



THE CITY OF WINNIPEG

BID OPPORTUNITY

86-2007 BID OPPORTUNITY

GLENLEE COMMUNITY CENTER SITE REDEVELOPMENT

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 GLENLEE COMMUNITY CENTER SITE REDEVELOPMENT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, March 22, 2007.

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

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

B3. SITE INVESTIGATION

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

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

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

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

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B7. BID COMPONENTS

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

B8. BID

- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
 - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
- (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.

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

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

B9. PRICES

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

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

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

B10. QUALIFICATION

B10.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B10.2 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>); and
- (b) have successfully carried out work similar in nature, scope and value to the Work; and
- (c) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (d) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba).

B11. OPENING OF BIDS AND RELEASE OF INFORMATION

B11.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.

B11.1.1 Bidders or their representatives may attend.

B11.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B12. IRREVOCABLE BID

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B12.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work for the time period specified in Paragraph 9 of Form A: Bid.

B13. WITHDRAWAL OF BIDS

B13.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B13.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B13.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B13.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.

B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 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.

B14. EVALUATION OF BIDS

- B14.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B6.
- B14.2 Further to B14.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.
- B14.4 Further to B14.1(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 adjusted, if necessary, as follows:
- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
 - (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting item(s)
 - (i) Item 12 – Weeping tile drain pipe
 - (ii) Item 19 – Supply and install park benches
 - (iii) Item 11 - Supply and install concrete barrier curb for planting areas
 - (iv) Item 22 – Tree maintenance
 - (v) Item 21 - Tree planting
 - (c) in the order listed, until a Total Bid Price within the budgetary provision is achieved.
- B14.4.1 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.

B15. AWARD OF CONTRACT

- B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B15.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.
- B15.2.1 Without limiting the generality of B15.2, the City will have no obligation to award a Contract where:

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar work in the past;
- (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
- (d) only one Bid is received; or
- (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B15.3 Subject to B15.2, where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

B15.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

B15.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of site redevelopment at the Glenlee Community Center as shown on the drawings

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

- (a) Removals, excavation and site grading
- (b) Supply and installation of catch basin and land drainage sewer
- (c) Asphaltic and concrete pavement works
- (d) Construction of a light barrier fence
- (e) Supply and installation of basketball standards
- (f) Sodding, wood mulch, planting beds and tree planting

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Mr Jurgen Friesen
Technologist II
Planning, Property and Development
Planning and Land Use
Parks, Riverbanks and Community Initiatives Branch
Unit 15 – 30 Fort Street, R3C – 4X5
Telephone No. (204) 986 - 3781
Facsimile No. (204) 986 - 7524

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

D4. CONTRACTOR'S SUPERVISOR

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

D5. NOTICES

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

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

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

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

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

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

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

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

D7. SAFE WORK PLAN

- D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

D8. INSURANCE

- D8.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;

- D8.2 Deductibles shall be borne by the Contractor.
- D8.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than seven (7) Calendar Days from notification of the award of Contract by Purchase Order.
- D8.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

D9. PERFORMANCE SECURITY

- D9.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D9.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D9.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of Purchase Order and prior to the commencement of any Work on the Site.

D10. SUBCONTRACTOR LIST

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

SCHEDULE OF WORK

D11. COMMENCEMENT

- D11.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.
- D11.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D6;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D7;
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
 - (vi) the Subcontractor list specified in D10; and

- (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.

D11.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D11.3 The Contractor shall not commence the Work on the Site before May 1, 2007.

D11.4 The City intends to award this Contract by April 1, 2007.

D11.4.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D12. SUBSTANTIAL PERFORMANCE

D12.1 The Contractor shall achieve Substantial Performance by June 8, 2007.

D12.2 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.

D12.3 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.

D13. TOTAL PERFORMANCE

D13.1 The Contractor shall achieve Total Performance by June 15, 2007.

D13.2 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.

D13.3 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.

D14. LIQUIDATED DAMAGES

D14.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City five-hundred dollars (\$500.00) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.

D14.2 The amount specified for liquidated damages in D14.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D14.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D15. SCHEDULED MAINTENANCE

D15.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) Crack sealing as specified in E34;
- (b) Two year tree maintenance as specified in E33

D15.2 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

D16. JOB MEETINGS

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

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

- D17.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

MEASUREMENT AND PAYMENT

D18. PAYMENT

- D18.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D19. WARRANTY FOR TREE PLANTING

- D19.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for thereunder.
- D19.2 Notwithstanding GC:13.2 or D19.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:
- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use; or
 - (b) In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in GC:13.2 for the warranty period to begin.
- D19.3 Item No. 19 – "Tree Planting" as shown on Form B "Prices" will be warrantied for a two year period as specified in E33.

FORM H1: PERFORMANCE BOND
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____)

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

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

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 86-

GLENLEE COMMUNITY CENTER SITE REDEVELOPMENT

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

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

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

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

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

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

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

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

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 86-2007

GLENLEE COMMUNITY CENTER SITE REDEVELOPMENT

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
G.2 – D	Glenlee Community Center – Site Plan
G.2 – E	Glenlee Community Center - Grading and Land Drainage Plan
G.2 – F	Glenlee Community Center – Details
G.2 - G	Glenlee Community Center – Details # 2
SD – 025	Standard Pre Cast Concrete Catch Basin in Boulevard
SD – 110	Catch Basin Hood
SD – 104	Manhole Frame
SD – 106	Manhole Cover (Grated)
SD – 205	Barrier Curb (Dowelled)

GENERAL REQUIREMENTS

E2. TRUCK WEIGHT LIMITS

- E2.1 The City shall not pay for any portion of Material which results in the vehicle exceeding the maximum gross vehicle weight allowed under *The City of Winnipeg Traffic By-Law*, unless such vehicle is operating under special permit.

E3. SITE ACCESS

- E3.1 Access to the Site will be determined at the pre-construction meeting. This access area shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.

- E3.2 The Contractor shall be restricted to the Site access location and route only so that there is a minimum of disturbance to the existing ground surface. Damage to areas beyond the marked route shall be repaired by and at the expense of the Contractor to the satisfaction of the Contract Administrator.

