Administrator.
- E17.1.5 The Contractor will not be considered to have achieved Total Performance until the completed record drawings have been received and approved as accurate by the Contract Administrator.
- E17.1.6 Additional Information required:
- (a) Names, address and phone number of all Subcontractors and Suppliers.

**E18. SPECIAL TOOLS AND KEYS**

- E18.1 On completion of the project and prior to Total Performance, submit to the City all special tools and keys required to operate, adjust, and maintain the equipment, locks, etc.

**E19. MANUFACTURER'S WARRANTIES**

- E19.1 All manufacturer's warranties shall be submitted to the City upon completion of the work.

## **E20. CONCRETE**

### **DESCRIPTION**

- E20.1 This section specifies the supply and installation of skate-park concrete, and workmanship and is intended to read in conjunction with *The City of Winnipeg Standard Construction Specifications* and the following:
- (a) National Building Code of Canada (NBC).
  - (b) C.S.A. Standard A23.1-94 Concrete Materials and Methods of Concrete Construction latest edition

### **MIX DESIGNS**

- E20.2 Contractor to submit mix design to the Contract Administrator for approval minimum 1 week prior to first pour.

### **SAMPLE PANELS**

- E20.3 Test panels for concrete work will be required prior to authorization for general concrete work within the skate-park. The Contractor shall prepare one bank panel and one transition panel for review of shape and finish.
- E20.4 The Contractor may choose to construct the test panel within the contract area but may be required to remove the work if it does not meet specification for shape and finish.
- E20.5 The Contractor may choose to construct a smaller bank or transition panel outside of the contract area for the purpose of review and approval only.
- E20.5.1 Obtain approval of the Contract Administrator for test sections.
- E20.5.2 Prepare a representative test section of each finish on site in an inconspicuous location, at least 1m<sup>2</sup>.
- E20.5.3 The test section must be produced by the same workers who will complete the work.
- E20.5.4 The approved test sections will become the standard
- E20.6 The Contract Administrator will utilize a 'true' dimensional piece of lumber to check for consistent shape over the entire panel. A radius template will be used to check the shape of the transition panel. No discrepancy greater than 5mm over 3m will be acceptable.
- E20.7 Written approval from the Contract Administrator is required prior to additional concrete pours.

## **PART 2 - PRODUCTS**

### **USE MATERIALS COMPLYING WITH CSA A23**

- E20.8 Cement
- (a) Type 10 - Normal Portland cement.
- E20.9 Aggregates
- (a) Fine aggregate - natural sand.
  - (b) Coarse aggregate - gravel or crushed stone.

#### E20.10 Additives

- (a) Air-entraining agents – per CW 3310 – R10.
- (b) Water reducing agents - use throughout per CW 3310 – R10
- (c) Ensure admixtures are compatible with each other and with construction materials used in contact with concrete.
- (d) Do not use calcium chloride in any circumstance.

#### E20.11 Reinforcement

- (a) In accordance with design drawings and notes. Refer to details for specific areas. Reinforcing steel shall be of type and grade stated on drawings or specified. Unless otherwise noted or specified, all bars shall be deformed and in accordance with CSA Standard G30-12, Grade 400, and all welded steel wire fabric shall be in accordance with CSA Standard G30.5. All reinforcing steel shall bear identifying marks of specification to which it has been rolled and all bars which are not so marked shall not be used in structure. All reinforcing steel shall be a bendable, weldable grade.
- (b) Welding of reinforcing is not permitted without written approval of Contract Administrator
- (c) Welded wire mesh (100mmx100mm WWM 8 GA) shall conform to CSA G30.5
- (d) Clear cover for reinforcement:
  - (i) Cast against soil 75mm
  - (ii) Exposed to soil or weather 15m and smaller 40mm
- (e) All dowels and anchor bolts shall be placed BEFORE the concrete is poured.
- (f) Unless noted otherwise, reinforce concrete as follows:
  - (i) Vertical: 10m @ 450 on centre
  - (ii) Horizontal: 10m @ 600 on centre
  - (iii) Additional: 10m Corner Reinforcing where indicated.

#### E20.12 Anchor Bolts and Anchor Assemblies

- (a) Anchor bolts - ASTM A307 quality.

