



THE CITY OF WINNIPEG

REQUEST FOR PROPOSAL

RFP NO. 15-2012

**DESIGN, CONSTRUCTION AND COMMISSIONING OF THE NORTH EAST
WINNIPEG WATER PLAY PARK PHASE 1 SPRAY PAD AND ASSOCIATED
MECHANICAL AND ELECTRICAL WORKS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 DESIGN, CONSTRUCTION AND COMMISSIONING OF THE NORTH EAST WINNIPEG WATER PLAY PARK PHASE 1 SPRAY PAD AND ASSOCIATED MECHANICAL AND ELECTRICAL WORKS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, June 29, 2012.

B2.2 Proposals 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.

B3.2 The Bidder may request a viewing of the Site mechanical rooms by making arrangements with the Contract Administrator at least ten days prior to the Submission Deadline.

B3.3 The Bidder is responsible for determining:

- (a) the location of any utility which can be determined from the records or other information available at the offices of any public authority or person, including a municipal corporation and any board or commission thereof, having jurisdiction or control over the utility;
- (b) the nature of the surface and subsurface conditions at the Site;
- (c) the location, nature, quality or quantity of the materials to be removed or to be employed in the performance of the Work;
- (d) the nature, quality or quantity of the Plant needed to perform the Work;
- (e) all matters concerning access to the Site, power supplies, location of existing services, utilities or materials necessary for the completion of the Work; and
- (f) all other matters which could in any way affect his Proposal or the performance of the Work.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D4.1.

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

B4.3 If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.5 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.6 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.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Request for Proposals 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 Request for Proposal, 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.

B6.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>.

B6.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B6.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

B7. SUBSTITUTES

B7.1 The Work is based on the Plant, Materials and methods specified in the Request for Proposal.

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 in accordance with B7;
- (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 in accordance with B7, 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;

- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval, in accordance with B7, 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, only to the Bidder who requested approval of the substitute.
- B7.6.1 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.
- B7.7 If the Contract Administrator approve,s in accordance with B7, 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, in accordance with B7, a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B20.
- 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.
- B7.10 Notwithstanding B7.2 to B7.9 and in accordance with B8.5, deviations to terms and conditions inconsistent with the Proposal document shall be evaluated in accordance with B20.1(a).

B8. PROPOSAL SUBMISSION

- B8.1 The Proposal shall consist of the following components:
- (a) Form A: Proposal;
 - (b) Form B: Prices;
 - (c) Detailed Conceptual Design for Spray Pad;
 - (d) Project Work Plan;
 - (e) System Integration and Economic Analysis;
- 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 Proposal shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B8.3.1 Bidders should submit one (1) unbound original (marked “original”) and six (6) copies.
- B8.4 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.5 Bidders are advised that inclusion of terms and conditions inconsistent with the Proposal document, including the General Conditions, will be evaluated in accordance with B20.1(a).
- B8.6 The Proposal should be submitted enclosed and sealed in an envelope clearly marked with the RFP number and the Bidder's name and address.
- B8.6.1 Samples or other components of the Proposal which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the RFP number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Proposal Submission.

B8.7 Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B8.8 Proposals shall be submitted to:

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

B9. PROPOSAL

B9.1 The Bidder shall complete Form A: Proposal, making all required entries.

B9.2 Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:

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

B9.2.1 If a Proposal 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: Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Proposal.

B9.4 Paragraph 10 of Form A: Proposal 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 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: Proposal should be printed below such signatures.

B9.5 If a Proposal 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 Proposal 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.

B10.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall not include the Goods and Services Tax (GST), which shall be extra where applicable.

- 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 Proposals.
- 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. QUALIFICATION

- B11.1 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, or if the Bidder does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; 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.
- B11.2 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>.
- B11.3 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);
 - (d) all Engineers are to be licensed to practice the province of Manitoba.
- B11.4 The Bidder shall ..submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B11.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.
- B11.6 Further to B11.3(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) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
 - (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information

Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>)

- B11.7 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.
- B11.8 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.

B12. DETAILED CONCEPTUAL DESIGN

- B12.1 The Bidder's team is requested to develop the detailed concept design and costing for the project based on the information in the RFP, conceptual drawings and other information provided.
- B12.2 Drawings shall include, at a minimum:
- (a) Site context drawings including location and configuration of the spray pad in association with the site works to be performed by others, indication of site services, and any modifications, relocations, and connections that are required or will be considered beneficial.
 - (b) Perspective sketches, sections, details and other submissions sufficient to illustrate the nature and overall quality of the design and addressing the following:
 - (i) The overall quality of the design including integration with the surrounding park and amenities;
 - (ii) Concept and functionality of the design and its aesthetic appeal;
 - (iii) Quality, durability and warranty of materials;
 - (iv) Universal design/ Inclusive design;
 - (v) How the design will work within the constraints
 - (vi) Overall play experiences.
 - (c) Spray pad/water play component description and or graphic or catalogue reference.
 - (d) Mechanical and Electrical system schematics for each option developed in sufficient detail to describe the intended operation.

B13. PROJECT WORK PLAN

- B13.1 The understanding and approach to the delivery of the project and the tasks to complete the project on time and in budget are critical. The proposal at this stage should demonstrate the rationale of the design, which at a minimum includes:
- (a) Provide an understanding of the functional and technical issues and considerations, on the project requirements and budget.
 - (b) An organization chart identifying the major team members and showing the relationship, roles and responsibilities of the major team members who will perform the work.
 - (c) Provide a detailed methodology for each stage of the project. Specifics are to include a detailed description of tasks, task assignments, and responsibilities.
 - (d) Provide a proposed project work plan including a Gantt chart, identification of major stages of the work, critical dates and project milestones.
 - (e) Provide a methodology for delivering the project including
 - (i) schedule,
 - (ii) quality assurance,
 - (iii) budget control and assurance,
 - (iv) risk management,

- (v) a description of the proposed commissioning process, and
- (vi) a clear description of the training being proposed including; Identification of training staff; Syllabus; Number of training days for each session; Expected City supplied resources;

B14. SYSTEMS INTEGRATION AND ECONOMIC ANALYSIS

- B14.1 A brief description of how the spray pad components will operate.
- B14.2 The anticipated daily water consumption information – based upon a 6 hr. daily operation with the recirculation system.
- B14.3 The maintenance schedule and anticipated maintenance costs associated with the spray pad features and mechanical system being proposed.

B15. OPENING OF PROPOSALS AND RELEASE OF INFORMATION

- B15.1 Proposals will not be opened publicly.
- B15.2 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>.
- B15.3 To the extent permitted, the City shall treat all Proposal Submissions as confidential. However the Bidder is advised that any information contained in any Proposal 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.
- B15.4 Following the award of Contract, the Bidder will be provided with information related to the evaluation of his submission upon written request to the Contract Administrator.

B16. IRREVOCABLE OFFER

- B16.1 The Proposal(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Proposal.
- B16.2 The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Bidders and these Bidders shall be bound by their offers on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any offer shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 9 of Form A: Proposal.

B17. WITHDRAWAL OF OFFERS

- B17.1 A Bidder may withdraw his Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
 - B17.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.
 - B17.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Bidder's authorized representatives named in Paragraph 10 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.
 - B17.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
 - (a) retain the Proposal until after the Submission Deadline has elapsed;

- (b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Bidder's authorized representatives named in Paragraph 10 of Form A: Proposal; and
- (c) if the notice has been given by any one of the persons specified in B17.1.3(b), declare the Proposal withdrawn.

B17.2 A Bidder who withdraws his Proposal after the Submission Deadline but before his offer has been released or has lapsed as provided for in B16.2 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.

B18. INTERVIEWS

B18.1 The Contract Administrator may, in his sole discretion, interview Bidders during the evaluation process.

B19. NEGOTIATIONS

B19.1 The City reserves the right to negotiate details of the Contract with any Bidder. Bidders are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.

B19.2 The City may negotiate with the Bidders submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Bidders without being obligated to offer the same opportunity to any other Bidders. Negotiations may be concurrent and will involve each Bidder individually. The City shall incur no liability to any Bidder as a result of such negotiations.

B19.3 If, in the course of negotiations pursuant to B19.2 or otherwise, the Bidder amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Bidder from the Proposal as originally submitted.

B20. EVALUATION OF PROPOSALS

B20.1 Award of the Contract shall be based on the following evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Request for Proposal or acceptable deviation therefrom. (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11. (pass/fail)
- (c) Total Bid Price; (20%)
- (d) Detailed Conceptual Design; (35%)
- (e) Project Work Plan (20%)
- (f) Systems Integration and Economic Analysis (25%)
- (g) economic analysis of any approved alternative pursuant to B7.

B20.2 Further to B20.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal 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 Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

B20.3 Further to B20.1(b), the Award Authority shall reject any Proposal submitted by a Bidder who does not demonstrate, in his Proposal or in other information required to be submitted, that he is responsible and qualified.

- B20.4 Further to B20.1(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.
- B20.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.
- B20.4.2 Further to B20.1(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.
- B20.5 This Contract will be awarded as a whole.
- B20.6 Further to B21.1 (b), if, in the sole opinion of the City, a Proposal does not achieve a pass rating for B20.1(a) and B20.1(b), the Proposal will be determined to be non-responsive and will not be further evaluated.
- B20.7 Further to B21.1 (c), the total bid price shall be evaluated with a weighting of 20 points out of a possible 100 points. As such, the lowest bidder shall receive the full 20 points, and the second lowest bidder and subsequent bidders shall be pro-rated accordingly. A bidder who exceeds the budget shown on Form B: Prices will receive zero points.
- B20.8 Further to B21.1(d) Detailed Conceptual Design will be evaluated in accordance with B12.
- (a) Quality and nature & diversity of the play events. Implementation of a consistent theme if a theme is deemed a part of the proposal (10)
 - (b) Layout of the play events in relation to each other (10)
 - (c) Use of universal design principles (5)
 - (d) Relationship of the spray pad with the site context including the existing trees (5)
 - (e) Quality, durability and warranty of materials (5)
- B20.9 Further to B21.1(e) Project Work Plan will be evaluated in accordance with B13.
- (a) Consideration of functional and technical issues (10)
 - (b) Clarity and appropriateness of Project delivery schedule (5)
 - (c) Consideration of project delivery methodology (5)
- B20.10 Further to B21.1(f) Systems Integration and Economic Analysis will be evaluated in accordance with B14.
- (a) Review of operational considerations (10)
 - (b) Maintenance schedule and operational costs. (15)

B21. AWARD OF CONTRACT

- B21.1 The City will give notice of the award of the Contract, or will give notice that no award will be made.
- B21.2 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 Proposals are determined to be responsive.
- B21.2.1 Without limiting the generality of B21.2, 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 Proposal 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.

B21.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the most advantageous offer.

B21.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Proposal upon written request to the Contract Administrator.

B21.4 Notwithstanding C4,
the City will issue a purchase order to the successful Bidder in lieu of the execution of a Contract.

B21.5 The Contract Documents, as defined in C1.1(n), in their entirety shall be deemed to be incorporated in and to form a part of the purchase order notwithstanding that they are not necessarily attached to or accompany said purchase order.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm .
- C0.2 A reference in the proposal 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 design, construction and commissioning of the Spray Pad and associated mechanical and electrical works.

