



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 183-2006

**PROVINCE OF MANITOBA / CITY OF WINNIPEG, 2006 RESIDENTIAL STREET
RENEWAL PROGRAM, SIMCOE STREET AND VARIOUS OTHER LOCATIONS**

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

B1.1 PROVINCE OF MANITOBA / CITY OF WINNIPEG, 2006 RESIDENTIAL STREET RENEWAL PROGRAM, SIMCOE STREET AND VARIOUS OTHER LOCATIONS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, April 25, 2006.

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

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

B3. ENQUIRIES

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B3.2 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.

B3.3 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.

B3.4 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.

B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

B4. ADDENDA

B4.1 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.

B4.2 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.

B4.2.1 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>.

B4.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet website for addenda shortly before submitting his Bid.

B4.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B5. SUBSTITUTES

- B5.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B5.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B5.3 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.
- B5.4 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.
- B5.5 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.
- B5.6 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.
- B5.6.1 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.
- B5.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B5.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.
- B5.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B6. BID SUBMISSION

- B6.1 The Bid Submission consists of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices, hard copy;
 - (c) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft;
- B6.2 All components of the Bid Submission shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely in ink, to constitute a responsive Bid.
- B6.3 The Bid Submission shall be submitted enclosed and sealed in an envelope. The envelope shall be clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B6.3.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.
- B6.3.2 A hard copy of Form B: Prices must be submitted with the Bid Submission. If there is any discrepancy between the Adobe PDF version of Form B: Prices and the Microsoft Excel version of Form B: Prices, the PDF version shall take precedence.
- B6.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B6.5 Bid Submissions shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Branch
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B7. BID

- B7.1 The Bidder shall complete Form A: Bid, making all required entries.
- B7.2 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.
- B7.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.
- B7.3 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.

- B7.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, shall be affixed;
 - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B7.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.
- B7.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.
- B7.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid Submission and the Contract, when awarded, shall be both joint and several.

B8. PRICES

- B8.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B8.1.1 For the convenience of Bidders, and pursuant to B6.3.2 and B14.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Bid Opportunity on the Bid Opportunities page at the Materials Management Branch internet website at <http://www.winnipeg.ca/matmgt>.
- B8.2 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.
- B8.3 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.
- B8.4 Form B: Prices is organized into Parts: Part 1 of the Work and Part 2 of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Part 1 and Part 2.

B9. QUALIFICATION

- B9.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
 - (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
 - (c) be financially capable of carrying out the terms of the Contract;
 - (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
 - (e) have successfully carried out work, similar in nature, scope and value to the Work; and

- (f) employ only Subcontractors who:
 - (i) are responsible and not suspended, debarred or in default of any obligation to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>); and
 - (ii) have successfully carried out work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract;
 - (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);
- B9.2 Further to B9.1(g), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:
- (a) a valid COR certification number under the Certificate of Recognition (COR) Program - Option 1 administered by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
 - (b) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association; or
 - (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.)
- B9.3 The Bidder shall be prepared to submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B9.4 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.
- B10. BID SECURITY**
- B10.1 The Bidder shall provide bid security in the form of:
- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
 - (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.
- B10.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B10.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B10.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B10.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B10.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B10.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B11. OPENING OF BIDS AND RELEASE OF INFORMATION

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

B11.1.1 Bidders or their representatives may attend.

B11.1.2 Bid Submissions determined by the Manager of Materials, or his designate, to not include the bid security specified in B10 will not be read out.

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

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 Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B12. IRREVOCABLE BID

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 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 until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

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 GC:23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- 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 12 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 shall:
- (a) retain the Bid Submission until after the Submission Deadline has elapsed;
 - (b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in 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, including the right to retain the Bidder's bid security.

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 B9 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B5.
- B14.2 Further to B14.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements if the interests of the City so require.
- B14.2.1 Any bid with an apparent imbalance between the unit prices in Part 1 and Part 2 may be determined to be non-responsive and rejected by the Award Authority in its sole discretion, acting reasonably.
- 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 Submission 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.
- 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.
- B14.4.2 The electronic Form B: Prices and the formulas imbedded in that spreadsheet are only provided for the convenience of Bidders. The City makes no representations or warranties as to the correctness of the imbedded formulas. It is the Bidder's responsibility to ensure

the extensions of the unit prices and the sum of Total Bid Price performed as a function of the formulas within the electronic Form B: Prices are correct.