#### E20.13 Angle Plates and Steel Support Brackets

- (a) Painted with zinc-rich primer or as specified in project details.

### FORMWORK

E20.14 Forms shall be so constructed that the finished concrete will conform with the shapes, lines, grades and dimensions indicated on the plan.

E20.15 Use Formply plywood for exposed concrete surfaces as designated on the drawings.

E20.16 Form walls using plastic cone ties for sandblasted concrete walls. Arrange all ties in symmetrical, aligned vertical and horizontal rows. They shall be so arranged that when the forms are removed, no ties shall be within 25mm of any exposed surface. Wire ties may be permitted only on light work; they shall not be used through surfaces where discoloration will be objectionable. All wall reinforcing shall be continuous at corners and intersections. Use corner bars or hooks.

E20.17 Plug, tape and seal all cracks and holes in forms to withstand pressure and remain watertight.

E20.18 Design forms to permit removal without damage to finish.

- E20.19 Clean and condition formwork before each use. Repair or replace any damaged form that may effect the concrete finish.
- E20.20 After removal of plastic cone ties, treat tie ends with rust inhibitive coating. Insert recessed cement plugs to uniform depth, taking care not to damage surrounding edge of concrete.
- E20.21 Lumber used in forms shall be free from warp. For any exposed surfaces, it shall be dressed to a uniform width and thickness and be free from loose knots, decay or other defects. For unexposed surfaces and rough work, undressed lumber may be used if means be taken to prevent leakage of mortar.
- E20.22 Unless otherwise specified, suitable molding or bevels shall be placed at angles or forms to round or bevel the edges and re-entrant angles on concrete as shown on details.
- E20.23 The inside of forms shall be coated with non-straining mineral oil or other approved liquid or thoroughly wetted, (except in freezing weather). Where oil is used, it shall be applied before the reinforcement is placed.
- E20.24 Care shall be taken to ensure that forms do not become dried and warped before concrete is deposited. Before concrete is placed, forms and reinforcement shall be checked and approved by Contract Administrator.
- E20.25 Forms shall not be disturbed until the concrete has adequately hardened. Forms are to be removed in a regular sequence of elapsed time between pour and removal so as to maintain color consistency.
- E20.26 All edges shall be chamfered as shown on drawings, minimum 19mm @1.1
- E20.27 Do formwork as follows:
- E20.28 Form materials for concrete surfaces which will be exposed to view, or which require smooth and uniform surfaces for applied finishes or other purposes, shall consist of square edged smooth panels of plywood. Panels shall be made in a true plane, clean, free of holes, surface markings and defects.
- E20.29 Form release agents and curing agents shall be compatible with applied finishes where applicable. Do not use release agents containing wax or oil in connection with concrete to receive applied coatings.
- E20.30 Ties in exposed work shall generally be placed symmetrically about any section with plywood sheets and from each wall section.
- E20.31 Grout all holes
- E20.32 Set to proper grade and alignment. Assure positive drainage.
- E20.33 Construct straight and warp free with no bulging when concrete placed. Fit tightly at joints and corners.

#### **SHAPING TEMPLATES:**

- E20.34 Shape of the skate-able features is critical to the success of the park.
- E20.35 All wooden templates must be prepared in a controlled environment to ensure accuracy and prevent warping. Templates must be approved through shop drawings, and numbered to relate to the contract drawings for ease of assembly on site.

## **MIX DESIGNS**

E20.36 Structural Concrete Slab and all skate-park elements (Reinforced)

- (a) Class of Exposure C-2 (table II CSA A23.1-00)
- (b) Minimum compressive strength at 28 days of 32MPA.
- (c) Slump 80mm +/- 20mm max after addition of fibre additive.
- (d) Maximum water cement ratio 0.45 (Table CSA A23.1-00)
- (e) Air content 5% to 7%
- (f) Maximum size of coarse aggregate 10mm.
- (g) 600g/m<sup>3</sup> Grace Microfibre or Polypropylene
- (h) Use water reducing agents throughout.
- (i) Wet cure for 7 days – Do not use curing compounds.