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

- (a) Design and Permitting of a Spray Pad;
- (b) Construction of said Spray Pad;
- (c) Recirculating mechanical and electrical system for Spray Pad;
- (d) Commissioning of the Spray Pad.

D3. DEFINITIONS

D3.1 When used in this Request for Proposal:

- (a) **“Proposal”** means the offer contained in the Proposal Submission;
- (b) **“Proposal Submission”** means that portion of the Request for Proposal which must be completed or provided and submitted by the Submission Deadline in order to constitute a responsive Proposal;
- (c) **“Request for Proposal”** means the Proposal Submission, the Bidding Procedures, these General Conditions, the Supplemental Conditions, the Specifications, the Drawings and all addenda;
- (d) **“Spray Pad”** means a small outdoor aquatic facility that stimulates interactive and creative play. Components of spray pads may include combinations of spray columns, water cannons, ground sprays, spray faces, spirals, loop-throughs, and themed structures such as flowers, trees, animals, nautical, etc. The Spray Pad structure is to be a generally curvilinear shape and the approximate size as shown on the Conceptual Drawing, depending upon budget. With zero water depth and a flat surface, a Spray Pad conforms with Universal Access guidelines and eliminates the risk of drowning. A Spray Pad although usable by all ages, tends to service the 0-10 age group.
- (a) **“Design Team”** shall refer to the contractors and consultants responsible for the design on the project. This shall include Engineers licensed to practice in Manitoba for each specific component of the project.

D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is McGowan Russell Group Inc., represented by:

Susan Russell
President
200-120 Fort Street, Wpg. MB R3C 1C7

Telephone No. (204) 956-0396

Facsimile No. (204) 956-1265

D4.2 Before commencement of Work, Ms. Russell will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D5. CONTRACTOR'S SUPERVISOR

- D5.1 Further to C6, the Contractor shall employ and keep on the Work, at all times during the performance of the Work, a competent supervisor and assistants, if necessary, acceptable to the Contract Administrator. The supervisor shall represent the Contractor on the Site. The supervisor shall not be replaced without the prior consent of the Contract Administrator unless the supervisor proves to be unsatisfactory to the Contractor and ceases to be in his employ.
- D5.2 Before commencement of Work, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.
- D5.2.1 Further to C5, Contract Administrator may give instructions or orders to the Contractor's supervisor and such instructions or orders shall be deemed to have been given to the Contractor.

D6. CONFIDENTIALITY AND OWNERSHIP OF INFORMATION

- D6.1 Information provided to the Contractor by the City or acquired by the Contractor during the course of the Work is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator.
- D6.2 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City. The Contractor shall not disclose or appropriate for its own use, or for the use of any third party, all or any part thereof without the prior written consent of the Contract Administrator.
- D6.3 The Contractor shall not make any statement of fact or opinion regarding any aspect of the Contract to the media or any member of the public without the prior written authorization of the Contract Administrator.

D7. NOTICES

- D7.1 Notwithstanding C23.2.2, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg
Chief Financial Officer
Facsimile No.: (204) 949-1174

SUBMISSIONS

D8. AUTHORITY TO CARRY ON BUSINESS

- D8.1 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.

D9. SAFE WORK PLAN

- D9.1 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.
- D9.2 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> .

D10. INSURANCE

D10.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured; such liability policy to also contain a cross-liability clause, non-owned automobile liability and products and completed operations cover, to remain in place at all times during the performance of the Work;
- (b) if required, automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00), to remain in place at all times during the performance of the Work.

D10.2 Deductibles shall be borne by the Contractor.

D10.3 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 on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D10.4 The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D11. PERFORMANCE SECURITY

D11.1 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.

D11.1.1 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.

D11.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award and prior to the commencement of any Work on the Site.

D12. DETAILED PRICES

D12.1 The Contractor shall provide the Contract Administrator with a detailed price breakdown at least five (5) Business Days prior to the commencement of any Work on the Site.

D12.2 The Contract Administrator will provide the Contractor with a form showing the format and the required breakdown of Work following the completion of the detailed design drawings.

D12.3 The Contractor shall state a price for each item or sub-item of the Work identified on form. The detailed prices must be consistent with the price(s) provided in the Contractor's Bid.

D13. SUBCONTRACTOR LIST

D13.1 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 C4.1 for the return of the executed Contract.

D14. DETAILED WORK SCHEDULE

D14.1 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.

D14.2 The detailed work schedule shall consist of the following:

- (a) a critical path method (C.P.M.) schedule for the Work;
- (b) a Gantt chart for the Work based on the C.P.M. schedule; and
- (c) a daily manpower schedule for the Work

all acceptable to the Contract Administrator.

D14.3 Further to D14.2(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:

D14.4 Further to D14.2(b), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

D14.5 Further to D14.2(c), the daily manpower schedule shall list the daily number of individuals on the Site for each trade.

SCHEDULE OF WORK

D15. COMMENCEMENT

D15.1 The Contractor shall not commence any Work until he is in receipt of a notice of award from the City authorizing the commencement of the Work.

D15.2 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 D8;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D9;
 - (iv) evidence of the insurance specified in D10;
 - (v) the performance security specified in D11;
 - (vi) the detailed prices specified in D12;
 - (vii) the Subcontractor list specified in D13;
 - (viii) the detailed work schedule specified in D14; and
 - (ix) the detailed conceptual design and mechanical and electrical designs have been approved by the City of Winnipeg.
- (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.

D15.3 The City intends to award this Contract by July 6, 2012.

D15.3.1 If the actual date of award is more than three (3) weeks later than the intended date, the dates specified for Commencement, Critical Stages, Substantial Performance, and Total

Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D16. WORKING DAYS

- D16.1 Further to C1.1(gg), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.
- D16.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.
- D16.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.
- D16.4 The Contract Administrator will furnish the Contractor with a daily record for each major type of work showing various information concerning the equipment, the time it worked, could have worked and Working Days charged. This report is to be signed each day by an authorized representative of the Contractor.

D17. CRITICAL STAGES

- D17.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) Design of Splash Pad and Mechanical and Electrical System Complete by July 13, 2012;
 - (b) Permitting in Place by July 27, 2012;
 - (c) Construction Start by July 30, 2012.

D18. SUBSTANTIAL PERFORMANCE

- D18.1 The Contractor shall achieve Substantial Performance by October 15, 2012.
- D18.2 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.
- D18.3 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.

D19. TOTAL PERFORMANCE

- D19.1 The Contractor shall achieve Total Performance by May 24, 2013.
- D19.2 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.

D19.3 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.

D20. LIQUIDATED DAMAGES

D20.1 If the Contractor fails to achieve critical stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Calendar Day for each and every Calendar Day following the days fixed herein for same during which such failure continues:

- (a) Design of Splash Pad and Mechanical and Electrical System Options Complete by July 13, 2012 - five hundred dollars (\$500.00);
- (b) Permitting in Place by July 27, 2012 - five hundred dollars (\$500.00);
- (c) Construction Start by July 30, 2012 - five hundred dollars (\$500.00);
- (d) Substantial Performance - one thousand dollars (\$1000.00);
- (e) Total Performance - one thousand dollars (\$1000.00).

D20.2 The amounts specified for liquidated damages in D20.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.

D20.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D21. SCHEDULED MAINTENANCE

D21.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) First Winterization of Facility as specified in E28.1 is to be completed prior to September 30, 2012;

D21.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

D22. JOB MEETINGS

D22.1 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.

D22.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D23. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D23.1 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).

D24. SAFETY

D24.1 Further to C6, the Contractor shall be solely responsible for safety at the Site and for compliance with all laws, rules, regulations and practices required by the applicable safety legislation.

D24.2 The Contractor shall be solely responsible for securing the Site, and any existing facility thereon, and for the proper care and protection of the Work already performed.

D24.3 The Contractor shall do whatever is necessary to ensure that:

- (a) no person, property, right, easement or privilege is injured, damaged or infringed by reason of the Contractor's activities in performing the Work;
- (b) the health and safety of all persons employed in the performance of the Work or otherwise is not endangered by the method or means of its performance;
- (c) adequate medical services are available to all persons employed on the Work and at all times during the performance of the Work;
- (d) adequate sanitation measures are taken and facilities provided with respect to the Work;
- (e) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted or endangered by the performance or existence of the Work or Plant;
- (f) fire hazards in or about the Work are eliminated.

D25. SITE CLEANING

D25.1 The Contractor shall maintain the Site and the Work in a tidy condition and free from the accumulation of waste and debris, other than that caused by the City or by other contractors.

D25.1.1 As the Work progresses, the Contractor shall remove any Plant and Material not required for the performance of the remaining Work. He shall also remove waste and debris other than that caused by the City or other contractors, and leave the Site and the Work clean and suitable for occupancy by the City unless otherwise specified.

D25.1.2 Total Performance shall not be considered to have been achieved until the Contractor has cleaned up the Site and has removed all Plant, surplus Material, waste and debris, other than that left by the City or other contractors.

D26. INSPECTION

D26.1 Before beginning or resuming operations upon any portion of the Work, the Contractor shall notify the Contract Administrator so as to enable him to arrange for inspection. If the Contractor fails to notify the Contract Administrator, the Contractor shall, if and when required by the Contract Administrator, forthwith take down or expose and redo that portion of the Work required to facilitate inspection. The cost of such taking down or exposure, and redoing, if any, shall be borne by the Contractor.

D26.2 If and when required by the Contract Administrator, the Contractor shall take down or expose forthwith any portion of the Work where the Contract Administrator determines that the Work is not in accordance with the Contract. The cost of such taking down or exposure, and redoing, if any, shall fall upon the City if the taking down or exposure indicates that the portion exposed was properly performed, but if otherwise the cost shall be borne by the Contractor.

D27. DEFICIENCIES

- D27.1 Further to C11, the Contract Administrator may order the Contractor to alter or improve his methods, to increase or improve his Plant, to furnish additional or more suitable Material, or to employ additional or more qualified labour if, at any time, the Contract Administrator determines that:
- (a) the Work is not being, or will likely not be, performed satisfactorily; or
 - (b) progress is not being, or will likely not be, maintained in accordance with the work schedule.
- D27.2 If the Work or any part thereof is taken out of the Contractor's control pursuant to C18.7, all Plant and Material, and the interest of the Contractor in all licences, powers and privileges acquired, used or provided by the Contractor under the Contract shall be assigned by the Contractor to the City without compensation to the Contractor.
- D27.3 The City shall have the right to take possession of and use any of the Contractor's material and property of every kind provided by the Contractor for the purpose of the Work, and to procure other Plant or Material for the completion thereof.
- D27.4 When the Contract Administrator certifies that any Plant, Material or any interest of the Contractor referred to in D27.2, is no longer required for the purposes of the Work, or that it is not in the best interest of the City to retain that Plant, Material or interest, it shall revert to the Contractor.