B15. AWARD OF CONTRACT

- B15.1 The City will give notice of the award of the Contract by way of a letter of intent, or will give notice that no award will be made.
- 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 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

PART C - GENERAL CONDITIONS

C1. GENERAL CONDITIONS

- C1.1 The General Conditions for Construction Contracts (Revision 2000 11 09) are applicable to the Work of the Contract.
- C1.2 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

- D2.1 The Work to be done under the Contract shall consist of two parts:
- (a) Part 1 – City Funded Work
 - (b) Part 2 – Provincially Funded Work

Part 1 – City Funded Work

- D2.2 Part 1 – City Funded Work shall consist of:
- (a) Pavement Reconstruction:
 - (i) Simcoe Street: Ellice Avenue to St. Matthews Avenue (Concrete)
 - (b) Pavement Rehabilitation
 - (i) Agnes Street: Ellice Avenue to St. Matthews Avenue
 - (ii) Southport Boulevard: Cuthbertson Avenue to Birkenhead Avenue

Part 2 – Provincially Funded Work

- D2.3 Part 2 – Provincially Funded Work shall consist of:
- (a) Pavement Rehabilitation:
 - (i) Kelvin Boulevard: Corydon Avenue to Cuthbertson Avenue
- D2.4 The major components of the Work are as follows:
- (a) Pavement Reconstruction
 - (i) Installation of catchbasins and connection pipe
 - (ii) Remove existing pavement
 - (iii) Excavation
 - (iv) Installation of subdrains
 - (v) Compaction of existing sub-grade
 - (vi) Placement of separation/reinforcement fabric
 - (vii) Placement of sub-base and base course materials

- (viii) Construct 150 mm concrete pavement (reinforced)
 - (ix) Adjustment of existing manholes
 - (x) Construct 180 mm barrier curb (separate) utilizing slip form paving equipment
 - (xi) Renewal of existing sidewalk
 - (xii) Boulevard restoration
- (b) Pavement Rehabilitation
- (i) Planing of existing asphalt pavement
 - (ii) Installation of catchpits
 - (iii) Complete pavement patching
 - (iv) Renewal of existing curb, 125 mm average height, utilizing slip-form paving equipment
 - (v) Complete curb renewal at intersections
 - (vi) Renewal of existing sidewalk
 - (vii) Adjustment of catchbasins and manholes
 - (viii) Placement of asphalt overlay (average thickness – 85 mm)
 - (ix) Boulevard restoration

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Earth Tech (Canada) Inc., represented by:

Mr. Todd G. Smith, P. Eng.
Manager, Transportation
850 Pembina Highway, Winnipeg, Manitoba R3M 2M7
Telephone No. (204) 926-1117
Facsimile No. (204) 478-7856

D3.2 At the pre-construction meeting, Mr. Todd G. Smith, P. Eng., 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.

D4.2 At least two (2) business days prior to the commencement of any Work on the site, the Contractor shall provide the Contract Administrator with a phone number where the supervisor identified in D4.1 or an alternate can be contacted 24 hours a day to respond to an emergency.

D5. NOTICES

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

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

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

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

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

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

D6. FURNISHING OF DOCUMENTS

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

SUBMISSIONS

D7. SAFE WORK PLAN

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

D8. INSURANCE

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

D8.3 The Contractor shall provide the City Solicitor with a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the GC:4.1 for the return of the executed Contract.

D8.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

D9. PERFORMANCE SECURITY

D9.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

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

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

D9.2 If the bid security provided in his Bid Submission was not a certified cheque or draft pursuant to B10.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site and in no event later than the date specified in the GC:4.1 for the return of the executed Contract.