E20.37 Wet Mix Shotcrete Design for Bowl and Transition areas

- (a) Class of Exposure C-2 (table II CSA A23.1-00)
- (b) Minimum compressive strength at 28 days of 35 MPA.
- (c) Slump 80 +/- 20 max after addition of fibre additive.
- (d) Maximum water cement ratio 0.45 (Table CSA A23.1-00)
- (e) Air content 5% to 7%
- (f) Maximum size of coarse aggregate 10mm.
- (g) 1 bag (600g/m<sup>3</sup>) Grace Microfibre or Polypropylene
- (h) Use water reducing agents throughout.
- (i) Wet cure for 7 days – Do not use curing compounds.

E20.37.1 Shotcrete must be used for all transition panels.

## **PART 3 - EXECUTION**

### **STANDARD OF WORKMANSHIP**

E20.38 Comply with CSA-A23 'Concrete Materials and Methods of Construction'.

E20.39 Skate-park shall be constructed in accordance with the layout plan and details provided. Finishing shall produce a first class, smooth surface, free from irregularities, or imperfections greater than 5mm from specified surface finishes.

E20.39.1 Inspect formed surfaces for defect immediately after removal of formwork.

E20.39.2 Remove or cut back to a depth of 19mm from the surface of the concrete, all bolts, ties, nails or other metal that are not required and repair immediately.

E20.39.3 Grout all steel inserts in strict conformance with grout manufacturer's printed instructions.

E20.39.4 Remove imperfections such as bulges, fins, lips and stains to permanently exposed surfaces as directed by Contract Administrator, by chipping or grinding and patch to match adjacent surfaces. Do not proceed with grinding until the concrete has sufficiently hardened to prevent dislodgement of coarse aggregate particles.

E20.39.5 Curved and flat shapes to be screeded using accurately cut screed boards and templates in accordance with drawing sections.



E20.39.6 Reinforce screeds and templates and keep of manageable size to avoid distortion.

### **COORDINATION**

E20.40 Determine the requirements of other trades, inform concerned trades and assume responsibility for location, installation and quality of all items which affect the work of this section.

E20.41 Have all inserts and form ties placed in the formwork before reinforcing steel is placed. Divert reinforcement around inserts as approved by the Contract Administrator. Do not allow other trades to cut reinforcing steel to clear inserts.

### **TOLERANCES FOR CONCRETE**

E20.42 Variation from level or plumb:

- (a) For wall and slab surfaces:
  - (i) plus or minus 5mm over 3.0m distance for all panels. Level and true concrete panels are extremely important to the safety and 'ride-ability' of the park. All panels will be checked for imperfections in concrete finish and level.
- (b) Variation in size and location of sleeves and openings
  - (i) plus or minus 6mm
- (c) Variation in the thickness of slabs and walls:
  - (i) plus or minus 6mm

### **TOLERANCES FOR REINFORCEMENT**

E20.43 Shear and Bending Tolerance:

- (a) Straight bars - plus or minus 25mm.
- (b) Stirrups, ties or spirals - plus or minus 12mm.
- (c) Bent bars - length - plus or minus 12mm.

E20.44 Placing Tolerance:

- (a) Place within 6mm (1/4") with respect to concrete thickness and center to center spacing.

### **JOINTS**

E20.45 Make joints conform to detail sheets unless otherwise indicated.

E20.45.1 Leave the surface of horizontal construction joints rough with 6mm (1/4") deep ridges and valleys.

E20.45.2 Blast clean joints of loose material, laitance and form oil before the next pour is made.

E20.45.3 Locate and install control joints where shown on drawings.

E20.45.4 Except where shown otherwise, provide saw cut control joints in slab on grade in accordance with CSA CAN.3-A23.1 and in locations shown.

E20.45.5 Saw cuts shall be completed when concrete has hardened sufficiently that cutting can be performed without damaging slabs.

E20.45.6 Install expansion joints around catch basins and along length adjacent to concrete curbs, or ledges/seatwalls.