E4. SITE CONDITIONS

- E4.1 The Contractor will examine the Site and make themselves familiar with the existing conditions (both above and below grade) and nature of Work to be done.
- E4.2 Surface and sub-surface conditions shown on the drawings and included herein are provided for general information and variations there from will not affect the terms of the Contract.
- E4.3 The Contractor is responsible to determine the location of all underground utilities and obtain clearances prior to construction. Underground structures as shown on the drawings are based on the best information available but no guarantee is given that all existing utilities are shown or that given locations are exact.

E5. CONSTRUCTION FACILITIES AND STAGING

- E5.1 The Contractor will be responsible for providing his own storage area for storage and handling of all his constructions operations. The use of public right-of-ways will not be allowed.

E6. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES

- E6.1 Further to GC:6.12, 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.
- E6.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.
- E6.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- E6.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- E6.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.
- E6.6 The Contractor and Subcontractors 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.

E7. DAMAGE TO EXISTING STRUCTURES AND PROPERTY

- E7.1 Further to GC: 17, 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 thereto in the performance of the Work, the Contractor shall upon instructions from and to the satisfaction of the Contract Administrator, either replace and repair such damage, whichever

may be deemed necessary in the opinion of, and acceptable to, the Contract Administrator. The cost of which shall be borne entirely by the Contractor.

- E7.2 The Contractor shall also indemnify and save harmless the City from all claims made directly or indirectly against it in respect to any such damage.
- E7.3 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his work on private property. 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.
- E7.4 Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.

E8. PROTECTION OF TREES

- E8.1 The Contractor shall take the following precautionary steps to avoid damage from his construction activities to existing Boulevard trees within the limits of the construction area
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees
 - (b) Contract Administrator shall identify the mature tree trunks that shall be strapped with 25 x 150 x 2400 (1" x 6" x 8') wood planks. Smaller trees shall be similar protected using appropriately sized wood planks.
 - (c) Excavations shall be carried out in such a manner so as to minimize damage to existing tree branches. Where roots must be cut to facilitate an excavation they shall be neatly pruned at the face of the excavation and coated with an appropriate wound dressing to prevent infection.
 - (d) Work on Site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to tree branches does occur, the Contractor shall neatly prune the damaged branches and coat them with an appropriate wound dressing to prevent infection.
- E8.2 All damage to existing trees caused by the Contractor's construction activities shall be repaired to the requirements and satisfaction of the City of Winnipeg, Parks and Recreation Department, Forestry Branch.
- E8.3 Any tree pruning required by the Contractor to successfully complete the work will be done at his own expense and to the guidelines set forth by the City of Winnipeg Forestry Department.
- E8.4 No separate measurement or payment will be made for protection of trees. It shall be considered incidental to the contract work

E9. TEMPORARY UTILITIES

- E9.1 Further to GC:6.12, the Contractor shall 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.
- E9.2 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.

E10. LAYOUT OF WORK

- E10.1 The Contractor will set control lines and bench marks by means of stakes, buoys or marks and the Contractor shall make the completed works conform to the lines and marks thus indicated. The Contractor shall furnish all other lines and levels required. The Contractor shall be responsible for the careful preservation of all stakes and marks so set whether relating to his own or to other work. Care must be taken that the Contract Administrator be notified immediately of the disturbance of any such stakes or marks; the cost of correcting any errors arising out of neglect of the Contractor or his agent or his employees, to so notify the Contractor Administrator shall be borne entirely by the Contractor, as well as the cost of replacing any disturbed stakes or marks.
- E10.2 All layout Work shall be inspected and approved by the Contract Administrator prior to construction.
- 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 of Winnipeg on account of any alleged inaccuracies. If any error is suspected in the plans, 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.

E11. SITE RESTORATION

- E11.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant, tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

E12. EXCAVATION FOR PARKING LOT, HOCKEY RINK, CONCRETE APPROACHES AND PLANTING AREAS

- E12.1 Description
- (a) Excavation will be done in accordance the City of Winnipeg's Standard Construction Specification CW 3110-R9 – "Sub-Grade, Sub-Base and Base Course Construction".
 - (b) Excavation will be understood to include removal of all existing insitu material to a depth of 475 mm (21") below finished design grade for proposed hockey rink as shown on the drawings.
 - (c) Excavation will also be understood to include removal of existing insitu material as well as asphalt pavement areas for proposed planting areas to a depth of 225 mm (9") below finished design grade as shown on the drawings.
 - (d) Excavation will also be understood to include removal and site grading of existing insitu material for proposed areas that are to be: top soiled and sodded, wood mulch planting areas and limestone swale area. Excavate to a depth of 100 mm (4") below finished design grade as shown on the drawings.
- E12.2 Construction Methods
- (a) Excavation will be performed as outlined in CW 3110 – item 3.2 – "Excavation".
 - (b) All excavated material will be removed, hauled and disposed of off-site to the satisfaction of the Contract Administrator.
 - (c) Any existing pavement that will be required to be removed will be first saw cut for the full depth of the pavement prior to the demolition and removal operations. All costs in

connection with saw cutting are incidental and shall be included in the unit price bid for excavation.

E12.3 Measurement and Payment

- (a) Measurement and Payment for excavation will be on a volume basis paid at the Contract Unit Price per cubic metre for "Excavation"

E13. SUB-GRADE COMPACTION

E13.1 Description

- (a) Sub grade compaction will be done in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R9 - "Sub-Grade, Sub-Base and Base Course Construction".

E13.2 Construction Methods

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

E13.3 Measurement and Payment

- (a) Measurement and Payment for sub-grade compaction will be on an area basis paid for at the Contract Unit Price per square metre for "Sub-Grade Compaction".

E14. GEOTEXTILE FABRIC MAT

E14.1 Description

- (a) Geotextile Fabric will be placed in accordance with City of Winnipeg's Standard Construction Specification CW 3130-R1 – "Supply and Installation of Geotextile Fabrics".

E14.2 Materials

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

E14.3 Construction Methods

- (a) Separation/Reinforcement geotextile fabric will be installed as outlined in CW 3110 - item 3.4 "Placement of Sub – Base Material with Geotextile Fabric".

E14.4 Measurement and Payment

- (a) Measurement and Payment for geotextile fabric mat will be on an area basis paid for at the Contract Unit Price per square metre for "Geotextile Fabric".

E15. CRUSHED LIMESTONE SUB-BASE COURSE MATERIAL

E15.1 Description

- (a) Crushed limestone sub-base material will be supplied and installed in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R9 - "Sub-Grade, Sub-Base and Base Course Construction".