D10. SUBCONTRACTOR LIST

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

D11. DETAILED WORK SCHEDULE

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

SCHEDULE OF WORK

D12. COMMENCEMENT

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

- D12.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
 - (ii) evidence of the workers compensation coverage specified in GC:6.14;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
 - (vi) the subcontractor list specified in D10;
 - (vii) the detailed work schedule specified in D11; and
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D12.3 The Contractor shall not commence the Work on the Site before July 4, 2006, and shall commence the Work on Site no later than July 10, 2006, as directed by the Contract Administrator and weather permitting.
- D12.4 The Contractor shall not commence the work on Simcoe Street until July 15, 2006, following the completion of the 150 mm watermain renewal for the City of Winnipeg, Water and Waste Department.

D13. WORKING DAYS

- D13.1 Further to GC:1.1(gg);
- D13.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his assessment. On a weekly basis, the Contract Administrator will provide the Contractor with a record of the Working Days assessed for the preceding week. The Contractor shall sign each report signifying that he agrees with the Contract Administrator's determination of the Working Days assessed for the report period.
- D13.1.2 Work done to restore the Site to a condition suitable for Work, shall not be considered "work" as defined in the definition of a Working Day.
- D13.1.3 When the Work includes two or more major types of Work that can be performed under different atmospheric conditions, the Contract Administrator shall consider all major types of Work in determining whether the Contractor was able to work in assessing Working Days.

D14. RESTRICTED WORK HOURS

- D14.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission 48 hours in advance from the Contract Administrator for any work to be performed between 2000 hours and 0700 hours, or on Saturdays, Sundays, Statutory Holidays and or Civic Holidays.

D15. WORK BY OTHERS

- D15.1 Work by others on or near the Site will include but not necessarily be limited to:
- (a) Manitoba Hydro – lowering and/or rock wrapping of existing gas services due to inadequate cover or affected by the proposed works on Simcoe Street.
 - (b) Manitoba Hydro – replacement of street light cable on Simcoe Street.

- (c) City of Winnipeg, Water and Waste Department – renewal of 150 mm watermain on Simcoe Street.

D16. SEQUENCE OF WORK

D16.1 Further to GC 6.1, the sequence of work shall comply with the following:

D16.1.1 Providing that the Work on each street is completed in a similar order to the order that the Work was commenced in, the Contractor will be permitted to have a maximum of three (3) streets under construction at any one time. Completion of a street means that all of the necessary concrete, asphalt including approaches and landscaping Work is completed to the satisfaction of the Contract Administrator.

D16.1.2 Where the Contractor utilizes two (2) or more crews that work independently on the same major component of the Work as identified in D2, the Contract Administrator may approve an increase to the maximum number of streets under construction at any time.

D16.1.3 Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays, including scratch courses.

D17. SUBSTANTIAL PERFORMANCE

D17.1 The Contractor shall achieve Substantial Performance within forty-five (45) consecutive Working Days of the commencement of the Work as specified in D12.

D17.2 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 re-inspected.

D17.3 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.

D18. TOTAL PERFORMANCE

D18.1 The Contractor shall achieve Total Performance within fifty (50) consecutive Working Days of the commencement of the Work as specified in D12.

D18.2 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 re-inspected.

D18.3 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.

D19. LIQUIDATED DAMAGES

D19.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City eighteen hundred dollars (\$1,800) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.

- D19.2 The amount specified for liquidated damages in D19.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.
- D19.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D20. SCHEDULED MAINTENANCE

- D20.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Reflective Crack Maintenance on Agnes Street, Southport Boulevard, Kelvin Boulevard during one year warranty period and two year warranty period on Simcoe Street as specified in CW 3250-R6;
 - (b) Maintenance of sodded areas as specified in CW 3510-R8.
- D20.2 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

D21. JOB MEETINGS

- D21.1 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.
- D21.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D22. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D22.1 Further to GC:6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).
- D22.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) years thereafter for asphalt resurfacing works , and two (2) years thereafter for pavement reconstruction works, unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for there under.

WARRANTY

D23. WARRANTY

- D23.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) years thereafter for asphalt resurfacing works, and two (2) years thereafter

for pavement reconstruction works, unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for thereunder.