MEASUREMENT AND PAYMENT

D28. INVOICES

- D28.1 Further to C12, the Contractor shall submit an invoice for all work completed within the previous calendar month to:
- The City of Winnipeg
Corporate Finance - Accounts Payable
4th Floor, Administration Building, 510 Main Street
Winnipeg MB R3B 1B9
- Facsimile No.: (204) 949-0864
Email: CityWpgAP@winnipeg.ca
- D28.2 Invoices must clearly indicate, as a minimum:
- (a) the City's purchase order number;
 - (b) date of delivery;
 - (c) delivery address;
 - (d) type and quantity of goods delivered;
 - (e) the amount payable with GST shown as separate amounts; and
 - (f) the Contractor's GST registration number.
- D28.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.
- D28.4 Bids Submissions must be submitted to the address in B8.8

D29. PAYMENT

- D29.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D30. WARRANTY

- D30.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

FORM H1: PERFORMANCE BOND
(See D11)

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

RFP NO. 15-2012

DESIGN, CONSTRUCTION AND COMMISSIONING OF THE NORTH EAST WINNIPEG WATER PLAY PARK PHASE 1 SPRAY PAD AND ASSOCIATED MECHANICAL AND ELECTRICAL WORKS

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

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

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

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

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

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

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D11)

(Date)

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

RE: PERFORMANCE SECURITY – RFP NO. 15-2012

DESIGN, CONSTRUCTION AND COMMISSIONING OF THE NORTH EAST WINNIPEG WATER
PLAY PARK PHASE 1 SPRAY PAD AND ASSOCIATED MECHANICAL AND ELECTRICAL WORKS

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

(Name of Contractor)

(Address of Contractor)

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

Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L0	Removals
L1	Layout & Planting Plan
L2	Grading Plan
L3	Details

GENERAL REQUIREMENTS

E2. COMPLETE PROJECT

- E2.1 The Contractor is to deliver a complete project including all permits, inspections, demolition/removals, connections, tie-ins, restorations, etc. required to operate and maintain the project.

E3. WORK BY OTHERS

- E3.1 The City of Winnipeg will have regular maintenance and pool staff working in the area. The Contractor is to ensure that all personnel have safe access to complete their works.
- E3.2 The consultants are to coordinate with Contract Administrator for all site design.

E4. HAZARDOUS MATERIALS

- E4.1 If asbestos or other hazardous materials are encountered during the Work of the Contract, the Contractor shall stop all work and notify the Contract Administrator immediately. Removal of hazardous materials shall be dealt with by the City and the Contractor shall await further instruction by the Contract Administrator.

E5. EXISTING SERVICES AND UTILITIES

- E5.1 No responsibility will be assumed by the City or the Contract Administrator 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 and the Contract Administrator 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.

E6. ACCESS TO SITE

- E6.1 Access to the Site as required by the Contractor shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.
- E6.2 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private or public property.

E7. SITE CONDITION

- E7.1 The Contractor shall examine the Site and make themselves familiar with the existing conditions (both above and below grade) and nature of Work to be done.
- E7.2 Surface and sub-surface conditions shown on the Drawings and included herein are provided for general information and variations there from shall not affect the terms of the Contract.
- E7.3 The Contractor shall set all necessary control lines, benchmarks, survey, elevation stakes and layout in accordance with the individual Site conditions and in consultation with the Contract Administrator.

E8. DAMAGE TO EXISTING STRUCTURES, TREES AND PROPERTY

- E8.1 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 the Contract Administrator, and the cost of which shall be borne entirely by the Contractor. The Contractor shall also indemnify and save harmless the City and the Contract Administrator from all claims made directly or indirectly against it in respect to any such damage.

E9. PERMITS, NOTICES, LICENCES, CERTIFICATES, LAWS AND RULES

- E9.1 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.
- E9.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.
- E9.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- E9.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- E9.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.
- E9.6 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.

E10. STAKES AND MARKS

- E10.1 The Contractor will mark, to the extent he determines to be necessary, the location, alignment and elevation of the Work by means of stakes or marks, for review and approval by the Contract Administrator. The Contractor shall make the completed Works conform to the lines and marks thus approved and indicated.
- E10.2 The Contractor shall notify the Contract Administrator immediately of the disturbance of any such stakes or marks. The cost of correcting any errors arising out of neglect of the Contractor to so notify the Contract Administrator shall be borne entirely by the Contractor, as well as the cost of replacing any disturbed stakes or marks.
- E10.3 Before commencing Work, the Contractor shall satisfy himself as to the meaning and correctness of all stakes and marks and no claims shall be entertained by the City on account of any alleged inaccuracies. If any error is suspected in the Drawings, Specifications or the directions of the Contract Administrator, Work shall be discontinued until the errors are rectified, but no claims shall be made on account of any delay occasioned thereby.
- E10.4 The Contractor shall determine and provide all dimensions and elevations measured from the stakes or marks.
- E10.5 The Contract Administrator shall be advised of the staking of the play area layout at least twenty-four (24) hours in advance in order that the layout may be inspected and adjusted as required prior to construction. The cost of correcting any errors arising out of neglect of the Contractor to so notify the Contract Administrator shall be borne entirely by the Contractor.

E11. PEDESTRIAN SAFETY AND TRAFFIC MANAGEMENT

- E11.1 Further to CW 1130-R1, the Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is Working near them. Any damage caused by the negligence of the Contractor or his SubContractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.
- E11.2 The Contractor shall, during the construction of this project, maintain safe access to the adjacent facilities at all times.
- E11.3 The Contractor shall isolate the work Site with temporary fencing. These shall be erected and maintained as required for the duration of the construction period.
- (a) Orange safety fencing will not be accepted as sufficient to isolate the site.
- E11.4 Ambulance/Emergency vehicle access must be maintained at all times.
- E11.5 Site enclosures shall be considered incidental to the Contract Work.

E12. PROTECTION OF THE SURVEY INFRASTRUCTURE

- E12.1 Notwithstanding clause 4 "Protection of Survey Bars" of the Standard Provisions; Current legislation, The Surveys Act, places the onus on those undertaking construction to protect the Survey Infrastructure from damage as a result of their activity.
- E12.2 Further to C:6.26 (g), at least seventy-two (72) hours prior to the commencement of the On-Site Work the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 986-4826 (8:00 am to 4:00 pm Monday to Friday excluding holidays) to obtain underground clearance. Geomatics Services will locate and mark all known outline survey monuments and geodetic control monuments and confirm the physical condition of those monuments upon completion of construction, at no cost to the Contractor.
- E12.3 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 forty-eight (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.

- E12.4 Survey monuments and geodetic control monuments at or adjacent to the Site, not in the line of the proposed construction that are damaged or disturbed by the Contractor shall be replaced or relocated by the City or its agent and all associated costs shall be paid for by the Contractor. An approximate estimate of the costs involved to restore a legal survey monument is \$1,000 per bar and \$3,000 per control monument. Contractors must ensure their landscaping and other subcontractors are aware of this clearance procedure and the potential restoration costs.
- E12.5 Where possible, amounts owed to the City in accordance with the above will be deducted from any payments to be made by the City to the Contractor.

E13. TREE PROTECTION

- E13.1 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.
- E13.2 Where tree protection fencing is called for the Contractor shall install orange safety fencing with a minimum height of 1.2m using t-rail metal stakes at a maximum spacing of 2 m o.c. Safety fencing shall be securely fastened to the trail stake.
- E13.3 Contractor shall maintain tree protection fence until such time as construction is sufficiently well progressed as to ensure that vehicular traffic and movement of heavy materials is no longer necessary to complete the remaining works.
- E13.4 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.
- E13.5 Tree protection shall be paid for at the rate identified for tree protection Form B:Prices.

E14. LAYOUT OF WORKS

- E14.1 The Contractor will Work from layout information provided in the construction drawings and will be responsible to provide a full time experienced survey crew to layout and continuously check the locations and elevations of all components and paving patterns of the Work included in this Contract.
- E14.2 The Contractor must provide all necessary survey equipment in good operating conditions.

E14.3 The Contractor shall supply all materials (painting, stakes, ribbon, markers, etc) and labour necessary for the accurate location and setting out of the Work.

E14.4 From time to time the Contract Administrator may have a survey crew on the Site, but they will check the Work done by the Contractor's survey personnel only. The checking of the Work by the City's surveyors will not relieve the Contractor of any responsibility of the correctness of the Work. Should any structure or paving or any part thereof be installed in any location other than that shown on the Drawings, then the error shall be rectified by the Contractor all at his own expense and at the satisfaction of, and in a manner specified by the Contract Administrator.

E15. EXISTING UNDERGROUND SERVICES

E15.1 The Contractor's attention is drawn to the existing underground lines or services that may be located in the area of the Work.

E15.2 The Contractor shall take all necessary precautions when performing the Work to ensure that no damage is done to these existing services.

E15.3 No responsibility will be assumed by the Owner 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, 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.

E15.4 All costs in connection with this item including location of the existing service, repairs to any existing services damaged by the construction operation, etc. shall be included in the unit prices bid for supply and installation of the items included under this Contract.

E15.5 The Contractor will be required to make his own arrangements in connection with the temporary use of lighting, power, gas, sewer, water or other utilities, and pay all costs in connection therewith.

E15.6 All necessary permits, fees and other like expenses as well as the cost of temporary connections to existing facilities shall be arranged and paid for by the Contractor.

E16. PRODUCT APPROVALS

E16.1 The Contractor shall, following award, prepare a complete list of all material to be used on the project and submit the list to the Contract Administrator seventy two (72) hours prior to start of construction.

E16.2 The Contractor shall only use material which has been approved by Specification CW 3710-R1 or by the Contract Administrator. The list shall provide the product, the manufacturer and the supplier.

E16.3 Other than required to be done by the Contractor under the Work of this contract, all necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing plant material, pavements, streets, roads, boulevard, 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 thereto in the performance of the Work, the Contractor shall upon instructions from the Contract Administrator, either replace or repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to the Contract Administrator and the costs of which shall be borne entirely by the Contractor.

E16.4 All workmanship and materials furnished and supplied under this Specification are subject to close and systematic inspection and testing by the Contract Administrator. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of the Specifications.

E16.5 The Contractor shall be wholly responsible for the supply, safe storage, and handling of all materials set forth in this specification, and the control of all operations incidental thereto notwithstanding any inspection or approval that may have been previously given.

E17. DAMAGE TO STREETS AND STRUCTURES

E17.1 The Contractor is to be advised of the following existing Site features to be retained and protected to the City of Winnipeg Standards:

- | | | |
|-------------|-----------------------------|-----------------|
| a) trees | e) light standards | i) hydro poles |
| b) curbs | f) fire hydrants | j) catch basins |
| c) sidewalk | g) street signs | k) curb inlets |
| d) sod | h) all underground services | l) fences |

E18. PERMITS, NOTICES, LICENCES, CERTIFICATIONS, LAWS, AND RULES

E18.1 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.

E18.2 The Site Development Permits (including lot grading and damage deposits) will be obtained and paid for by Owner prior to commencement of construction. A copy of this permit will be provided to the Contractor upon award of Contract.

E18.3 The Contractor shall comply with all laws, ordinances, rules, and regulations that would relate to the Works.

E19. CONSTRUCTION FACILITIES AND STAGING

E19.1 The Contractor shall be responsible for providing his own storage and handling of all his/her construction operations. The use of public right-of-ways will not be allowed.