- E20.45.7 Avoid re-entrant corners into flat slab areas. Curve such corners, provide extra reinforcement and place control joint or saw joint to such corners.
- E20.45.8 Mark or saw-cut concrete paving at intervals indicated on the drawings (control joints), strike the joint to a penetration of 30% of the paving thickness or as per drawings, mark curb only at the expansion joints, and form marked joints as indicated on the drawings with special tools.
- E20.45.9 Finish exposed surfaces with a smooth finish, broom swept as per drawings, or medium sandblasted finish as per drawings, and correct surface irregularities before final set.
- E20.45.10 Install 12mm or 10mm expansion joint adjacent to all vertical structures, concrete edges, curbs, walls and/or where shown and as shown on the drawings. Set pre-cut joints below finished grade and finish to surface with sealant, backing rod and pre-formed joint filler rodofoam or equal, as per drawings.
- E20.45.11 Stop reinforcement on either side of expansion joint.
- E20.45.12 Sawcut within 12 hours of pouring or as directed by the Contract Administrator.

### **PANEL POURING**

- E20.46 Typically the skate-park concrete is placed in individual panels and segments to suit designed, compound surfaces. These are placed in 'leap-frog' fashion, allowing 5-7 days for maximum shrinkage to take place before placing intermediate panels.
- E20.46.1 The construction joint between panels, segments and flat slabs shall have continuous rebar extended through forms for connection to neighbouring panels and slabs. Tie every other bar extending into flat slab (300mm extensions) area to allow some movement between unique panels.
- E20.46.2 Drainage slopes must be planned with care from slab section edges to drain path shown on drawings or direct to drain.
- E20.46.3 When placing, ensure good vibration and rapping with hammer along joints and edges

### **REMOVAL OF FORMS**

- E20.47 Be responsible and utilize testing as specified before removing forms.
- E20.48 The minimum length of time for forms to remain in place (unless otherwise directed by the Contract Administrator) is 24 hrs.

### **CURING AND PROTECTION**

- E20.49 Keep slabs moist for at least 7 consecutive days after placing unless otherwise approved by Contract Administrator.
- E20.50 Cure all concrete in skate-park for 28 days prior to allowing any traffic. Provide protective barriers to prevent traffic into skate-park.
- E20.51 Use synthetic moist curing cover and keep moist at all times..

### **WINTER CONCRETE**

- E20.52 Only pour concrete when temperatures are forecast to remain 4 degrees celsius (40F) for a minimum period of four days. Unforeseen changes in weather after a winter concrete pour will require the use of insulating blankets or heated enclosures for a minimum period of 4 days. Should suspension of work be required for periods of cold weather the Contractor shall consult

with the Contract Administrator to determine a safe manner in which to leave the site until work can resume.

- E20.53 For winter conditions accelerating admixtures may be used in concrete mix design.
- E20.54 Snow and ice must be removed from all concrete forms and the sub-base before pouring concrete.
- E20.55 Ensure that the temperature of the sub-base and any other surfaces that come in contact with the concrete are not below freezing.
- E20.56 Never begin final finishing operations while bleed water is present.
- E20.57 Avoid overworking of cooled slabs exhibiting delayed setting characteristics.
- E20.58 Take care to protect edges and corners with insulating blankets during periods of low temperature (between 2-4 degrees celcius) to limit heat loss in two or more directions.
- E20.59 Take temperature readings of the concrete several times each day at the corners and edges. These temperature records shall be incorporated as part of the permanent records of the job. Make records available to Contract Administrator.
- E20.60 The use of salts, chemicals or other foreign materials to lower the freezing point of concrete are not permitted.

## FINISHING SURFACES

- E20.61 Sack-rub green concrete as required to ensure all patching appears monolithic with the adjoining concrete and where required to conceal stained areas and other areas not of uniform colour.
- E20.62 Finish surfaces to produce smooth, uniform surfaces free of open texturing and exposed aggregate. Do not work more mortar into surface than required; do not use neat cement as drier to facilitate finishing.
- E20.63 Round edges, including edges of joints, with 10mm radius edging tool unless shown differently in details for various locations.
- E20.64 Schedule of finishes:
  - (a) Smooth Finish
    - (i) Smooth finish all concrete surfaces in skate-park, all walls, and all stair riser. Steel or magnesium trowel to produce a smooth, dense surface with no irregularities. Tolerances to flat plane shall be no greater than 5mm in 3.0m. Smooth finish to be non-textural with no exposed aggregate. Flat slabs to be power trowelled.
    - (ii) For both hand and power trowelled surfaces, test panels to be done prior to start to establish acceptance and criteria for skate-park standards.
  - (b) Sand Blast Finish – **not applicable on this project**
    - (i) Sandblast all stair treads (not risers), bollards, and wall features.
  - (c) Remove defective concrete, blemishes and embedded debris; repair as required and directed by Contract Administrator.