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. 183-2006

PROVINCE OF MANITOBA / CITY OF WINNIPEG, 2006 RESIDENTIAL STREET RENEWAL PROGRAM,
SIMCOE STREET AND VARIOUS OTHER LOCATIONS

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)

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)

FORM J: SUBCONTRACTOR LIST
(See D10)

PROVINCE OF MANITOBA / CITY OF WINNIPEG, 2006 RESIDENTIAL STREET RENEWAL
PROGRAM, SIMCOE STREET AND VARIOUS OTHER LOCATIONS

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
<i>SURFACE WORKS:</i>		
<i>Supply of Materials:</i>		
<i>Concrete</i>		
<i>Asphalt</i>		
<i>Base Course and Sub-Base</i>		
<i>Sod</i>		
<i>Installation/Placement:</i>		
<i>Concrete</i>		
<i>Asphalt</i>		
<i>Base Course and Sub-base</i>		
<i>Planing</i>		
<i>Pavement Removal / Excavation</i>		
<i>Sod</i>		
<i>UNDERGROUND WORKS:</i>		
<i>Supply of Materials:</i>		
<i>Pipe</i>		
<i>Subdrains</i>		
<i>Catchbasins</i>		
<i>Catchpits</i>		
<i>Frames</i>		
<i>Installation/Placement:</i>		
<i>Pipe</i>		
<i>OTHERS:</i>		

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>	<u>Drawing (Original) Sheet Size</u>
CT01	Pavement Reconstruction Plan/Profile – St. Matthews Avenue to Station 2+10	A1
CT02	Pavement Reconstruction Plan/Profile – Station 2+10 to Station 3+30	A1
CT03	Pavement Reconstruction Plan/Profile – Station 3+30 to Ellice Avenue	A1
RT01	Agnes Street Pavement Rehabilitation – Ellice Avenue to St. Matthews Avenue	A3
RT02	Southport Boulevard Pavement Rehabilitation – Cuthbertson Avenue to Birkenhead Avenue	A3
RT03	Kelvin Boulevard Pavement Rehabilitation – Corydon Avenue to Cuthbertson Avenue	A3

E2. GEOTECHNICAL REPORT

- E2.1 Further to GC:3.1, the geotechnical report is provided to aid the Contractor's evaluation of the pavement structure and/or existing soil conditions. The geotechnical report is contained in Appendix 'A'.

E3. PROTECTION OF EXISTING TREES

- E3.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:
- The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
 - Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
 - Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.

- (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E3.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his designate.

E3.3 No separate measurement or payment will be made for the protection of trees.

E3.4 Elm trees cannot be trimmed between April 1 and July 31, inclusive.

E4. TRAFFIC CONTROL

E4.1 Further to clauses 3.6 and 3.7 of CW 1130-R1:

- (a) Where directed, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. No measurement for payment will be made for this work.
- (b) In accordance with the Manual of Temporary Traffic Control, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Section of the City of Winnipeg to place all temporary regulatory signs. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by the Traffic Services Section of the City of Winnipeg in connection with the works undertaken by the Contractor.

E5. TRAFFIC MANAGEMENT

E5.1 Further to clause 3.7 of CW 1130-R1:

E5.1.1 The Contractor shall schedule construction activities to meet the following:

- (a) Simcoe Street will be closed to all traffic. The Contractor shall sign the street "Road Closed" in accordance with the Manual of Temporary Traffic Control.
- (b) Agnes Street will be closed to through traffic. Local Access traffic shall be maintained. The Contractor will sign the street "Road Closed-Local Access Only" in accordance with the Manual of Temporary Traffic Control.
- (c) Southport Boulevard will be closed to through traffic. Local Access traffic shall be maintained. The Contractor will sign the street "Road Closed-Local Access Only" in accordance with the Manual of Temporary Traffic Control.
- (d) Kelvin Boulevard will be closed to through traffic. Local Access traffic shall be maintained. The Contractor will sign the street "Road Closed-Local Access Only" in accordance with the Manual of Temporary Traffic Control.

E6. WATER USED BY CONTRACTOR

E6.1 Further to clause 3.7 of CW 1120-R1, the Contractor shall pay for all costs associated with obtaining water in accordance with the Waterworks By-law. Sewer charges will not be assessed for water obtained from a hydrant.