E20. EXCAVATION, REMOVALS, SUBGRADE COMPACTION AND ROUGH GRADING

E20.1 This specification is supplemental to CW 3110 and CW 3170. The Work of this section comprises the furnishing of all labour, equipment and materials required to complete the excavation and related Work including, but not necessarily confined to, the following:

- (a) Excavation, removals, disposal, subgrade compaction and rough grading of the existing Site for the construction of concrete sidewalk, concrete splash pad and associated works, planting beds and sodded areas to the design requirements noted on the Drawings, approved on Site by the Contract Administrator, less the appropriate surface finish allowance.
- (b) Stockpile suitable, approved material on Site for reuse (clean topsoil, clean earth fill and gravel fill). Remove and dispose of unsuitable material.
- (c) Earthwork and Grading of the existing Site (cut and fill including compaction of subgrade and fill material) to ensure positive drainage in all paved areas, swales and adjacent sodded/seeded areas and planting beds.
- (d) Excavation, removals, and disposal of unsuitable subgrade and replacement with compacted granular base material.

Materials

E20.2 All fill materials shall conform to CW 3170.

Construction Methods

E20.3 The Contractor shall remove and dispose of all asphalt, wood decking, concrete paving and other surfaces within the area of work as required to construct all new site work.

- E20.4 The Contractor will remove and dispose of existing fencing, including posts and concrete bases as shown on the drawings and as required for the construction of new site works. Contractor to salvage chain link mesh in good condition for reuse on site where directed.
- E20.5 The Contractor shall construct the Site within the limits indicated to the design elevations and gradients noted on the Drawings, less the appropriate surface treatment depths specified and shall excavate, remove and dispose of all unsuitable materials of whatever nature encountered.
- E20.6 The Contractor shall construct all sub-grades in accordance with Specification CW 3110. Excavation will be performed as per Item 9.1 of CW 3110. The Contractor shall remove existing pavement in accordance with 9.2 of CW 3110. Unsuitable Excavated material shall be disposed of as per Item 9.3 of CW 3110. All surplus material will be disposed of in accordance with Item 9.3 of CW 3110.
- E20.7 The Contractor shall restrict his activities strictly to within the limits of the Work, unless receiving prior written approval from the Contract Administrator. The Contractor shall take all precautions to prevent damage to traffic structures, pole lines, existing trees, Site services and adjacent property and he shall be liable for any damages occurring in the performance of this Work.
- E20.8 The Contractor shall examine the Site and make themselves familiar with the existing conditions and the nature of the Work to be done.
- E20.9 The Contractor shall prevent damage to surface or underground utility lines which are to remain and make good any damage.
- E20.10 The Contractor shall excavate to the design grades shown less the appropriate allowance for surface treatment and shall excavate, remove and dispose of all unsuitable materials of whatever nature encountered.
- E20.11 Excavated or graded materials to be approved before use as fill for grading Work. Protect such approved material from contamination. Stockpile in approved locations on Site. Protection and stockpiling are incidental to unit prices bid for excavation, removals and rough grading.
- E20.12 All foundations shall be removed to full depth to the satisfaction of the Contract Administrator. Fill all holes resulting from removals with compacted clay fill in sodded areas and compacted granular fill in paved areas.
- E20.13 The Contractor shall excavate topsoil as per CW 3170-R3 Section 9.2. Topsoil excavation is incidental to the unit prices bid for excavation, removal and rough grading.
- E20.14 The Contractor shall ensure that upon completion of the removal operations the Site is left in a neat condition free from debris, etc. for approval by the Contract Administrator prior to placing base courses and clean fill.
- E20.15 Except for drainage swales, berms and embankments indicated, the design gradient for all other areas shall be considered to be straight grade between the design elevations shown. Changes in grade at swales, berms, embankments and field shall be gently contoured as directed by the Contract Administrator to provide future ease of grass mowing operation.
- E20.16 The Contractor is advised that there may be useable topsoil, clay and gravel fill on Site. All suitable material will be reviewed and approved by the Contract Administrator and then re-used on Site. The re-use of this material on Site may reduce the quantity of imported topsoil, gravel and clean earth fill required. The Contractor shall re-use existing Site material prior to delivering new material to Site.
- E20.17 No direct payment will be made for placing and grading of existing fill as all costs for this Work shall be included in the lump sum bid for excavation, removals and rough grading within the limit of the Work.
- E20.18 Compaction shall include the use of sheep's foot or other suitable compaction equipment as approved by the Contract Administrator to achieve a minimum compaction of 98% Standard

Proctor Density below all paved areas, and 95% Standard Proctor Density in all other areas disturbed under this Contract.

E20.19 The Contractor shall construct the compacted sub-grade surface to the following depths below the grades shown on the Drawings for each area:

- (a) Concrete Sidewalk 275mm
- (b) Sodded Areas 100mm
- (c) Planting Bed for shrubs 550mm
- (d) Planting bed for trees 1100mm
- (e) Mulch bed around existing trees 100mm

E20.20 Following earth moving, rough grading and compaction, the Work areas shall be fine graded to provide a maximum deviation of 50mm in 10 metres from the design grade with no low areas to hold water. The finished surface of all disturbed areas shall be dragged and smoothed in such a manner that there are no loose soil particles greater than 50mm in maximum dimension.

E20.21 If required and at locations directed by the Contract Administrator, the Contractor shall excavate and remove unsuitable subgrade material and replace it with compacted granular material in accordance with Specification CW 3110. Only areas beyond required excavation for pathway and sod will be measured and paid.

Measurement and Payment

E20.22 Removals will be paid for at the contract lump sum price for "Removals" as specified herein, which price shall be payment in full for performing all operations herein and all other items incidental to the Work included in this Specification.

E20.23 No separate measurement or payment shall be made for excavation and rough grading as this Work is incidental to the unit prices bid for supply and installation of the final surface treatment.

E20.24 Removal of unsuitable subgrade and replacement with compacted granular base will be measured and paid for at the contract unit price per cubic meter as specified herein, which price shall be payment in full for performing all operations herein and all other items incidental to the Work included in this Specification. The total number of square metres to be paid for shall be the total number graded in accordance with this Specification as computed from measurements made by the Contract Administrator.

E21. MATCHING EXISTING GRADES

Wherever the proposed paving, or sod meets existing building edge, doorway, or property line, the Contractor shall construct the proposed element to an acceptable grade, as directed by the Contract Administrator, to ensure that proper drainage and accessibility are maintained.

E22. CONCRETE SIDEWALK

Description

E22.1 Further to City of Winnipeg Specification CW 3325 this section covers the supply and installation of concrete sidewalk.

E22.2 Materials to be to CW 3325.

E22.3 Compacted base to be 150mm thick granular A base.

E22.4 Sidewalk to be 125mm thick with reinforcing mat as per the drawings.

E22.5 Thickened edge of sidewalk will be incidental to the unit prices bid for concrete sidewalk.

Measurement and Payment

E22.6 Supply and installation of concrete sidewalk will be measured on an area basis. The surface area to be paid for shall be the total number of square metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E23. CAST-IN-PLACE CONCRETE

Description

E23.1 The Work of this section comprises the furnishing of all labour, equipment and materials required to complete the supply and installation of cast-in-place concrete footings for site furniture and fencing as shown on the drawings and as hereinafter specified, including, but not necessarily confined to the following:

- (a) Excavation
- (b) Granular fill Work as required
- (c) Supply, erection and removal of all formwork as required
- (d) Design of concrete mixes
- (e) Supply, placing and curing of bases for bench and waste receptacle
- (f) Supply, placing and curing of bases for fencing
- (g) Supply and installation of all joint material in concrete Work.
- (h) Supply and Installation of compacted granular base courses not supplied by other sections.
- (i) Clean-up.

E23.2 The following items of Work are specified under other sections of the specifications and are not included in this section:

- (a) Supply of miscellaneous metal anchors, bolts, inserts, etc.
- (b) Concrete and all related work for splash pad.

Materials

E23.3 All concrete Work shall be in accordance with CAN3-A23.1-Concrete Materials and Methods of Concrete Constructions. Proportion normal density concrete in accordance with CAN3-A23.1 to govern the following properties.

E23.4 Concrete for cast-in-place bases as follows:

Cement: Type 50
Max. Coarse Aggregate: 40mm
Min Compressive Strength at 28 days = 25 Mpa
Min. Cement Content: 310 kg/cu.m
Max. Water Cement Ratio: 0.45
Class of Exposure: S-2
Max. Slump: 90mm ± 20mm
Air Content: 4 to 7%
Flyash content: Max 15% of Cementitious Material

E23.5 Fine aggregate shall consist of natural sand or manufactured sand and shall conform to all requirements of CAN3.A23.1.

E23.6 Coarse aggregate shall consist of hard, strong, uncoated durable particles of crushed stone, gravel or approved combination thereof and shall be free from an excess of thin, elongated or soft pieces, frozen lumps, vegetable matter or other deleterious matter, and shall conform to all the requirements of CAN3-A23.1. Maximum size of coarse aggregate shall be 20 mm.

- E23.7 Water for concrete shall be clean and free from injurious amounts of oil, acid, alkali, salts, silt, organic matter or other deleterious matter. The quality of the water shall be equal to or better than that of potable water.
- E23.8 A non-detergent type of air-entraining admixture, supplied in liquid form, shall be metered into the mix. The total air in the placed concrete shall be 5% - 8%.
- E23.9 Curing compound shall be Sternson ritcure or approved equal, in accordance with B7.
- E23.10 Bonding agent shall be Sternson ST 431 Epoxy Bonding Agent.
- E23.11 Form coating shall be Sternson's Formseal or approved equal, in accordance with B7.
- E23.12 Compacted granular base courses for all cast in place concrete Works shall be in accordance with City of Winnipeg Specifications.
- E23.13 The Contract Administrator may engage a fully qualified Inspecting Engineer and Testing Laboratory to:
- (a) Inspect the pile excavations to determine that they have been augured to the specified depth, are of the specified size, are clean and level, and meet the design criteria.
 - (b) Take test cylinders during concrete placing and carry out compression tests to determine whether concrete produced complies with these Specifications.
 - (c) Take compaction tests of compacted granular sub-base and sub-grade material.
 - (d) Submit reports to the Contract Administrator of all materials, concrete, and caisson tests and inspections.
 - (e) Three concrete test cylinders to be taken for pile cast. One cylinder from each group shall be tested at seven (7) days, one at 14 days and the remainder at 28 days. Sampling and testing procedures shall be according to CAN3-A23.1 latest edition.
- E23.14 Curing and Protection
- (a) Curing shall immediately follow the finishing operation as in CSA A23.1, Section 18 and shall continue for a minimum of five (5) days at 10°C.
 - (b) When the outside temperature is less than 4°C, the temperature of the concrete shall be maintained between 10°C and 21°C for the required curing period.
 - (c) When heat required for curing is being removed, the maximum temperature change shall not exceed 2.5°C per hour or 27°C, in any 24 hour period.
 - (d) Unless adequate protection is provided, no concrete shall be placed during rain, sleet or snow.
 - (e) Rainwater shall not be allowed to increase the mixing water nor damage the surface finish.
 - (f) All exposed concrete to have sack rubbed finish.