- (d) Concrete surfaces to be complete and tight against all coping and steel edges. Proper coping protection to prevent concrete build-up on steel surfaces must be maintained at all times.
- (e) Prior to final completion of concrete elements, dress all areas with dressing stone and grinder as directed by Contract Administrator. This will include slab surfaces, edges, control and construction joints, coping/slab joints and walls.

#### **SANDBLASTED CONCRETE – NOT APPLICABLE ON THIS PROJECT**

- (f) Prior to the sandblasting operation, repair defective areas of concrete to match surrounding concrete as described for finishing above.
- (g) Sandblast concrete to a constant depth of 3mm (1/8") (medium) or as per approved samples.
- (h) Concrete dimensions shown on drawings are final sizes after the sandblasting operation.
- (i) Hold nozzle perpendicular to concrete surface. Move in either vertical or horizontal pass, not both.
- (j) Sandblast exposed surfaces of all concrete structures and all other areas designated on the drawings.
- (k) Contract Administrator must approve test area for sandblasting prior to proceeding.

#### **E21. MISCELLANEOUS METALS**

##### **GENERAL**

- E21.1 This section specifies the supply and installation of miscellaneous metal work including steel grinding edges, coping, and railings.
- (a) Miscellaneous Supports.
  - (b) Anchor bolts, bases and bearing plates.
  - (c) Separators, angles, tees, clips, and fasteners.
  - (d) Painting of steel.

##### **QUALITY ASSURANCE**

- E21.2 Workmanship
- (a) Finish metal work straight, even and smooth and free of any defects to sizes specified and required.
  - (b) Provide necessary angles, brackets, metal inserts, rivets, anchor bolts, frames, adjusting screws, gaskets and other items necessary for the complete installation of the work. Substantially frame work together.
  - (c) Ensure the welding is neat, symmetrical, clean and unobtrusive in appearance.
- E21.3 Standards
- (a) Have work conform to the Manitoba Building Code and the National Building Code of Canada.
  - (b) Recognized authorities are the publications of: Canadian Standard Association.
  - (c) Local Building By-Laws.
  - (d) Canadian Institute of Steel Construction (CISC).
  - (e) American Society for Testing and Materials (ASTM).

- (f) Conform to the requirements of CSA CAN3-S16.1M78 for steel work.

## **SUBMITTALS**

### **E21.4 Samples:**

- (a) Submit samples of any component requested by the Contract Administrator prior to fabrication.

### **E21.5 Shop drawings**

- (a) Verify all dimensions on site before fabrication.

## **MATERIALS**

E21.6 Unless detailed or specified otherwise, standard products will be acceptable if construction details and installation meet intent of Drawings and Specifications in the opinion of the Contract Administrator.

E21.7 Work to be free from defects which impair the strength or durability or which are visible; new or best quality, and free from rust, waves, or buckles.

E21.8 Steel: CSA G40.21, Grade 300W.

E21.9 Zinc Rich Primer: All rails, steel grinding edges and steel coping shall be painted with a zinc-rich primer. All welds and site work shall be re-primed at completion of work to ensure protection against corrosion. Ensure that all metal work is ground of mill scale prior to application of zinc-rich paint.

E21.10 Fasteners: Unless otherwise specified, provide fasteners as follows:

- (a) Steel anchor bolts - conform to ASTM A307.
- (b) Steel bolts and lag screws - conform to ASTM A325.

## **FABRICATION**

E21.11 Take site measurements, prior to fabrication to ensure accurate fitting.

E21.12 Accurately cut, machine, and fit joints, corners, mitre so that junctions between components fit together tightly and in true planes.

E21.13 Fasten work with concealed methods, unless otherwise indicated on the Drawings.