E7. SURFACE RESTORATIONS

- E7.1 Further to clause 3.3 of CW 1130-R1, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

E8. INFRASTRUCTURE SIGNS

- E8.1 The Contractor shall obtain infrastructure signs from the Traffic Services Sign Shop at 421 Osborne Street. The Contractor shall mount each sign securely to a rigid backing material approved by the Contract Administrator. The Contractor shall fasten each sign to a suitable support and erect and maintain one sign at each street as directed by the Contract Administrator. When the Contract Administrator considers the Work on the street complete, the Contractor shall remove and dispose of the signs and supports. No measurement for payment will be made for performing all operations herein described and all other items incidental to the work described

E9. SUPPLY AND INSTALLATION OF PAVEMENT REPAIR FABRIC

DESCRIPTION

- E9.1 General
- E9.1.1 This specification covers the supply and installation of pavement repair fabric.
- E9.1.2 Referenced Standard Construction
- (a) CW 3130 – Supply and Installation of Geotextile Fabrics.

MATERIALS

- E9.2 Storage and Handling
- E9.2.1 Store and handle material in accordance with Section 2 of CW 3130.
- E9.3 Pavement Repair Fabric
- E9.3.1 Pavement repair fabric will be Glas Grid Road Reinforcement Mesh - Style 8501 or approved equal.

CONSTRUCTION METHODS

- E9.4 General
- E9.4.1 Install pavement repair fabric at random locations as directed by the Contract Administrator.
- E9.4.2 The extent of the placement limits and quantities required will be determined by the Contract Administrator and provided 48 hours prior to the placement of asphalt.
- E9.4.3 Proceed with installation upon completion and acceptance of the asphalt levelling course.
- E9.4.4 Install fabric in accordance with the manufacturer's specifications and recommendations.
- E9.4.5 Only construction equipment required to place the final asphalt surface course will be allowed to travel on the exposed fabric.

- E9.4.6 Replace damaged or improperly placed fabric.
- E9.4.7 Ensure temperature of the asphalt material does not exceed the melting point of the fabric.

MEASUREMENT AND PAYMENT

E9.5 Pavement Repair Fabric

- E9.5.1 The supply and installation of the pavement repair fabric will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Pavement Repair Fabric". The area to be paid for will be the total number of square metres of pavement repair fabric supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E10. INSPECTION OF EXISTING CATCHBASIN LEADS

DESCRIPTION

E10.1 General

- E10.1.1 This specification covers inspection of existing catchbasin leads using internal video equipment for the purposes of assessing structural and service defects.
- E10.1.2 Referenced Standard Construction
 - (a) CW 2145-R2 – Sewer and Manhole Inspection

CONSTRUCTION METHODS

E10.2 General

- E10.2.1 Inspect existing catchbasin leads as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

E10.3 Inspection of Existing Catchbasin Leads

- E10.3.1 The inspection of existing catchbasin leads will be measured on a length basis and paid for at the Contract Unit Price for "Inspection of Existing Catchbasin Leads".

E11. SAND BACKFILLING OF STREET LIGHT CABLE

DESCRIPTION

E11.1 General

- E11.1.1 This specification covers the sand backfilling of new street light cable.

CONSTRUCTION METHODS

E11.2 General

- E11.2.1 Remove all debris in the area from the back of curb to the excavation limits from the top of curb to the bottom of new pavement prior to the installation of street light cable.
- E11.2.2 Provide sand bedding at the back of the curb prior to the installation of street light cable.
- E11.2.3 Following the installation of street light cable, backfill the cable with 100 mm of sand to the approval of the Contract Administrator.

MEASUREMENT AND PAYMENT

E11.3 Sand Backfilling of Street Light Cable

E11.3.1 The sand backfilling of street light cable will be measured on a length basis and paid for at the Contract Unit Price for "Sand Backfilling of Street Light Cable".

E12. PARTIAL DEPTH PATCHING OF EXISTING JOINTS

DESCRIPTION

E12.1 General

E12.1.1 Partial Depth Joint Patching – The planing of concrete pavement along a joint to the specified depth and width and filling the planed area with asphalt.

E12.1.2 This specification shall cover all operations relating to Partial Depth Patching of Existing Joints.