- (b) The Contractor will supply the Contract Administrator with the Standard Proctor Density for crushed limestone sub-base material one week prior to the start of construction. The Standard Proctor Density will be as outlined in CW 3110 –R9 – item 3.9 “Quality of Sub grade, Sub-base and Base Coarse Layers.”

E15.2 Materials

- (a) Crushed Limestone sub-base material for the hockey rink will be 50 mm (2”) down crushed limestone as specified and to the depth of 300 mm (12”) as shown on the drawing G.2-F detail # 1.

E15.3 Construction Methods

- (a) Crushed limestone sub-base material will be supplied and installed as outlined in CW 3110 – item 3.4 “Placement of Sub-Base Material with Geotextile Fabric”.
- (b) All limestone sub-base material will be placed and compacted as specified to a finished thickness as shown on the drawings.

E15.4 Measurement and Payment

- (a) Measurement and Payment for crushed limestone sub base material will be on a weight basis paid for at the Contract Unit Price per tonne for “Crushed Limestone Sub – Base Coarse Material “.

E16. CRUSHED LESTONE BASE COURSE MATERIAL

E16.1 Description

- (a) Crushed limestone base material will be supplied and installed in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R9 - . “Sub-Grade, Sub-Base and Base Course Construction”.
- (b) The Contractor will supply the Contract Administrator with the Proctor Density for crushed limestone base coarse material one week prior to the start of construction. The Standard Proctor Density will be as outlined in CW 3110 –R9 – item 3.9 “Quality of Sub grade, Sub-base and Base Coarse Layers.”

E16.2 Materials

- (a) Crushed Limestone base coarse material for hockey rink parking lot will be 20 mm (3/4”) down crushed limestone as specified and to the depth of 100 mm (4”) as shown on the drawing G.2-F detail # 1.

E16.3 Construction Methods

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

E16.4 Measurement and Payment

- (a) Measurement and Payment for crushed limestone base coarse material will be on a volume basis paid for at the Contract Unit Price per cubic metre for “ Crushed Limestone Base Coarse Material”.

E17. ASPHALTIC PAVEMENT –TYPE 1A

E17.1 Description

- (a) Asphaltic Concrete will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3410-R7 – “Asphaltic Concrete Pavement Works”.
- (b) The Contractor will supply the Contract Administrator with the mix design statement for asphaltic pavement one week prior to the start of construction.

E17.2 Materials

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

E17.3 Construction Methods

- (a) Asphaltic Concrete will be supplied and installed in accordance with the lines, grades and thickness shown on the drawings and to City of Winnipeg Standard Construction Specification CW 3410. Asphalt shall be placed in one lift.
- (b) When asphaltting in hockey rink extreme caution must be exercised around hockey boards. Any damage caused to the existing boards during construction will be the responsibility of the contractor.
- (c) Keep all traffic off newly paved areas until paving surface temperature has cooled below 38 degrees Celsius. Do not permit stationary loads on pavement until 48 hours after placement.

E17.4 Measurement And Payment

- (a) Measurement and Payment for asphaltic pavements will be on a weight basis paid for at the Contract Unit Price per tonne for “Asphalt Pavements – Type 1A”.

E18. CATCH BASIN, FRAME, COVER AND APPURTENANCES

E18.1 Description

- (a) Catch Basin and all related appurtenances will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 2130-R10 – “Gravity Sewers”.

E18.2 Materials

- (a) Catch Basin will be the Standard City of Winnipeg catch basin as shown on Standard Detail (SD) SD-025. Catch Basin to come complete with, 900 mm x 1.22 m barrel, 900/750 mm x 0.15 m reducer and hood (SD-110). Also included will be the catch basin frame and cover as shown on SD-104 AND SD-106 respectively.

E18.3 Construction Methods

- (a) Catch basin will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 2130 – “Gravity Sewers”.
- (b) Catch basin will be installed in the location and to the design elevations as shown on the drawings.

E18.4 Measurement And Payment

- (a) Measurement and Payment for catch basin installation will be on a lump sum paid for at the Contract Unit Price for “Catch Basin, Frame, Cover and Appurtenances”. Price will 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.

E19. 200 MM P.V.C. LAND DRAINAGE SEWER

E19.1 Description

- (a) 200 mm (8") P.V.C. land drainage sewer will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 2130-R10 – "Gravity Sewers".

E19.2 Materials

- (a) 200 (8") mm P.V.C. land drainage sewer will be a gasketed bell and spigot PVC pipe in accordance with CAN/CSA B182.2 and ASTM D 3034, SDR 35.

E19.3 Construction Methods

- (a) 200 mm (8") P.V.C. land drainage sewer will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 2130 – "Gravity Sewers".
- (b) 200 mm (8") P.V.C land drainage sewer will be installed using trench less method as outlined in CW 2130 – item 3.4 – "Installation Using Trench less Methods".
- (c) 200 mm (8") P.V.C land drainage sewer will be installed in the location and to the design grades, lines and slopes as shown on the drawings.

E19.4 Measurement and Payment

- (a) Measurement and Payment for 200 mm P.V.C. land drainage sewer will be on a length basis paid for at the Contract Unit Price per lineal metre of "200 mm P.V.C. Land Drainage Sewer". Price will 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.

E20. CONNECTING TO EXISTING CATCHBASIN & RAISING IRRIGATION BOX

E20.1 Description

- (a) 200 mm (8") P.V.C. land drainage sewer will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 2130-R10 – "Gravity Sewers".
- (b) Also included will be the raising of the existing irrigation metal box to grade as shown on the drawings.

E20.2 Construction Methods

- (a) Connecting to existing catch basin will be done as outlined in CW 2130 – item 3.15 – "Connecting New Sewers an Catch Basin Leads to Existing Manholes, Catch Basins and Catch Pits".
- (b) 75 mm orifice will be constructed in the existing catch basin as shown on the drawings and as shown on the orifice detail – drawing G.2 - E.
- (c) Pipe Bedding and Backfill will be Class B Bedding and Class 3 Backfill respectively.
- (d) All asphalt repairs required for the connection to the existing catch basin and irrigation box will be included in the scope of the Work.

E20.3 Measurement and Payment

- (a) Measurement and Payment for connecting to existing catch basin will be on a lump sum basis paid for at the Contract Unit Price for "Connecting to Existing Catch Basin". Price will 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.