Clean up and Damage

- E23.15 Immediately on completion of all piles and foundations Contractor shall remove from Site all equipment, timbers, shores, excavated material, unused concrete, rubbish, etc., caused by his operations, and leave the Site clean, level and ready for placing of grade beams.
- E23.16 The Contractor shall be responsible for making good all areas damaged by his operations in connection with this Contract regardless of the limits of the Contract as shown on the Drawings.

Measurement and Payment

- E23.17 No separate measurement or payment shall be made for C.I.P. concrete bases for site furniture or fencing as this Work is incidental to the unit prices bid for installation of those items.

E24. SITE FURNITURE

Description

E24.1 This specification covers the supply and installation of:

- (a) Waste Receptacles,
- (b) Picnic Tables,
- (c) Tache Style Recycled Plastic Benches, complete with concrete base.

E24.2 Expanded mesh waste receptacle. Supply only.

General

E24.3 Store units in a protected location, immediately upon arrival on the Site.

E24.4 Remove from Site any units that have been damaged during transportation and replace.

Products

E24.5 Relocate existing Site furniture as noted on the drawings to locations as specified by Contract Administrator.

E24.6 Waste Receptacles and expanded wire baskets as supplied by:

City of Winnipeg
Public Works, Equipment and Material Services
Ph: (204) 986-5504 Fax: (204) 783-1248
Attn. Foreman

E24.7 Picnic Tables – Accessible Tache Style multi-coloured Tables as supplied by:

City of Winnipeg
Public Works, Equipment and Material Services
Ph: (204) 986-5504 Fax: (204) 783-1248
Attn. Foreman

Colours for picnic tables to be blue, and green.

E24.8 Recycled Plastic Benches – 1.83m length Tache Style wood benches with back and armrests as supplied by:

City of Winnipeg
Public Works, Equipment and Material Services
Ph: (204) 986-5504 Fax: (204) 783-1248
Attn. Foreman

Colours for benches to be red, blue, and green.

Installation

E24.9 Site Furniture shall be installed in locations as indicated on the Construction Drawings.

E24.10 Benches Picnic Tables and Waste Receptacles to be installed as per City of Winnipeg Specifications and details.

- (a) Tache Bench SCD 121A
- (b) Waste Receptacle SCD 119 and SCE-106
- (c) Picnic Tables SCD-122A

E24.11 Protect and maintain Site furnishings, including accessories, until acceptance of project Work.

- E24.12 Immediately remove from Site, damaged furnishing and accessories. Replace, repair, re-finish, or otherwise make good to approval of Contract Administrator.
- E24.13 Concrete bases as per E23 and as shown on the Drawings. No separate payment will be made for concrete foundation for site furniture. All Work is incidental to the unit prices bid for the items.
- E24.14 Supply expanded wire baskets to site for installation by City.

Measurement and Payment

- E24.15 Supply and installation of waste receptacles will be measured and paid for at the contract unit price per item for "Supply and install waste receptacle", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The number to be paid for will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.
- E24.16 Supply and installation of Tache benches will be measured and paid for at the contract unit price per item for "Supply and install Tache bench", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.
- E24.17 Supply and installation of the Picnic Tables will be measured and paid for at the contract unit price per item for "Supply and install Picnic Table", as measured and specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The number to be paid will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.
- E24.18 Supply of expanded wire mesh waste receptacles will be measured and paid for at the contract unit price per item for "Supply and install wire mesh waste receptacle", as measured and specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The number to be paid will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.

E25. FENCING

Description

- E25.1 The following list generally describes the scope of this section:
- (a) Supply and installation of chain link fence including locking gate.
 - (b) Supply and installation of custom welded wire and wood post fence with locking gate.

Design / Shop Drawings

- E25.2 The Contractor shall submit dimensioned detailed design drawings for the custom welded wire fence within five (5) Business Days when called by the Contract Administrator. The drawings shall show all details of construction, fastenings, lighting, materials and colours.
- E25.3 The Contractor shall submit stamped structural Engineer's drawings of the custom welded wire fence for review and approval within five (5) Business Days of Contract Award. Structural Engineer's drawings shall show all details of construction and fastenings for erections and shall be as specified or approved in accordance with B7.

Materials

- E25.4 Chain link fence and gate to be 1830mm height chain link fence to CW 3550.

- E25.5 Custom welded wire fence to be A-coated steel with custom powder paint. Colour to be confirmed in shop drawings.
- E25.6 Decorative elements to be on both sides of fence and fixed with stainless steel tamper proof bolts and nuts. All finishes to be clean and free of sharp edges.
- E25.7 Gate to be steel frame with welded wire mesh to match fence.
- E25.8 Wood posts to be No. 1 grade pressure treated pine, sizes as per the drawings.

Workmanship

- E25.9 Fabricate work to shape and size with sharp lines, even curves and smooth surfaces. Connections shall be securely welded, bolted or riveted. Bolted and riveted connections are not permitted in exposed areas of the sign. Welds shall be dressed smooth on exposed surfaces. Welds/joints shall not be visible upon completion of painting operations. Rabbits, lugs and brackets shall be provided so that the Work can be assembled in a neat substantial manner. Thickness of metal and design of assembly and support shall give ample strength and stiffness.
- E25.10 Exposed ends and edges of metal shall be smooth. Joints exposed to the weather shall be formed to exclude water or to drain.
- E25.11 Fit and shop assemble panels as one piece and deliver to the Site.
- E25.12 Prior to proceeding with shop fabrication, take all necessary field measurements to verify dimensions or calculations from Drawings.
- E25.13 Fabricate Work in strict accordance with shop drawings, and in general to details, sizes, materials shown on Drawings and specified herein.
- E25.14 Assembly: Material intended for use in the various assemblies shall be straight, clean, sharply defined profiles, assembled in such a way that no disfigurements will show in the finished work, or impair the strength.
- E25.15 Welding: All welding shall conform to the requirements of the current CSA Standard W.59 and the fabricator shall be fully approved by the Canadian Welding Bureau, in conformance with the requirements of the current CSA Standard W.47. Welding shall be done by currently licensed welders only and certified to design welds.
- E25.16 Manufacturer shall be a member of the Canadian Welding Bureau, or governing body where manufacture is in another country, and certified to design welds
- E25.17 Welding splatter and other fabrication burrs where exposed shall be ground or filed smooth and left ready for subsequent operations.
- E25.18 Finish: Fabricated material Work shall be delivered with A-coating, shop coat primer and paint, or other finish as specified.
- E25.19 Following installation, apply a touch up coat of shop primer and powder paint to match finish to all surfaces where finish has been removed and to installation devices such as bolts, screws, welds and the like. Application of touch up primer and paint must follow approved method of field repair acceptable to Contract Administrator.

Quality Control

- E25.20 All workmanship and all material furnished and supplied under this Section are subject to close and systematic inspection and testing by the Contract Administrator including all operations from the selection and production of materials through to final acceptance of the Work. The Contractor shall be wholly responsible for the control of all operations, incidental thereto notwithstanding any inspection or approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of this Section.

Fabrication

- E25.21 Fabrication shall be carried out in accordance with these Specifications and Drawings which form a part of this Contract.
- E25.22 All joints in structure are to be filled and sanded prior to cleaning for paint preparation.
- E25.23 The workmanship shall meet established practice in modern shops.
- E25.24 If damage occurs during fabrication, the Contract Administrator shall be notified to facilitate the implementation of remedial measures. Remedial repair measures will be subject to the approval of the Contract Administrator. Their cost will be paid by the Contractor.
- E25.25 Dimensions and fabrication which control the field matching of parts shall receive careful attention in order to avoid field adjustments.
- E25.26 The material shall be clean, free from rust, mill scale, and other foreign matter before being worked in the shop.
- E25.27 All portions of the Work shall be neatly finished. Shearing, cutting, chipping and machining shall be done neatly and accurately. Finished members shall be true to line, free from twists, bends open joints, sharp corners and edges.

Painting

- E25.28 Clean all metal thoroughly and apply recommended primer.
- E25.29 All surfaces to be sanded prior to powder painting.
- E25.30 Apply all materials under adequate illumination, spread evenly and flow on smoothly without runs or sags.
- E25.31 All coats must be thoroughly dry before applying succeeding coats.

Samples / Prototypes

- E25.32 A prototype is to be manufactured for the fence panel within twenty (20) Working Days from Award of Contract. The prototype is to be delivered to Site for review and approval prior to manufacture of the full length of fence. Cost of prototype is to be incidental to the unit prices bid on this project. The prototype shall be the minimum acceptable standard for all materials, workmanship and finishes. If prototype is approved it may be used as a unit to fulfil the Contract quantities.

Measurement and Payment

- E25.33 Supply and installation of chain link fence will be measured and paid on a linear meter basis. The length to be paid for shall be the total number of metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.
- E25.34 Supply and installation of custom welded wire fence will be measured and paid on a linear meter basis. The length to be paid for shall be the total number of metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E26. PLANTING BED PREPARATION

Description

- E26.1 The following list generally describes the scope of this Section:
- (a) Cultivate subsoil;

- (b) Supply and install drainage course and drainage pipe;
- (c) Supply and install insulation and geotextile;
- (d) Supply and install planting soil mixture in planters;
- (e) Supply and install black granite mulch and geotextile.

E26.2 Submit to the Contract Administrator samples of the following materials:

- (a) Planting soil mixture: 1 kg
- (b) Black granite mulch: 500 g
- (c) Geotextile

Materials

E26.3 Planting Soil: For mix imported topsoil with 20% peatmoss loose by volume, and 5% sand loose by volume. Incorporate bonemeal into planting soil at rate of 5 lbs /cu.yd. of soil mixture. Planting soil items to be comprised as follows:

- (a) Peatmoss: horticultural grade Class "A" decomposed plant material, fairly elastic and homogeneous. Free of decomposed colloidal residue, weed, sulphur and iron. To have pH value of 5.9 to 7.0, 60% organic matter by weight, moisture content not exceeding 15% and water absorption capacity of not less than 300% by weight on oven dry basis.
- (b) Bonemeal: shall be raw bonemeal, finely ground with a minimum analysis of 3% nitrogen and 20% phosphoric acid.
- (c) Imported topsoil: natural, fertile, agricultural soil typical of locality, capable of sustaining vigorous plant growth, from well drained Site that is free of flooding, not in frozen or muddy condition, not less than 6% organic matter to a maximum 25% organic matter by volume, and pH value of 5.9 to 7.0. Free from subsoil, slag or clay, stones, lumps, live plants and their roots, sticks, crabgrass, couchgrass, noxious weeds and foreign matter.
- (d) Sand: hard, granular natural beach sand, washed free of impurities, chemical or organic matter.

E26.4 Fertilizer: commercial type with 50% of the elements derived from organic sources. Deliver and store fertilizer in waterproof bags showing weight, analysis and name of manufacturer.

E26.5 Separation Geotextile Fabric as per CW 3130 for each application.

E26.6 Insulation to be 50mm thick rigid closed cell high density foam insulation.