E21.14 Weld all connections where possible, bolt where not possible, cut off bolts flush with nuts. Countersink bolt heads and prevent loosening of nuts. Ream holes drilled for fastenings.

E21.15 Weld joints tight, flush, and grind smooth, in true planes with base metals. Make welds continuous.

E21.16 Provide for differential movement within assemblies.

## **INSTALLATION**

E21.17 Install work plumb, true, square, straight, level, and accurately and tightly fitted together and to surrounding work.

E21.18 Include anchor bolts, bolts, washers and nuts, lag screws, expansion shields, toggles, straps, sleeve brackets, clips, and other items necessary for secure installation.

E21.19 After erection, touch-up galvanizing with 'galvafroid' paint or acceptable alternative.

## **E22. JOINT SEALANT**

### **DESCRIPTION**

E22.1 This section specifies joint sealants for masonry and concrete.

### **REFERENCES**

E22.2 Conform to CAN2-19.13-M82.

### **SUBMITTALS**

E22.3 Provide samples of manufacturer's product brochures and product names, range of colours in each type of sealant for selection by Contract Administrator.

### **WARRANTY**

E22.4 Promptly correct, at no expense to City, any defects or deficiencies which become apparent within warranty period. Defects shall include, but shall not be limited to, sag and failure in adhesion or cohesion, air and moisture leakage, hardening, running, sagging, change of colour, crumbling, melting, bubbling, and staining of adjacent materials.

### **ENVIRONMENTAL CONDITIONS**

E22.5 Do not apply any sealant at ambient temperatures below 5°C without consulting manufacturer and obtaining Contract Administrator's approval. Apply only to completely dry surfaces.

### **MATERIALS**

E22.6 All sealants utilized in the sealant system shall be compatible.

E22.7 Provide sealant formulation recommended by the manufacturer for the type of joint, substrate and service conditions applicable.

E22.8 Colours: charcoal/grey so as to blend with surround concrete features.

E22.9 Sealant Type A: Multi-component, polyurethane base, chemical curing, CAN2-19.24-M80, Dymeric by Tremco Ltd., 220 Wicksteed Ave., Toronto, (416) 421-3300, or approved equal.

E22.10 Sealant Type B: Self-levelling, multi-component, polyurethane base, chemical curing, THC-900 and THC 900 Joint Primer by Tremco Ltd., 2200 Wicksteed Ave., Toronto, (416) 421-3300, or approved equal.

E22.11 Sealant Backing: Extruded, foamed, closed cell, round, polyethylene urethane, neoprene or vinyl rod, 30% greater diameter than joint width, with Shore 'A' hardness of 20 and 830 - 900 KPa tensile strength, and manufactured especially for the purpose.

E22.12 Expansion Joint Filler: Preformed PVC closed cell, Rodofoam by Sternson Canada limited or approved equal.

E22.13 Joint Primer: As recommended by sealant manufacturer for type of surface being primed.

## PREPARATION

- E22.14 Clean joints and spaces which are to be sealed and ensure that they are dry and free of dust, loose mortar, oil, grease and other foreign material. Clean ferrous metals of all rust, mill scale and foreign materials by wire brushing, grinding or sanding.
- E22.15 Wipe all metal surfaces to be sealed, except pre-coated metals, with cellulose sponges or clean rags soaked with ethyl alcohol, ketone solvent, xylol or toluol and wipe dry with clean cloth. Where joints are to be sealed with silicone based sealants clean joint with methyl-ethyl-ketone (MEK) only. Clean pre-coated metals with solutions or compounds which will not injure finish and which are compatible with joint primer and sealant. Check that ferrous metal surfaces are painted before applying sealant.
- E22.16 Examine joint sizes and correct to achieve proper width/depth ratio and as per drawings:
- (a) 6 mm x 6 mm minimum joint size
  - (b) 6 mm to 12 mm depth shall equal width
  - (c) 12 mm to 50 mm depth equal 1/3 of width or 12 mm whichever is less
- E22.17 Install joint backing or apply bond breaker tape to achieve correct joint depth.
- E22.18 On horizontal traffic surfaces, support joint filler against vertical movement which might result from traffic loads, including foot traffic.
- E22.19 Where surfaces adjacent to joints are likely to become coated with sealant during application, mask them prior to priming and sealing.
- E22.20 Prime sides of joints, if priming is recommended by sealant manufacturer for type of surface being sealed.
- E22.21 Check form release agent used on concrete for compatibility with primer and sealant. If they are incompatible inform Contract Administrator and change primer and sealant to compatible types approved by Contract Administrator or clean concrete to Contract Administrator's approval.