E21. CONCRETE BASKETBALL PILES

E21.1 Description

- (a) Concrete basketball piles will be done in accordance with City of Winnipeg Standard Construction Specification CW 3310 – R10 " Portland Cement Concrete Pavement Works.

- (b) Concrete piles for basketball posts will be supplied and installed in the locations as shown on the drawings and as per drawing G.2-F detail # 4.

E21.2 Materials

- (a) Concrete strength and workability mix will be Type 1, as outlined in CW 3310 - item 6.2 "Concrete Strength and Workability".

E21.3 Construction Methods

- (a) Concrete basketball piles will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3310 – "Portland Cement Concrete Pavement Works".
- (b) Concrete Piles for basketball posts will be installed as per the depth and locations as shown on the drawings and as per drawing G.2-F detail # 4.
- (c) The Contractor will excavate for the footings using a spread bore auger to the dimensions shown on drawing G.2-F detail # 4. Following the excavation "sono tubes" wrapped with 2 layers of 4 mil polyethylene will be installed for the upper 2.3 m of each hole.
- (d) Concrete shall be placed for each pile and vibrated in the upper one (1) metre prior to installation of the basketball net post.

E21.4 Measurement and Payment

- (a) Measurement and Payment of the concrete piles will be on a per unit basis paid for at the Contract Unit Price per unit of "Basketball Concrete Pile ". Price will include the cost of the concrete, steel, hole augering, backfill and all other items incidental to the Work included in this Specification. Price will 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.

E22. CONCRETE BARRIER CURBS

E22.1 Description

- (a) Concrete Barrier Curb will be done in accordance with City of Winnipeg Standard Construction Specification CW 3310 – R10 " Portland Cement Concrete Pavement Works".

E22.2 Materials

- (a) Concrete Barrier Curb will be supplied and installed as shown on drawings and as shown on SD – 205.

E22.3 Construction Methods

- (a) Concrete barrier curb will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3310 – "Portland Cement Concrete Pavement Works".

E22.4 Measurement and Payment

- (a) Measurement and Payment of concrete barrier curb will be on a length basis paid for at the Contract Unit Price per lineal metre for "Concrete Barrier Curb". Price will 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.

E23. 100 MM WEEPING TILE DRAINAGE PIPE

E23.1 Description

- (a) This Specification will cover the supply and installation of all labour, materials, equipment and services necessary for the installation of weeping tile as described herein.

E23.2 Material

- (a) Weeping tile drainage pipe will be either 100 mm (4") perforated solid core PVC pipe meeting the requirements of ASTM D-2729 or ASTM F-949, or high-density perforated solid core polyethylene pipe meeting the requirements of AASHTO M252.
- (b) A rodent screen made of 0.3 inch by 0.3-inch square opening size, 0.063-inch gauge, stainless steel or galvanized, welded wire mesh shall be installed in each outlet lateral line. When using galvanized welded wire mesh, the rodent screen shall be galvanized after it has been formed to the shape and dimensions shown on the plans or specified by the engineer.
- (c) Backfill material will be 38 mm (1 ½") clean river stone.
- (d) Backfill material will be placed for a minimum depth of 200 mm as shown on the drawings.

E23.3 Construction Methods

- (a) Weeping tile drainage pipe will be installed in the location and to the design grades, lines and slopes as shown on the drawing. Weeping tile drainage pipe to be placed adjacent to existing hockey rink and adjacent to the existing change house as shown on the drawings.
- (b) Trenches are to be excavated with a trenching machine or by hand. Locations where the trench has to cross-existing utilities are to be excavated by hand. The amount of trench excavated at any time will not exceed the amount of drain that can be set and backfilled completely prior to the end of that working day. Trench will be the width as specified on the drawings.
- (c) The bottom surface of the trench is to be free of loose particles and is to have the slope shown on the drawings. Over excavation in the bottom of the excavation will be backfilled to the proper grade with excavated material or sand prior to the placement of the drain. Where sand or excavated material is used to fill the trench to the proper elevation that material will be compacted to 95% of standard proctor density using appropriate means.
- (d) Fittings for the drain will be installed in accordance with the manufacturer's recommendations and specifications.

E23.4 Measurement and Payment

- (a) Measurement and Payment of weeping tile drainage pipe will be on a length basis paid for at the Contract Unit Price per lineal metre for "Weeping Tile Drainage Pipe". Price will include all trenching, backfill, fittings, and all other items incidental to the Work included in the Specification. Price will 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.

E24. LIGHT BARRIER WOODEN FENCE

E24.1 Description

- (a) This Specification will cover the supply and installation of all labour, materials, equipment and services necessary for the construction of a light barrier wood fence as described herein.

E24.2 Materials

- (a) All lumber is to pressure treated.
- (b) All fasteners to be galvanized or plated.

E24.3 Construction Methods

- (a) Light barrier fence will be constructed as shown on the drawings and as per drawing G.2-F detail # 3.

E24.4 Measurement and Payment

- (a) Measurement and Payment of light barrier fence will be on a length basis paid for at the Contract Unit Price per lineal metre for construction of a "Light Barrier Wood Fence". Price will include all lumber, crushed limestone, hole auguring, fasteners and all other items incidental to the work included in the Specification. Price will 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.

E25. LINE PAINTING

E25.1 Description

- (a) This Specification will cover the supply and installation of all labour, materials, equipment and services necessary for line painting as described herein. Line painting will be required for the following items:
 - (a) Half court basketball - two courts

E25.2 Materials

- (a) Paint shall conform to City of Winnipeg specification for line painting on asphalt surface.
 - (i) CGSB 1-P-74m+Amdt-may81, alkyd traffic paint
 - (ii) High gloss Traffic Paint (IBIS Products Ltd.)

E25.2.1 Paint colour to be:

- (a) White or Yellow

E25.3 Construction Methods

- (a) The Contractor shall paint the lines on the asphalt pavements as per manufacturer's specifications and as shown on the drawings. The contractor will be responsible for all asphalt cleaning, layout, painting and clean up required.

E25.4 Measurement and Payment

- (a) Measurement and Payment of line painting will be on a lump sum basis paid for at the Contract Unit Price for "Line Painting".

E26. BASKETBALL BACKSTOP AND POLE

E26.1 Description

- (a) This Specification will cover the supply and installation of all labour, materials, equipment and services necessary for the installation of basketball backstop and pole as described herein.