E26.7 Bark nugget mulch to be 50mm-75mm diameter.

Construction Methods

E26.8 Remove debris, broken roots, branches, stones in excess of 50mm diameter and other deleterious materials. Remove subsoil that has been contaminated with oil, gasoline or calcium chloride. Dispose of removed materials as directed.

E26.9 Excavate planting beds to depths as per the Drawings. Confirm excavation on site with Contract Administrator prior to placement of geotextile or drainage material.

E26.10 Do not spread planting soil mixture until Contract Administrator has inspected excavation.

E26.11 Mix fertilizer at manufacturer's recommended rate of application. Mix fertilizer thoroughly into upper 150mm of planting soil to be placed.

E26.12 Spread planting soil mixture with adequate moisture in uniform layers during dry weather over approved, dry, unfrozen sub-grade, where planting is indicated.

E26.13 Bring insulation and planting soil mixture up to 100 mm below finished grade in beds.

- E26.14 Remove stones, roots, grass, weeds, construction materials, debris and foreign non-organic objects from soil mixture.
- E26.15 Fine grade entire planting soil area. Eliminate rough spots.
- (a) Compact planting soil to leave surface smooth, uniform, firm against deep foot printing, with a fine, loose texture. Tolerance: plus or minus 15mm of design grade.
 - (b) Supply and install 100mm bark nugget mulch in planting beds.

Measurement and Payment

- E26.16 Planting bed preparation will be measured and paid on an area basis at the Contract unit price per square metre for "Planting bed preparation" which price shall be payment in full for supply of all materials and performing all operations herein described and for all other items incidental to the Work included in this Specification. The area to be paid for shall be the total number of square metres in place in accordance with this Specification acceptable to the Contract Administrator, as computed from measurements made by the Contract Administrator.

E27. PLANT MATERIAL

Description

- E27.1 The following list generally describes the scope of this section:
- (a) Supply and planting of trees and shrubs;
 - (b) Maintenance to date of substantial performance;
 - (c) Warranty for two full years.

General

- E27.2 Obtain approval of plant material at source.
- E27.3 Notify Contract Administrator of source of material at least 7 days in advance of shipment. No Work under this Section is to proceed without approval.
- E27.4 Acceptance of plant material at source does not prevent rejection at Site prior to or after planting operations.
- E27.5 Source of all plant material to be from an area within the same hardiness zone and soil conditions as Winnipeg.

Shipment and Pre-Planting Care

- E27.6 Co-ordinate shipping of plants and excavation of holes to ensure minimum time lapse between digging and planting. Tie branches of trees and shrubs securely and protect plant material against abrasion, exposure and extreme temperature change during transit. Avoid binding of planting stock with rope or wire which would damage bark, break branches or destroy natural shape of plant. Give full support to root ball of large trees during lifting.
- E27.7 Cover plant foliage with tarpaulin, and protect bare roots by means of dampened straw, peatmoss, sawdust or other acceptable material to prevent loss of moisture during transit and storage.
- E27.8 Remove broken and damaged roots with sharp pruning shears. Make clean cut and cover cuts over 50 mm diameter with wound dressing.
- E27.9 Keep roots moist and protected from sun and wind. Heel-in shrubs, which cannot be planted immediately, in shaded areas, and water well.

Materials

Water

E27.10 Water should be potable and free of minerals, which may be detrimental to plant growth.

Anti-Desiccant

E27.11 Anti-desiccant should be wax-like emulsion to provide film over plant surface reducing evaporation but permeable enough to permit transpiration.

Wound Dressing

E27.12 Wound dressing should be horticulturally accepted non-toxic, non-hardening emulsion.

Plant Material

E27.13 Quality and Source: Comply with City of Winnipeg tree planting guidelines, referring to size and development of plant material and root ball. All plant material to be approved by City and Contract Administrator at source.

E27.14 Measure plants when branches are in their natural position. Height and spread dimensions refer to main body of plant and not from branch tip to branch tip. Use trees of No. 1 grade.

E27.15 Additional plant material qualifications:

- (a) Use perennials and plant plugs with strong fibrous root system free of disease, insects, defects or injuries and structurally sound. Plant must have been root pruned regularly, but not later than one growing season prior to arrival on Site.

Cold Storage

E27.16 Approval required for plant material, which has been held in cold storage.

Container – Grown Stock

E27.17 Acceptable if containers large enough for root development. Shrubs and vines must have grown in container for minimum of one growing season but not longer than two. Root system must be able to "hold" soil when removed from container. Plants that have become root bound are not acceptable. Container stock must have been fertilized with slow releasing fertilizer.

Substitutions

E27.18 Substitutions to plant material as indicated on plantings plan are not permitted unless written approval has been obtained as to type, variety and size prior to award of Contract. Plant substitutions must be similar species and of equal size to those originally specified.

Root balls

E27.19 Deciduous trees in excess of 3 m height must have been dug with large firm ball. Root balls must include 75% of fibrous and feeder root system. This excludes use of native trees grown in light sandy or rocky soil. Lift root ball from hole, place in wire basket designed for purpose and line with burlap. Secure root balls with burlap, heavy twine and wire basket. Protect root balls against sudden changes in temperature and exposure to heavy rainfall. Take care not to injure trunk of tree with wire basket ties or rope.

E27.20 Tree spade material shall not be accepted unless dug in field and secured as above.

Construction Methods

Workmanship

- E27.21 Stake out location of trees and shrubs as per the Construction Drawings. Obtain approval by the City and Contract Administrator prior to excavating.
- E27.22 Apply anti-desiccant in accordance with material manufacturer's instructions only as required.
- E27.23 Co-ordinate operations. Keep Site clean and planting holes drained. Immediately remove soil or debris spilled onto pavement.

Planting Time

- E27.24 Plant deciduous plant material during dormant period, before buds have broken. Plant material noted for spring planting only, must be planted in dormant period.
- E27.25 When permission has been obtained to plant materials after buds have broken, spray plants with anti-desiccant to slow down transpiration prior to transplanting.
- E27.26 When permission has been obtained, shrubs and perennials growing in containers may be planted throughout growing season.
- E27.27 Plant only under conditions that are conducive to health and physical conditions of plants.
- E27.28 Provide planting schedule. Executing planting operations over long period using limited crew will not be accepted.

Excavations

- E27.29 Prepare planting areas as shown on the Drawings.
- E27.30 Provide drainage for planting holes in heavy soil if natural drainage does not exist. Have method approved.
- E27.31 Protect bottom of excavations against freezing.
- E27.32 Remove water, which enters excavations prior to planting. Ensure source of water is not ground water.

Planting

- E27.33 Scarify sides of planting hole to depth of 150mm where tree is planted in isolated tree pit.
- E27.34 Plant trees, shrubs and perennials vertically with roots placed straight out in hole. Orient plant material to give best appearance in relation to structure, roads and walks.
- E27.35 Place plant material to depth equal to depth they were originally growing in nursery. Allow for soil settlement in planting.
- E27.36 With balled and burlapped roots balls, loosen burlap and cut away minimum top 1/2 without disturbing root ball. Cut vertical slits in remaining burlap around root ball at 250mm intervals. Remove all rope, string, or other ties from around trunk. Do not pull burlap or rope from under root ball. With container stock, remove entire container without disturbing root ball. Non bio-degradable wrappings must be removed including wire baskets.
- E27.37 Tamp planting soil around root system in layers of 150mm eliminating air voids. Frozen or saturated planting soil is unacceptable. When 2/3 of planting soil has been placed, fill hole with water. After water has completely penetrated into soil, complete backfilling.
- E27.38 Build 100mm deep saucer around outer edge of hole to assist with maintenance watering. Install 100mm depth wood chip mulch in saucer as shown on drawings.

E27.39 When planting is completed, give surface of planting saucer dressing of organic 10-6-4 fertilizer at rate of 12 kg/100 m for shrub beds or 40 to 50 g/mm of calliper for trees. Mix fertilizer thoroughly with top layer of planting soil and water in well.

Pruning

E27.40 Prune trees and shrubs after planting only as required to remove broken diseased or dead branches. Employ clean sharp tools and make cuts flush with main branch, smooth and sloping as to prevent accumulation of water.

Maintenance

E27.41 After completion of planting operation to the satisfaction of the Contract Administrator and City of Winnipeg, the Contractor shall be responsible for the maintenance of the plant material until date of Substantial Performance and commencement of two year warranty.

E27.42 Replace any dead or damaged plant material during the maintenance period, including replacement of vandalized material.

E27.43 Water sufficiently to maintain optimum growing conditions. Ensure adequate moisture in root zone at freeze-up.

E27.44 The Contractor shall provide all necessary equipment, including: tractors, mowers, hand mowers, trimmers, fertilizer spreaders, pruning tools, hoses, water meters, and any other items necessary for the maintenance of the plant material indicated in this Specification.

E27.45 Remove all weeds and debris from mulch beds, planting beds and tree wells on a weekly basis.

E27.46 Turn and top up mulch in beds and tree wells each spring and prior to start of extended maintenance.

Personnel

E27.47 The Contractor shall provide all necessary personnel for the ongoing maintenance operations.

E27.48 Personnel should have at least one year of experience in landscape maintenance and should be under the direction of a foreman, in all cases, with not less than five (5) years of experience with similar maintenance operations.

Maintenance Methods

Watering

E27.49 Trees shall be watered twice weekly, or during the summer, if temperatures are fairly high and there has been no rainfall, water approximately once a week.

E27.50 To determine the need for watering, make a soil test weekly with a one-inch auger. Take a test sample from both the planting soil and from the root ball by drilling to a minimum depth of 600 mm. The soil shall contain enough moisture to hold together when compressed in the hand, but not be muddy.

Fertilizing

E27.51 Because of the specialized nature of such operations, fertilizing is to be done by a qualified local arborist.

E27.52 Fertilize in the fall over the surface of the ground surrounding the plants, then soak the area thoroughly, use 10-6-4 analysis fertilizer spreading a maximum of 0.13 kg per square metre.

Spraying

E27.53 Spray trees to control insect pests and diseases. Use horticulturally recommended compounds specific for the problem to be contained.

Insects and Diseases

E27.54 Spray plants to combat pests and diseases. Do not use DDT or sprays prohibited by Agriculture Canada.

Measurement and Payment

E27.55 Supply and Installation of Plant Material will be measured on a unit basis. The number of units to be paid shall be the total number of each type and size of units supplied and installed in accordance with the Drawings and Specifications and as measured and accepted by the Contract Administrator. Supply and Installation of Plant Material will be paid for at the Contract Unit Price per unit type and size specified for "Supply and Installation of Plant Material", measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

E28. TOPSOIL AND FINISH GRADING

E28.1 All Work to be to CW 3510.

Measurement and Payment

E28.2 There shall be no separate measurement for the Work associated with this Specification.

E28.3 Payment for Work specified under this Specification is to be included with the price for Sodding.

E29. SODDING

E29.1 All Work to be to CW 3510.

Measurement and Payment

E29.2 Sodding will be measured on an area basis. The area to be paid for shall be the total number of square meters sodded and maintained in accordance with this Specification and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator. Sodding will be paid for at the Contract Unit Price per square metre for 'Supply and Install Sod', measured as specified herein, which price shall be payment in full for completing all operations herein described and all other items incidental to the Work included in this Specification.