## APPLICATION

- E22.22 Apply sealant using air or hand operated guns fitted with suitable nozzles and equipment approved by sealant manufacturer. Apply in strict accordance with manufacturer's directions and recommendations.
- E22.23 Apply sealant under pressure to assure good adhesion to sides of joints and to completely fill all voids in joint.
- E22.24 Form surface of sealant smooth, concave, free from ridges, wrinkles, sags, air pockets and embedded foreign matter.
- E22.25 Upon completion, remove masking, sealant smears and droppings from adjacent and other surfaces.
- E22.26 Use one of sealants specified for each type in following locations. Ensure that sealant chosen for each location is recommended by manufacturer for use for conditions encountered.
- (a) **Type A:** Vertical joints in exterior concrete surfaces; joints in paving; and all other locations where sealing is required except in locations designated for Type B and except where sealing specified in other Sections.
  - (b) **Type B:** Joints in exterior horizontal concrete surfaces.

## **E23. TOPSOIL AND FINISH GRADING**

### **WORK INCLUDED**

E23.1 This specification shall cover Topsoil and Finish Grading. 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 specified.

### **MATERIALS**

E23.2 Planting Soil: black top soil, a fertile friable natural loam containing by volume not less than 4% and no more than 25% of organic matter for clay loams, and not less than 2% and no more than 25% for sandy loams, with an acidity value ranging from pH 6.0 to 8.0 and capable of sustaining vigorous plant growth. Topsoil is to be free of any mixture of subsoil, clay lumps and free of stones and other extraneous matter. It is not to contain couch or crab grass rhizomes.

E23.3 Water: potable and free of minerals which may be detrimental to plant growth.

E23.4 Fertilizer: complete synthetic slow release fertilizer with maximum 35% water-soluble nitrogen.

### **PLANTING BED PREPARATION**

E23.5 Contractor shall co-ordinate site excavation works with landscaping to ensure minimal additional excavation for shrub beds, required by Landscaper. All remaining areas to be excavated shall be to the shape shown on the drawings. Beds shall be excavated to the finished depth (including bark mulch) shown on drawings.

E23.6 Excavation shall be filled with soil mixture. After filling, excavation of top of bed shall be level with surrounding grade. Soil should be lightly compacted and indicated soil depths shall be depths after light compaction.

E23.7 All areas and locations provided for planting shall be staked according to layout shown on the drawings. Excavation shall not proceed until the layout has been inspected and approved by the Contract Administrator. Excavation shall not be undertaken until all underground utilities have been located and protected.

E23.8 The Contractor shall provide a planting bed with a crisp spade edge (where appropriate) around the existing shrubs and tree, complete with topsoil and bark mulch as indicated on the drawings.

## **E24. SOD**

E24.1 This Specification shall supplement City of Winnipeg Specification CW 3510-R6 Sodding.

E24.2 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 things necessary for and incidental to the satisfactory performance and completion of all work as hereinafter specified and in accordance with CW 3510-R6

### **MAINTENANCE**

E24.3 The Contractor shall be responsible for the maintenance of sod from the time of installation and for thirty (30) days from the date of Total Performance.



## **WARRANTY**

- E24.4 The Contractor shall guarantee the sod against any and all defects or deficiencies resulting from insect infestation, disease and mechanical damage due to improper handling, installation or initial maintenance, for a period of one (1) year from the date of the Certificate of Total Performance. Sod damaged by vandalism or reasons beyond the control of the Contractor shall be replaced by the Client.
- E24.5 End-of-Warranty inspection will be conducted by the Contract Administrator.

## **PRODUCTS**

- E24.6 Materials shall be supplied as per CW 3510-R6

## **EXECUTION**

- E24.7 Construction methods shall be in accordance with CW 3510-R6