E26.2 Materials

- (a) Basketball backstops will be supplied by
Playgrounds –R-Us
425- B Oak Point Highway
Winnipeg, MB R2R 1T9
Phone: (204) 632 – 7000
Fax : (204) 632 - 7421

- (b) Adjustable Basketball Backstop
 - (i) Model # 541 – 657 – c/w aluminium fan backboard, 1.2 metre (4') extension and 115 mm (4 ½) O.D. galvanized straight steel post, goal and net.

E26.3 Construction Methods

- (a) Adjustable basketball backstop will be supplied and installed as shown on the drawings and as per manufacturer's specifications.
- (b) Basketball pole will be attached to concrete pile as per drawing G.2-F detail # 5.

E26.4 Measurement and Payment

- (a) Measurement and payment for adjustable basketball backstops will be on unit basis paid for at the Contract Unit Price for "Basketball Backstop and Pole". Price will include basketball backstop, 1.2 m (4') foot extension, steel pole and all other items incidental to the work included in the Specification. Price will 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.

E27. TOPSOIL AND SOD

E27.1 Description

- (a) Topsoil & sod will be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R4– "Topsoil and Finish Grading for Establishment of Turf Areas" and CW 3510-R8 – "Sodding " respectively.
- (b) Included in topsoil and sod will be any site grading required for the construction of the sod and limestone swale. Also included will be the removal of existing culvert located behind south end of hockey rink.

E27.2 Material

- (a) Topsoil will conform to the materials as outlined in CW 3540- item 5.2 "Topsoil".
- (b) Sod will conform to the materials as outlined in CW 3510 – item 5.0 "Materials".

E27.3 Construction Methods

- (a) Topsoil and Sod will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3540 and CW 3510 respectively.
- (b) Swale will be constructed to the design elevations and lines as shown on the drawings.

E27.4 Measurement and Payment

- (a) Measurement and Payment for topsoil and sod will be on an area basis paid for at the Contract Unit Price per square metre for " Top Soil and Sod".

E28. TOP SOIL AND SEED

E28.1 Description

- (a) Topsoil & seed will be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R4– "Topsoil and Finish Grading for Establishment of Turf Areas" and CW 3520-R6 – "Seeding " respectively.

E28.2 Materials

- (a) Topsoil will conform to the materials as outlined in CW 3540- item 5.2 "Topsoil".
- (b) Seed will conform to the materials as outlined in CW 3520 – item 5.0 "Materials".

E28.3 Construction Methods

- (a) Topsoil and Sod will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3540 and CW 3520 respectively.

E28.4 Measurement and Payment

- (a) Measurement and Payment for topsoil and seed will be on an area basis paid for at the Contract Unit Price per square metre for “ Top Soil and Seed”.

E29. WOOD MULCH PLANTING AREAS

E29.1 Description

- (a) Topsoil & wood mulch will be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R4 – “ Topsoil and Finish Grading For Establishment of Turf Areas”.
- (b) Included in topsoil and wood mulch will be any site grading required for the construction of the wood mulch planting area.

E29.2 Materials

- (a) Topsoil will conform to the materials as outlined in CW 3540 - item 5.2 “Topsoil”.
- (b) Mulch shall be a clean bark or wood chip mulch with chips not less than 15 mm nor larger than 75 mm in size and not less than 75 mm thick. Mulch shall be free of leaves, branches and other extraneous matter.

E29.3 Construction Methods

- (a) Topsoil will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3540.
- (b) Topsoil and mulch will be installed to a depth of 150 mm as shown on the drawing.
- (c) Topsoil and wood mulch will be placed around existing trees located within planting area. Topsoil shall be placed at thickness of 100 mm with 50 mm of wood mulch placed around the trees.

E29.4 Measurement and Payment

- (a) Measurement and Payment for topsoil and wood mulch will be on an area basis paid at the Contract Unit Price per square metre for “Topsoil and Wood Mulch”.

E30. PARK BENCHES

E30.1 Description

- (a) This Specification will cover the supply and installation of all labour, materials, equipment and services necessary for the installation of park benches as described herein.

E30.2 Materials.

- (a) Benches are to be supplied by the City of Winnipeg:
Contact:
Aaron Lennon
Supervisor of Central repair/Manufacturing Facility
City of Winnipeg
Telephone No.: (204) 986-5505
- (b) Benches

- (i) Tache style composite bench with a back,
- (ii) Length = 1.8 m (6')
- (iii) Product No. 52501067

E30.3 Construction Methods

- (a) All work is to be located and installed in accordance with the drawings using approved non-rusting, vandal resistant fasteners to ensure solid, durable, finished work suitable for the purpose intended. Fasteners and assembly hardware shall be incidental to the Work;
- (b) All furnishings and fixtures to be installed plumb and true to correct elevations and location, as directed the Contract Administrator. The Contractor shall confirm proposed locations of all site furnishings with Contract Administrator prior to installation;
- (c) All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- (d) Install as per manufacturer's instructions and as per drawing G.2 – G. detail # 1

E30.4 Measurement and Payment

- (a) Measurement and Payment for park benches will be on a unit basis paid at the Contract Unit Price per unit for "Park Benches". Price will be payment in full for supplying all materials and performing all operation herein described all other items incidental to the Work included in this Specification.

E31. HOCKEY RINK CHAIN LINK SCREENING

E31.1 Description

- (a) Hockey chain link screening will be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3550 – R2 "Chain Line Fencing"

E31.2 Materials

- (a) Hockey chain link screening to conform to materials as outlined in CW 3550, item # 5 – "Materials"
- (b) Hockey chain link screening to be 1.80 (6') in height.

E31.3 Construction Method

- (a) Hockey rink chain link screening will be supplied and installed according to CW 3550, item # 9 "Construction Methods".
- (b) Chain link fencing to be installed as shown on the drawings and as per drawing – G.2- G. detail # 4
- (c) New posts and existing posts to be continuously and smoothly welded together to the 100 mm steel galvanized collar as shown on the drawings and as per as per drawing – G.2- G. detail # 4

E31.4 Measurement and Payment

- (a) Measurement and Payment for chain link fencing will be on a length basis paid for at the Contract Unit Price per metre for "Hockey Rink Chain Link Screening". Price will be payment in full for supplying all materials and performing all operation herein described all other items incidental to the Work included in this Specification.