E30. EXTENDED MAINTENANCE

Description

E30.1 The Specification shall deal with the maintenance of the Plant Material, Shrub Beds and sod for Two (2) calendar years after the date of Total Performance.

Materials and Personnel

E30.2 The Contractor shall provide all necessary equipment, including: tractors, trimmers, fertilizer spreaders, pruning tools, water trucks, hoses, water meters, and any other items necessary for the maintenance of the area indicated in this Specification.

E30.3 The Contractor shall provide all necessary personnel for the ongoing maintenance operations.

Work Included

E30.4 The following areas shall be part of the maintenance jurisdiction:

- (a) The trees and sodded areas as indicated on the Construction Drawings

E30.5 Maintenance of Plant Material

- (a) All trees and shrubs shall be watered bi-weekly, or during the summer, if temperatures are fairly high and there has been no rainfall, water approximately once a week. Where irrigation is not available this should be executed by leaving a hose, with a gentle rate of flow, running into the saucer of the root ball for about one hour.
- (b) To determine the need for watering, make a soil test weekly with a one-inch auger. Take a test sample from both the planting soil and from the root ball by drilling to a minimum depth of 600 mm. The soil shall contain enough moisture to hold together when compressed in the hand, but shall not be muddy.
- (c) Fertilizing, Pruning and Spraying Deciduous Trees and Shrubs. Because of the specialized nature of such operations, this should be done by a qualified local arborist.
- (d) Fertilize in the fall over the surface of the ground surrounding the plants, and then soak the area thoroughly. Use 10-6-4 analysis fertilizer spreading a maximum of 0.13kg per square meter.
- (e) Spray trees and shrubs to control insect pests and diseases. Use horticulturally recommended compounds specific for the problem to be contained.
- (f) Supply and install protective tree wrap on ornamental deciduous tree trunks to prevent winter scalding. Remove tree wrap in spring.
- (g) Tighten, or remove, turnbuckles or guy wires for trees as required or directed by the Contract Administrator.
- (h) Straighten trees as required and directed by the Contract Administrator.

E30.6 The Contractor shall agree and guarantee to replace and replant any nursery stock found dead or in poor condition at the completion of the maintenance period. "Poor Condition" shall be interpreted as meaning nursery stock in which branches are dead or dying, or have not shown satisfactory growth of leaves. All replacements shall be of same size and species, as specified.

E30.7 Upon the end of the required maintenance period, a Site inspection shall be held. If at this time, all Material and Works is satisfactory the Contract for maintenance and warranty shall be terminated.

E30.8 Maintenance of Shrub Bed

E30.8.1 Shrub beds are to be weeded on a weekly basis. Contactor to remove and dispose of weeds.

E30.8.2 Wood Chip mulch is to be turned over in spring and fall. Top up wood chips as required ensuring 100mm depth is maintained.

E30.8.3 Remove and dispose of all garbage from shrub beds on a weekly basis.

E30.8.4 Edge beds in spring each year. Provide smooth even lines for bed.

E30.9 Maintenance of Sod

E30.9.1 Sod to be maintained as per CW 3510 for two (2) full years.

Measurement and Payment

E30.10 Extended Maintenance will be measured on a lump sum basis and paid for in accordance with this Specification and accepted by the Contract Administrator. Extended Maintenance will be paid for over two (2) years, at 50% of the Contract Lump Sum Price each year for "Extended Maintenance of Plant Material"; which price shall be payment in full for supply of all materials and performing all operations herein described and for all other items incidental to the Work included in this Specification.

E31. PROJECT SEQUENCING

E31.1 The Contractor is advised that the City anticipates sequencing as follows:

(a) Design

- (i) The Contractor shall, upon award of the contract, meet with the Contract Administrator to clarify and confirm the detailed conceptual design submitted in the Contractors proposal.
- (ii) The Contractor shall provide a coloured rendering of the project within two (2) weeks of award.
- (iii) The Contractor shall develop the Design to a level sufficient for construction and permitting. This shall include grading drawings, layout drawings, servicing drawings and construction details.
- (iv) Periodic review is required during the design process and will be negotiated at a prework meeting.
- (v) Submissions during the Design Phase shall include; Drawings, Specifications, and costing confirmation.
- (vi) The Contractor shall submit drawings for review at the 60% stage.
- (vii) The Contractor shall submit drawings and specifications for review at the 90% and 99% stage.
- (viii) The Contractor shall receive written approval from the Contract Administrator prior to proceeding to the next stage.
- (ix) All applicable items will to be designed and constructed in accordance with City of Winnipeg Standard Construction Specifications. Where items are not covered by the City of Winnipeg Standard Construction Specifications Contractor is to submit specification to the City for review. Specifications will not be used for construction until accepted by the Contract Administrator.
- (x) The Contractor will submit drawings and specifications to the appropriate authorities for Permitting purposes. Drawings shall be stamped as appropriate by the responsible design professional. Permitting is a responsibility of the Contractor.

(b) Construction

- (i) Construction shall be staged to meet the dates specified in D16, D17.1 and D18.1.
- (ii) The work is to be completed and the necessary permits in place to open the spray pad to the public by Total Performance.
- (iii) Design professionals responsible for the design of the project shall conduct periodic reviews during the construction of the project.
- (iv) Construction timelines will be reviewed weekly during construction phase.

(c) Commissioning

- (i) Operation and Maintenance manuals, as well as staff training, shall be complete prior to Substantial Performance.
- (ii) Contractor to winterize the work.

E32. DESIGN PHASE

E32.1 Guiding Principles

E32.1.1 Vision – A dynamic, colourful, cost effective spray pad experience.

E32.1.2 Values:

(a) Inclusiveness and accessibility:

- (i) The facility and its environs shall be designed for use by all ages.
- (ii) Provide quiet passive areas and active areas.

- (iii) Some separation from areas designed for toddlers and areas designed for older children.
- (iv) Design in compliance with Universal Design Principles meeting the intent of the City of Winnipeg Universal Design Policy and the City of Winnipeg Accessibility Design Standards. The City of Winnipeg Accessibility Design Standards can be accessed at http://www.winnipeg.ca/ppd/pdf_files/Access_Design_Standards.pdf
- (b) Cost effective and Energy efficient:
 - (i) All opportunities to decrease water consumption and sewer rate costs, through processes as integrated automation, sequencing, control spray nozzles and heads are to be incorporated to the greatest extent practical.
 - (ii) Low lifecycle costs and ease of operation and maintenance are key considerations.
- (c) Safe and Secure:
 - (i) Maintain views into the site from the surrounding area.
 - (ii) Maintain clear site lines between mechanical vault / pump house and the water play area.
 - (iii) The Public Health Act (C.C.S.M. c. p210) Manitoba Regulation 132/97 and subsequent amendments as it relates to the design, construction, and mechanical operation of wading pools and spray pads.

E32.2 Existing Site Conditions

- (a) Contractor is to be aware that the sites may contain existing underground structures and services including but not limited to high voltage buried cable, natural gas, water, etc.
 - (i) Underground structure data from the City is provided as a convenience to the Contractor only. Contractor is not to rely on this information but to arrange for on site location of all utilities and underground services and structures and obtain all clearances required for the project.
 - (ii) Contractor is to maintain offsets from underground services as may be required by the authorities concerned.
- (b) Contractor is to be aware that the Site contains a number of mature trees.
 - (i) If any trees are the damage will be assessed by the City Forester to determine if the tree is salvageable and what the cost will be to remedy the tree, or if the tree must be removed for safety or the health of the tree a financial value for replacement compensation.
 - (ii) Any cost to remedy the tree or the financial value of the tree shall be paid by the Contractor at his own cost.

E33. SPRAY FEATURES

E33.1 Site shall be accessible throughout with no curbs blocking access.

E33.2 All surfaces shall be straight line grades to drains.

E33.3 In as much as is possible given constraints of budget and space, the design shall offer a mix of passive and interactive play

- (a) for all ages but specific anticipated user groups are 0-4 yrs., 5-8 yrs., 9-12 yrs., and caregivers.
- (b) Include a passive 'kiddie' area somewhat segregated from the more active play area with some preschool type features.
- (c) Trip, entanglement, strangulation hazards must be avoided.

E33.4 Consideration should be given to features/components that the community can identify with and would enhance the community's desire to take ownership.

E33.5 Water play components:

- (a) Shall be from one manufacturer to assure compatibility of spare parts for fixtures.
- (b) Special consideration will be given to products that offer the ability to remove and relocate components to another site.
- (c) Components are to include the following components or approved equal in accordance with B7:
 - (i) one tall bell spray
 - (ii) one serpent/dragon head spray
 - (iii) one triple dumping bucket pole
 - (iv) one twisting tot spray pole
 - (v) one tot dome spray pole
 - (vi) four spray loops in sequence
 - (vii) two water cannon type sprays (non-gun)
 - (viii) ground sprays including gushing, geyser, high pressure streams and directional, minimum 10 total.
- (d) Bollard activator.
- (e) Minimum of moving parts
- (f) Durable, vandal resistant anchors, finishes, treatments.
- (g) Ease of maintenance.
- (h) Adjustable controls – provide details of ‘operation time’, ‘run time’, etc. to manage water consumption. Controls to be programmable to allow flexibility in changing spray sequence.
- (i) Bases/Connections should permit the ability to shift components to other bases located in spray pad.
- (j) Component design is to enhance the safety of the spray pad.

E33.6 Payment shall be as per Form B:Prices for item “Spray Features”.

E34. CONCRETE SPRAY PAD

E34.1 General Considerations

- (a) Basin shall be sized to collect overspray to a minimum of 1.5 times the manufacturer's specified overspray.
- (b) Concrete pad, designed to support light truck use in a wet environment.
- (c) Sloped to drain towards return inlets. With straight line grade from high point to drains. Minimum 1.5% slope, maximum 3% slope.
- (d) Provide a slip resistant surface suitable for use in this type of installation and acceptable to the City.
- (e) If concrete surfacing is abutting a fence, extend the concrete 300mm beyond the outside of the fence to provide a mow strip and structurally reinforced edge.
- (f) Provide drain lines as required. Minimum of 2 drains with anti-vortex covers, ADA compliant, shall be provided for each drainage basin as appropriate to the design.
- (g) Rebar shall be epoxy coated.
- (h) Basin shall include an apron which shall include drain to site drains as shown on the Conceptual Grading Plan.
- (i) Apron shall be sized to collect overspray from the spray devices to a minimum of 50% greater than manufactures stated overspray.

- (j) Contractor shall prepare three samples of concrete finishes 60cm x 60cm with a light, medium and rough finish. Contract Administrator and Community Services / PPD to approve finish samples prior to any concrete being poured.

E34.2 Operational Considerations

- (a) Ensure ease of access to vault / pump house, from the spray pad area by staff.
- (b) Hours of operation will be dependent on demand but are anticipated to be seven days per week from July 1 to August 31 from 11:30 to 5:00 pm.

E34.3 Payment shall be as per Form B: Prices for item "Concrete Spray Basin".