E12.2 Referenced Standard Construction Specifications

E12.2.1 CW 3230 – Full Depth Patching of Existing Slabs and Joints

E12.2.2 CW 3410 – Asphaltic Concrete Pavement Works

E12.2.3 CW 3450 – Planing of Pavement

MATERIALS

E12.3 Asphalt Materials

E12.3.1 Type 1A asphalt material as per CW 3410, Clauses 5 and 6.

E12.3.2 Equipment as per CW 3410, Clause 8 and CW 3450, Clause 3.

CONSTRUCTION METHODS

E12.4 Concrete joints identified for partial depth patching shall be planed from 400 mm to 600 mm wide on each side of the joint, or as specified by the Contract Administrator. The finished edges of the planed sections shall be constructed with a minimum 20 mm cut to eliminate feathering of the asphaltic concrete fill material. The depth of the planing along the centreline of the joint shall have a minimum of 50 mm and a maximum of 65 mm into the concrete pavement so as to remove any ravelled concrete. Areas planed beyond the horizontal limits specified shall not be measured for payment. Where the joint is over planed to a depth greater than 65 mm, the joint, for the full width or length of the slab shall be renewed in accordance with CW 3230 as a full depth joint repair but at the cost of the specified partial depth joint patch.

E12.5 Dispose of material in accordance with Section 3.4 of CW 1130.

E12.6 Immediately prior to placing asphalt in the patch, the planed joint must be dry and shall be blown clean of all loose material and debris. A uniform application of tack coat shall be applied sufficiently to wet the concrete pavement surface on which the asphalt will be placed.

E12.7 The planed joint area shall then have a lift of asphalt hand placed to be flush with the surrounding pavement surface in accordance with Clause 9.3 of CW 3410.

E12.8 Immediately following the placement of the asphalt, it shall be compacted with a vibratory plate compactor or a walk behind vibratory roller compactor.

- E12.9 No traffic or construction equipment shall be allowed over the joint until the asphalt has cooled to atmospheric temperature.

MEASUREMENT AND PAYMENT

E12.9.1 Partial Depth Patching of Existing Joints

- (a) Partial Depth Patching of Existing Joints will be measured on an area basis and paid for at the Contract Unit Price per square metre for the "Items of Work" listed below. The area to be paid for will be the total number of square metres of joints that are planed and filled with asphalt in accordance with this specification, accepted and measured by the Contract Administrator.

Items of Work:

Partial Depth Patching of Existing Joints

- (i) Asphalt Partial Depth Patch

E13. ASPHALT PATCHING OVER FULL DEPTH CONCRETE REPAIRS

DESCRIPTION

E13.1 General

- E13.1.1 This specification covers placing asphalt over full depth concrete repairs to match the grade of the remaining adjacent asphalt overlay prior to placing the final asphalt overlay. The patching is necessary to prevent transverse rutting from sudden depth changes where the existing overlay is removed over a concrete repair.

E13.1.2 Referenced Standard Construction Specifications

- (a) CW 3410 – Asphaltic Concrete Pavement Works
(b) CW 3450 – Planing of Pavement

MATERIALS

E13.2 Asphalt Material

- E13.2.1 Asphalt material will be Type 1A and will be supplied in accordance with Sections 5 and 6 of CW 3410.

CONSTRUCTION METHODS

E13.3 General

- E13.3.1 Asphalt patch to be placed where there is a minimum of 35 millimetres of remaining asphalt overlay immediately adjacent to a full depth concrete repair in accordance with Paragraph 3 of Clause 9.1.2 (a) of CW 3410.
- E13.3.2 Place tack coat in patch area by hand, hand sprayer, or broom as necessary in accordance with Clause 9.2 of CW 3410.
- E13.3.3 Place and compact using mechanical rollers. Place the asphalt material to a compacted depth matching the top of the existing asphalt overlay. Compact to an average of 95% percent of the 75 Blow Marshall Density of the paving mixture with no individual test being less than 90% percent.