E32. SUPPLY AND PLANTING OF TREES

E32.1 Related Work

E32.2 Source Quality Control

- (a) Trees are to be grown in nurseries under proper cultural practices as recommended by the Canadian Nursery Trades Association.
- (b) Only those trees will be accepted which have been grown for at least the four (4) previous years in local Manitoba nurseries located in an Agriculture Canada Plant Hardiness Zone designation of 2(a or b) or 3 (a or b) and within a 250 kilometre radius of Winnipeg. Trees that have grown in plant hardiness zones 1 and 4 or greater will be rejected.

E32.3 Materials

- (a) Water shall be potable and free of minerals, which may be detrimental to plant growth.
- (b) Planting soil shall consist of black top soil, a fertile friable natural loam containing by volume not less than 4% and no more than 25% of organic matter for clay loams, and not less than 2% and no more than 25% for sandy loams, with an acidity value ranging from pH 6.0 to 8.0 and capable of sustaining vigorous plant growth. Topsoil is to be free of any mixture of subsoil, clay lumps and free of stones and other extraneous matter. It shall not contain couch or crab grass rhizomes.
- (c) Root ball burlap shall be 150 g Hessian burlap, biodegradable.
- (d) Anti-desiccant shall be a wax-like emulsion that provides a film over tree leaf surfaces that reduces evaporation but permeable enough to permit transpiration. The City of Winnipeg does not promote the use of anti-desiccant. Use only after consultation with the Contract Administrator.
- (e) Wound dressing shall be a horticulturally accepted non-toxic, non-hardening emulsion. The City of Winnipeg does not promote the use of wound dressing. Use only after consultation with the Contract Administrator.
- (f) Wire baskets shall be a horticulturally accepted product designed to carry the weight and to contain a burlap-covered root ball. Minimum diameter basket size shall conform to the same minimum diameter of the tree root ball for the respective minimum tree calliper sizes as detailed in Table 1.
- (g) Mulch shall be a clean bark or wood chip mulch with chips not less than 15 mm nor larger than 75 mm in size and not more than 20 mm thick. Mulch shall be free of leaves, branches and other extraneous matter.
- (h) Fertilizer shall be a slow release formulation of low nitrogen and high phosphorus e.g. 10-50-12. Apply quantities at rates stated by product manufacturer and to the satisfaction of the Contract Administrator.

E32.4 Tree Material

- (a) Tree shall be the size and variety noted on the Plant List on Drawing G.2 – G. Quality and source of tree material is to comply with Form B: Prices and Table 1 for size and development of plant material and root ball. Measure trees when branches are in their natural position. Height and spread dimensions refer to main body of trees and not from branch tip to branch tip. Trees shall be of No. 1 grade.
- (b) Nomenclature of specified trees shall conform to the International Code of Nomenclature for Cultivated Plants and is to be in accordance with the approved scientific names given in the latest edition of the Standardized Plant Names.
- (c) The use of trees requiring treatments as ordered by Agriculture Canada is prohibited.

- (d) Trees shall be characteristically developed for their species and structurally sound, well branched, healthy and vigorous and densely foliated when in leaf. The tree shall have a healthy, well developed, fibrous root system, which may be verified through a testing procedure that destructively samples one or more randomly selected root balls.
- (e) Trees shall have been root pruned regularly, but not later than one growing season prior to arrival on Site. The Contractor may be required to furnish documentation to the City on his root-pruning program. Trees in excess of 75 mm calliper are to have been half root pruned during each of two successive growing seasons, the latter at least, one growing season prior to arrival on Site.
- (f) All parts of the trees, especially the lower branches, shall be moist and show live, green cambium tissue when cut.
- (g) Trees shall have only one, sturdy, reasonable straight and vertical trunk, and a well-balanced crown with fully developed leader.
- (h) Trees shall be free of disease, insect infestation, rodent damage, sun scald, frost cracks, abrasions, unhealed scars, scars exceeding 5 cm in diameter, major forks or crooks in the trunk, broken branches, or angled leaders. The Contract Administrator will not accept trees having the above defects.
- (i) Trees having a leader, which has developed a sharp angle to the trunk as a result of pruning or trunk damage, will not be accepted.
- (j) Trees exhibiting suppressed, weakly developed branches due to competition from other closely spaced trees in the nursery will not be accepted. Trees exhibiting dead branches will not be accepted.
- (k) Balled and bur lapped trees in excess of a 3 m height must have been dug with large firm ball as specified in TABLE 1: ACCEPTABLE TREE SIZES. Roots in root balls must be comprised of 75% fibrous and feeder root systems. Secure root balls with burlap, heavy twine and rope. For trees 75 mm or more in calliper, wrap ball in double layer of burlap and drum lace with minimum 10 mm diameter rope. Protect root balls against sudden changes in temperature and exposure to heavy rainfall.
- (l) Tree spade dug trees shall be dug with mechanized digging equipment with hydraulic spade. Root ball minimum diameter shall be as specified in Table 1. Lift root ball from hole, place in wire basket designed for purpose and line with burlap. Tie basket to ball with heavy rope. Take care not to injure trunk of tree with wire basket ties or rope.
- (m) The use of hydraulic spade to dig tree holes is not acceptable.
- (n) Use of collected or native trees is not permitted.
- (o) Substitutions to trees as indicated on Drawing G.2 – G are not permitted.

TABLE 1
ACCEPTABLE TREE SIZES
DECIDUOUS TREES

Minimum Diameter (Caliper) of Tree 15 cm Above Ground (Six Inches)	Minimum Diameter of Root Ball in Centimetres (Inches) (In Baskets Only)	Acceptable Range in Tree Height in Centimetres (Feet)
40 mm (1.5 inches)	71 cm (28 inches)	182-244 cm (6.0-8.0 Ft.)
45 mm (1.75 inches)	81 cm (32 inches)	182-244 cm (6.0-8.0 Ft.)
50 mm (2.0 inches)	91 cm (36 inches)	182-365 cm (6.0-12.0 Ft.)
65 mm (2.5 inches)	112 cm (44 inches)	305-427 cm (10.0-14.0 Ft.)
75 mm (3.0 inches)	137 cm (54 inches)	305-488 cm (10.0-16.0 Ft.)

NOTE: Metric and English units may not correspond exactly due to rounding procedures.