E35. MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS

E35.1 The system is to be a recirculating system with dedicated tanks, filters, pumps, etc. The system will be independent of the existing pool systems. Design of the system is to be approved by the Contract Administrator and City of Winnipeg prior to start of construction.

E35.2 Primary control system including activation switch, timers, electronic sequencers and wiring schematics, controllers, valves, pressure regulators, ball valves etc. shall be provided.

E35.3 The plumbing to follow the recommendations of the Nova 3 Engineering report for the Mechanical Scope of Work and Code review, as provided in appendix A, provided that permitting can be obtained.

E35.4 Electrical works to follow the recommendations of the Nova 3 Engineering report for the Electrical Scope of Work and Code review, as provided in appendix A, provided that permitting can be obtained.

E35.5 Ventilation systems shall be designed to meet current standards described by A.S.H.R.A.E. and applicable codes.

E35.6 Work to be performed by journeymen skilled tradesmen to the satisfaction of the Contract Administrator.

E35.7 All plumbing and electrical must comply to all regulatory authorities that have jurisdiction and manufactures recommended practices.

E35.8 All connections to existing services necessary to provide a complete working project shall be included. This includes, but is not limited to electrical, water, and sewer.

E35.9 Designs will respect the use of the areas and ensure the comfort and safety of the occupants.

E35.10 Mechanical markings to be in accordance with the following and approved by the Contract Administrator:

- (a) Canadian General Standards Board (CGSB).
- (b) CAN/CGSB-1.60[M89], Interior Alkyld Gloss Enamel.
- (c) CAN/CGSB-24.3[92], Identification of Piping Systems
- (d) CAN/CGSB-149.1[M95].
- (e) CAN/CGSB-149.2[M91].

E35.11 Controls:

- (a) Low lifecycle cost considering initial investment, daily operations, maintenance and expected lifespan.
- (b) System to drain away so that there is no standing water at any time.
- (c) Must comply with current Health regulations for water quality.

E35.12 Piping

- (a) All fittings to be galvanized or PVC. All fasteners to be Stainless Steel.
- (b) All water lines to have proper slope and drain capability and blow out valves for fall servicing.
- (c) Piping to include a shock arrester.
- (d) Drain lines are to be sized to permit draining of basin to prevent standing water.
- (e) All PVC underground piping to be minimum of schedule 80.
- (f) All supply lines to the features to be low pressure poly pipe approved for 100 psi.
- (g) Drain lines are to gravity drain to facilitate winterization.

E35.13 Water service:

- (a) To be sized to suit proposed design requirements.
- (b) Water supply line, as per option in 19.2 (c), to Spray Pad to have separate water meter and back flow prevention device from source.

E35.14 Drains

- (a) Each basin to have minimum two (2) anti-vortex drains complete with secured covers.
- (b) Deck drains to be a minimum 50mm diameter and schedule 80 piping.
- (c) Deck drains, access lids, frames, etc. to be stainless steel.
- (d) To be heavy duty non-corroding metal alloy or equally durable fibreglass or plastic construction.

E35.15 Mechanical

- (a) Mechanical may be accommodated in vault.
- (b) Space is to accommodate mechanical systems with adequate clearance space.
- (c) Controls must be easily accessible.
- (d) Mountings must be structurally designed.
- (e) Ensure all equipment, fixtures and devices requiring normal maintenance and or cleaning are to be mounted such that they are fully serviceable. Provide necessary isolation access doors, union fittings and the like.
- (f) Pits, if proposed, must be accessible, easy maintenance and operation and have vandal resistant lockable entry point.
- (g) Site shall have a rain sensor control to limit the use of the site during rain events.
- (h) Site shall have a wind sensor mounted on the existing lights to limit spray during high wind.

E35.16 Operations and maintenance manual to be provided.

- (a) Provide three (3) bound copies of the operation and maintenance manual detailing the operation and maintenance for all elements of the construction.

E35.17 Training

- (a) Provide training on the operation and maintenance of the proposed system.

E35.18 Electrical

- (a) All equipment must be CSA approved.
- (b) Related to the mechanical system requirements.
- (c) Related to the Site Lighting (if included in proposal).
- (d) Grounding of all components within water play area.
- (e) To meet all applicable requirements of authorities having jurisdiction.

- (f) Power Smart Program: The City has a Power Smart Agreement with Manitoba Hydro. Manitoba Hydro has the right to review the design, specifications, and drawings prior to construction. Contractor shall provide documentation normally required for the City to receive a Power Smart Grant from Manitoba Hydro.

E35.19 Periodic review during the construction phase

- (a) The Design Team shall be responsible for periodic review of construction progress and shall provide the results of said reviews to the Contract Administrator in writing.

E35.20 Payment shall be as per Form B: Prices at the price for item "Mechanical, Electrical and Plumbing".

E36. BUILDING FOR RECIRCULATING SYSTEM

E36.1 The recirculating system including, access to the storage tank, water treatment, electrical panels, pumps, manifold and operating system are to be housed in a dedicated building to be constructed on site with a slab foundation.

E36.2 The building size is to be approximately 5m x 8m, but smaller design will be acceptable if it can be shown that they will accommodate all equipment and service requirements for the Phase 1 and Phase 2 spray park.

E36.3 The design for the building is to be complementary to the design of the spray park and is to be a three season facility.

E36.4 All work is to be to current Canadian Building Code requirements. A code review summary is to be provided with the final design.

E36.5 Building construction will include concrete slab, access to underground systems, structure, finishes, roofing and all other components.

E36.6 Eaves troughs and downspouts are to be included in the design and location of discharge is to be addressed to ensure water does not run into the existing building crawl space or over sidewalk areas where icing may occur.

E36.7 The Contractor will provide full colour elevations and detailed plans and sections for approval by the City of Winnipeg prior to final drawings being submitted for building permit.

E36.8 The Contractor is responsible for obtaining all permits and coordinating all inspections.

E36.9 An architect licensed to practice in Manitoba is required to seal and certify all drawings and specifications.

E36.10 Payment shall be as per Form B: Prices for item "Building for recirculating system".

E37. CONSTRUCTION PHASE

E37.1 General

- (a) Unless otherwise stated, the Contractor shall furnish 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 hereinafter specified and in accordance with the referenced standard City specification and construction details.
- (b) The Contractor shall construct the Work in accordance with the design produced during the design phase.
- (c) Construction materials, methods and procedures shall be performed in accordance with the standards set out in *The City of Winnipeg Standard Construction Specifications*. Obtain the Contract Administrator's approval if the Contractor will deviate from *The City of Winnipeg Standard Construction Specifications*.

- (d) The Contractor shall document and advise the Contract Administrator of any alteration, modification, deletion, or substitutions to the approved design prior to incorporating said alterations, modifications, deletions or substitutions into the Work.
- (e) All Workmanship and all materials furnished and supplied under this Contract are subject to the close and systematic inspection or review and testing by the Contract Administrator including all operations from the selection and production of materials through to final acceptance of the Work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection, review or approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works, which are not in accordance with the requirements of this Contract.

E37.2 Shop Drawings

- (a) Shop Drawings will be reviewed by the Contract Administrator for general conformance to the City's requirements only.
- (b) Shop Drawings are to be reviewed by the design professional responsible for the design prior to submission to the Contract Administrator.
- (c) Submit shop drawings and equipment catalogue data and manufacturer's installation operating and maintenance instructions for approval of the following items:
 - (i) Disconnect switched and fuses
 - (ii) Over-current devices, including ground fault interruption circuit breakers
 - (iii) Primary control system including activation switch, timers, electronic sequencer(s), and wiring schematic
 - (iv) Electrical grounding / protection equipment
 - (v) Equipment support details
 - (vi) Excavation and concrete details
 - (vii) Spray Pad features/ components
 - (viii) Speciality products
 - (ix) Drains / Covers

E37.3 Record Drawings

- (a) The Contractor shall keep on the Site one (1) up to date copy of all specifications, drawings, and bulletins pertaining to the Work, in good order, available to the Contract Administrator and to his representatives.
- (b) Such specifications and drawings need to be marked by the Contractor to show all Work 'As-Built' as Work proceeds. The Contractor shall modify the Drawings to 'As-Built' bearing notations of all changes and variations from the original and submit these to the Contract Administrator for approval.
- (c) If required, in the opinion of the Contract Administrator, further revisions will be made to the Drawings by the Contractor until the Drawings are accepted by the Contract Administrator.
- (d) Accuracy of these drawings shall be the responsibility of the Contractor, who shall bear all expenses of corrections thereto.
- (e) The Contractor shall have a full topographic survey done of the completed works to be included in the 'As-Built' drawings.
- (f) Said Drawings will be provided to the Contract Administrator during the Commissioning stage of the project as revised Autcadd files (dwg format). Drawings are to include all information as determined under items (a) to (d) above.

E38. COMMISSIONING

E38.1 System Start-up and First Year Winterization

- (a) Contractor to perform the system start-up in accordance with the information contained in the Operation and Maintenance Manuals in order to have the Work fully operational for public use by the date of Substantial Performance specified herein.
- (b) After the operation of the Work for the season, the Contractor shall perform the first year winterization of the Work as per D20.1(c).
- (c) The Contractor shall provide the Contract Administrator with 48 hours notice prior to commencing the start-up and winterization procedures in order that the City staff may attend.

E38.2 Operation and Maintenance Manuals

- (a) The Contractor shall provide in a format acceptable to the Contract Administrator three (3) bound copies as well as one electronic copy (in pdf format) detailing the operation and maintenance instructions for all elements of the Construction including:
 - (i) Manufacturers' written instructions, warranties, shop drawings, schedules, wire diagram and a listing of persons to contact for repairs during the warranty period.
 - (ii) Descriptions of day to day operations, preventative maintenance, annual and periodic maintenance, and procedures for seasonal shutdown and start-up.

E38.3 Staff Training

- (a) On Site training provided to City pool staff and maintenance personnel in proper operation and maintenance procedures for the system.
- (b) Trainers shall be qualified trades persons or consultants knowledgeable of the equipment and familiar with the installation.
- (c) Legible documentation shall be provided to City staff during the training.
- (d) Training shall be a minimum of one half day duration.

E38.4 Payment shall be as per Form B: Prices at the price for item "Commissioning".

E39. CONSULTANT SERVICES

- E39.1 Consultants on the Design team are to include all required professional Engineers required to design and certify all works for Civil, Structural, Mechanical, and Electrical work to be done on the project.
- E39.2 All Drawings for construction are to be stamped by a professional Engineer licensed to practice in Manitoba for each discipline. All Drawings are to be submitted by the date noted in Critical Stages.
- E39.3 All Drawings for the building are to be stamped by a professional Architect licensed to practice in Manitoba. All Drawings are to be submitted by the date noted in Critical Stages.
- E39.4 Consultants are to coordinate with McGowan Russell Group to incorporate the Spray Pad into the site design. All site Drawings are to be provided to McGowan Russell Group in Autocad (dwg) format for inclusion in the overall design.
- E39.5 All consultant services from detailed conceptual design through to certification are to be included in the Bid Price.
- E39.6 Payment shall be as per Form B: Prices at the price for item "Consultant Services".