E32.5 Tree Quantity and Size

- (a) Trees shall be supplied and planted at the quantities and calipers listed on Form B: Prices. Any proposed variations to species, size or calliper of specified trees by the Contractor will require approval from the Contract Administrator.
- (b) Locations of trees are shown on Drawing G.2 - G
- (c) Any changes in planting locations will be determined on-site by the Contract Administrator.
- (d) Trees are to conform to the measurements specified in Form B: Prices, except that trees larger than specified may be used if approved by the Contract Administrator.
- (e) If larger than specified trees are approved for supply and planting by the Contract Administrator, the soil ball for balled and bur lapped trees and trees in wire baskets are to be increased in proportion to the size of the tree as herein specified in TABLE 1: ACCEPTABLE TREE SIZES. The Contractor shall provide the Contract Administrator with evidence that the trees have been appropriately root pruned as per Specification E32.4 (e) above.
- (f) Trees shall be measured when the branches are in their normal position. Height dimensions specified are to refer to the main body of the tree and not from branch tip to root base. Where trees have been measured by calliper or diameter, reference shall be made to the diameter of the trunk measured 15 cm above the ground as the tree stands in the nursery prior to lifting. Caliper of tree shall be marked on a tag permanently fixed on one of the branches.

E32.6 Shipment and Pre-Planting Care

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

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

E32.7 SECTION 2 – PLANTING

E32.8 Workmanship

- (a) Location of trees will be staked out or painted on Site by the Contractor and verified correct by the Contract Administrator as per Drawing G.2- G.
- (b) The Contractor shall only apply anti-desiccant in accordance with material manufacturer's instructions with prior approval of the Contract Administrator.
- (c) Coordinate supply and planting operations. Keep Work Site clean and planting holes drained of water. Immediately remove soil or debris spilled onto street pavement, grass or sidewalk.

E32.9 Utility Clearances

- (a) The Contractor shall obtain all above and belowground clearances from all utilities. Clearances shall be obtained in a timely manner so as not to jeopardize the schedule of the complete tree planting operation.

E32.10 Planting Time

- (a) Plant trees only under conditions that are conducive to health and physical conditions of trees.
- (b) The Contractor shall provide a planting schedule to the Contract Administrator. Extending the planting operations over a long period using limited crew will not be accepted.

E32.11 Excavation

- (a) Excavate planting pits where indicated by stakes or paint marks placed by the Contract Administrator.
- (b) Protect bottom of excavations against freezing.
- (c) Remove water, which enters excavations prior to planting. Ensure source of water is not ground water or from broken City watermain pipe.

E32.12 Installation

- (a) Trees will be planted as shown on the deciduous and evergreen tree planting detail drawing G.2 –G details # 2 & 3.
- (b) Planting should be done during periods of suitable weather conditions and in accordance with locally accepted practice.
- (c) Trees shall be planted within forty eight (48) hours of excavation from the nursery.

- (d) No tree pit shall be left open at the end of the Contractor's Work Day. Planting program is to be planned to ensure that all approved trees delivered to the Site at designated planting locations are installed and thoroughly watered the same day as delivery.
- (e) Loosen bottom of planting hole to depth of 100 – 150 mm. Cover bottom of each excavation with minimum of 150 mm topsoil mixture, incorporate with sub grade material.
- (f) Plant trees vertically. Orient trees to give best appearance in relation to structure, roads and sidewalks.
- (g) Place trees to depth equal to depth they were originally growing in nursery.
- (h) With balled and bur lapped root balls and root balls in wire baskets, loosen burlap and cut away the top 1/3 without disturbing root ball. Do not pull burlap or rope from under root ball. Non-biodegradable wrapping must be removed.
- (i) Tamp planting soil around root system in layers of 150 mm eliminating air voids. Frozen or saturated planting soil shall not be used. When 2/3 of planting soil has been placed, fill hole with water. After water has complete penetrated into soil, complete backfilling.
- (j) Each tree is to have an earth saucer at its base having a diameter as large as the excavation with a 10 cm lip formed at the perimeter of the saucer to retain water.

E32.13 Fertilizing

- (a) When planting is completed, give surface of planting saucer dressing of fertilizer meeting the requirements of Specification E32.3 (h). Mix fertilizer thoroughly with top layer of planting soil and water in well.

E32.14 Pruning

- (a) The Contractor shall provide a person with a valid Manitoba Arborist's licence for each work crew or Work Site.
- (b) Prune trees after planting to compensate for loss of roots suffered during transplanting. Postpone pruning of those trees where heavy bleeding may occur, until in full leaf. Employ clean sharp tools and make cuts flush with main and secondary branch collars, smooth and sloping as to prevent accumulation of water.
- (c) Remove projecting stumps on trunks or main branches. Remove dead and injured branches and branches that rub causing damage to bark. Trim out crown of trees without changing their natural shape. Do not damage lead branches or remove smaller twigs along main branches.

E32.15 Watering

- (a) Trees are to be watered during the planting procedure as described previously, and a minimum of once a week thereafter, or more frequently if required, during the growing season. Regular watering during the Maintenance Period is specified in specification E32.3
- (b) A complete record is to be kept of each series of waterings for all planted trees noting: 1) location, and 2) date of watering. This record shall be sent bi-weekly to the Contract Administrator.
- (c) Apply 40 litres of water per 25 mm calliper per application using deep root feeder or low/pressure nozzle and hose. The water stream must not gouge out a hole in the soil and mulch.

E32.16 Method of Measurement and Basis of Payment

- (a) Method of measurement for E32 is based on the actual number of trees supplied and installed. The number to be paid for shall be the total number of trees planted in accordance with this specification and excepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.
- (b) Supply and planting of trees will be paid for at the Contract unit price bid for each tree planted, measured as specified herein which price shall be payment in full for the supply and planting of trees and all other items, exclusive of Maintenance, incidental to the work included in these Specifications.

E33. EXTENDED MAINTENANCE OF TREES

E33.1 Related Work

E33.2 Supply and planting requirements of E32 form an integral part to all Work described herein.

E33.3 Maintenance Period

- (a) Undertake maintenance from date of installation up to a period of two years from date of Certificate of Total Performance.

E33.4 Description of Work

- (a) Maintain all trees related to the Work of this contract to the satisfaction of the Contract Administrator.
- (b) Maintenance Work includes:
 - Fertilizing
 - Watering
 - Weed control
 - Pest and disease control
 - Pruning
 - Winter Preparation

E33.5 Materials

- (a) Materials are to conform to the requirements of related Specification in E32

E33.6 General Workmanship

- (a) Program timing of operations to growth, weather conditions and use of Site.
- (b) Do each operation continuously and complete within reasonable time period.
- (c) Store equipment and materials off Site.
- (d) Collect and dispose of debris or excess material on daily basis.

E33.7 Fertilizing

- (a) Supply fertilizer only at frequency, ratio and rates as recommended by manufacturer. Water immediately after fertilizing.

- (b) Apply fertilizer no later than May 30th of each maintenance year.

E33.8 Watering

- (a) Apply water as required to supplement rainfall and to maintain optimum growing conditions. In general, water once a week to achieve rates as indicated below. Allow soil to dry adequately between watering to prevent over saturation without creating water stress.
- (b) Subject to the requirements above the Contractor must water a minimum of once a week inclusive between May 1st and October 15th.
- (c) *A complete record is to be kept of each series of watering for all planted trees noting:*
 - (i) a) location; and
 - (ii) b) date of watering
- (d) The Contractor shall submit these records to the Contract Administrator bi-weekly.
- (e) Apply 40 litres of water per 25 mm calliper per application using deep root feeder or low-pressure open flow nozzle and hose. The water stream must not gouge out a hole in the soil and mulch.

E33.9 Weed Control

- (a) Maintain surface of tree pit free of weeds. Do not allow weeds to establish for a period longer than one (1) week.
- (b) Obtain written approval of Contract Administrator prior to using any herbicides.
- (c) Do not use dicamba and picloram solutions near trees.

E33.10 Pests and Diseases

- (a) Obtain written approval of Contract Administrator prior to using any pesticide.
- (b) The Contractor shall obtain and maintain a Pesticide Applicator's Licence and a Pesticide Use Permit for pesticide applications related to the Specification. Copies of supporting documentation must be submitted to the Contract Administrator prior to the commencement of the pesticide application.
- (c) The use of chemical pesticides is not permitted on City of Winnipeg properties.

E33.11 Pruning

- (a) The Contractor shall provide a person with a valid Manitoba Arborist's Licence for each Work crew or Work Site.
- (b) Prune trees as required to remove dead, broken or damaged limbs. Prune back to healthy growth while maintaining balanced crown shape.
- (c) Employ clean sharp tools. Make cuts co-incident with the branch collar near the main stem or branch. Cuts must be smooth and sloping to prevent accumulation of water on cut. Do not leave small stumps ("horns") on trunks or main branches.
- (d) Prune trees according to accepted horticultural practices as outlined in the Pruning Manual, Publication No. 1505 by Agriculture Canada.

E33.12 Winter Preparation

- (a) Ensure adequate moisture in tree root zones prior to freeze-up.
- (b) Apply anti-desiccant to evergreen trees susceptible to winter desiccation only as directed by Contract Administrator.

E33.13 Maintenance Schedule

- (a) The Contractor shall provide a complete written Maintenance schedule to Contract Administrator prior to the issuing of the Certificate of Substantial Performance by the Contract Administrator.

E33.14 First Year Maintenance – Measurement and Payment

- (a) Measurement and payment are based on the actual number of trees maintained to the satisfaction of the Contract Administrator as determined by the Contract Administrator following the completion of First Year Maintenance. Payment will be made at the Contract Unit Price for each tree inspected and approved by the Contract Administrator, and will include payment for all costs related to the First Year Maintenance of the trees and all other items incidental to the Work included in these Specifications.

E33.15 Second Year Maintenance – Measurement and Payment

- (a) Measurement and payment are based on the actual number of trees maintained to the satisfaction of the Contract Administrator as determined by the Contract Administrator following the completion of Second Year Maintenance. Payment will be made at the Contract Unit Price for each tree inspected and approved by the Contract Administrator, and will include payment for all costs related to the Second Year Maintenance of the trees and all other items incidental to the Work included in these Specifications

E34. CRACK SEALING

E34.1 As a warranty requirement, the Contractor shall rout and seal any and all cracks which may appear during the one-year warranty period. Crack sealing shall conform to the requirements of City of Winnipeg Standard Construction CW 3250 – R6.

E34.2 No separate payment will be made for this item as it is considered a warranty issue and shall fall under G.C. 13 – Warranty.

E35. QUALITY CONTROL FOR HARD SURFACED AREAS

E35.1 Further to Section 10, Quality Control, of CW 3110-R9 and CW 3410-R7, the Contract Administrator will obtain a qualified independent testing lab to conduct tests on materials to determine the acceptability of the sub-grade, sub-base, base course and asphaltic concrete as placed by the Contractor in accordance with the requirements of this Specification.

E35.2 The Contractor shall not proceed with each granular fill placement or asphalt installation until test results have been reviewed and the approval to proceed is granted by the Contract Administrator.

E35.3 The Contract Administrator will conduct a survey of the operation to verify installation of specified layer thickness.

E35.4 Non-conformity with the specified test requirements or compacted layer thickness will constitute sufficient grounds for rejection of the work.

E36. SITE CLEANUP

E36.1 All pathways, streets, approaches, driveways and properties near the Work Site shall be kept clean at all times by the Contractor.

E36.2 Upon completion of the project, the Contractor shall immediately remove all excess materials and debris from the Work Site.

E37. SAFETY

E37.1 Safety and Health Regulations

E37.1.1 The Contractor shall comply with the following:

- a) The City of Winnipeg's Safety in the Workplace Policy for Alcohol or any Mood or Mind Altering Drug in the Workplace;
- b) The City of Winnipeg Safety Manual;
- c) The Public Works Department's Safety Regulations;
- d) The Province of Manitoba Workplace, Safety and Health Act.

E37.1.2 The Contract Administrator and the City of Winnipeg, Public Works Department's Safety Officer has the authority to enforce all the above listed safety and/or health regulations.

E37.1.3 The Contractor is advised that these safety regulations are available for viewing by contacting the Contract Administrator.

E38. SITE SAFETY PROCEDURES

E38.1 The Contractor shall be solely responsible for construction and public safety at the Site and for securing the Site at all times to prevent public access.

E38.2 The Contractor shall, at his own expense, do whatever is necessary to ensure that when work is stopped and the Contractor leaves the Site for whatever reason, the Site and Work is made safe, including but not limited to:

- a) The removal and/or safe storage of all construction equipment and materials;
- b) The equipment installed and/or in the process of installation be completed or secured to ensure that no public hazards exist;
- c) That all open excavations be filled; and
- d) That all construction debris and surplus excavation material be removed from the Site.