MEASUREMENT AND PAYMENT

E13.4 Asphalt Patching Over Full Depth Concrete Repairs

- E13.4.1 Asphalt Patching over Full Depth Concrete Repairs will be measured on a weight basis and paid for at the Contract Unit Price per tonne for "Asphalt Patching Over Full Depth Concrete Repairs". The weight to be paid for will be the total number of tonnes of asphalt placed and compacted in accordance with this specification, as measured on a certified weigh scale, and accepted by the Contract Administrator.

E14. PAVEMENT PATCHING

DESCRIPTION

E14.1 General

- E14.1.1 This specification covers patching of existing concrete pavement in preparation for an asphalt overlay.
- E14.1.2 Referenced Standard Construction Specifications
- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction
 - (b) CW 3130 – Supply and Installation of Geotextile Fabrics
 - (c) CW 3410 – Asphaltic Concrete Pavement Works

MATERIALS

E14.2 Crushed Sub-Base Material

- E14.2.1 Crushed sub-base material will have a maximum aggregate size of 50 mm and be supplied in accordance with Section 2.1 of CW 3110.

E14.3 Geotextile Fabric

- E14.3.1 Geotextile fabric will be supplied in accordance with Section 2 of CW 2130.

E14.4 Asphalt Material

- E14.4.1 Asphalt material will be Type 1A and will be supplied in accordance with Sections 5 and 6 of CW 3410.

CONSTRUCTION METHODS

E14.5 General

- E14.5.1 Remove existing concrete pavement to a minimum width of 1.5 metres at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3110.
- E14.5.2 Excavate to a depth of 350 mm below the top of the existing pavement.
- E14.5.3 Compact existing sub-grade to a minimum of 95% Standard Proctor Density.
- E14.5.4 Place separation/reinforcement geotextile fabric in accordance with Specification CW 3130.
- E14.5.5 Place and compact crushed sub-base material in accordance with CW 3110 to a 300 mm compacted depth. Compact to a minimum of 100% Standard Proctor Density.

- E14.5.6 Place and compact asphalt material to a 50 mm compacted depth matching the top of the existing concrete pavement. Compact to an average of 95% percent of the 75 Blow Marshall Density of the paving mixture with no individual test being less than 90% percent.
- E14.5.7 Each layer must be levelled and accepted by the Contract Administrator before the succeeding layer may be placed.
- E14.5.8 Additional excavation and placement of sub-base material beyond the identified pavement structure will be completed in accordance with CW 3110 as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

- E14.6 Pavement Patching
 - E14.6.1 Pavement patching will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Pavement Patching". The area to be paid for will be the total number of square metres of pavement patched in accordance with this specification, accepted and measured by the Contract Administrator.

APPENDIX 'A'

GEOTECHNICAL REPORT

APPENDIX 'A' - GEOTECHNICAL REPORT

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The geotechnical report is provided to aid in the Contractor's evaluation of the soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations may not become evident until construction commences.



#6 – 854 Marion Street, Winnipeg, Manitoba R2J 0K4
Phone: (204) 233-1694 Fax: (204) 235-1579
E-mail: eng_tech@mts.net
www.eng-tech.ca

March 29, 2006

File No.: 06-079-02

Earth Tech (Canada) Inc.
850 Pembina Highway
Winnipeg, Manitoba
R3M 2M7

ATTENTION: Ryan Cunningham, EIT

RE: Geotechnical Investigation – Simcoe Street Rehabilitation - Between Ellice Avenue and St. Matthews Avenue, Winnipeg, Manitoba

Dear Mr. Cunningham

Terms of Reference

ENG-TECH Consulting Limited (ENG-TECH) was retained by Earth Tech (Canada) Inc. to conduct a geotechnical investigation at seven (7) select locations along Simcoe Street between Ellice Avenue to St. Matthews Avenue. The geotechnical investigation included utility clearances, coring, drilling, visual classification and logging, testing, photographs of core pavement, and a report. The purpose of the geotechnical investigation was to identify the pavement structure and the underlying stratigraphy. In addition, a laboratory testing program consisting of moisture contents, Atterberg Limit and Particle Size Analyses tests were completed to classify the underlain soils.

Scope of Work

ENG-TECH's completed scope of work for the project was as follows:

- Core through the existing pavement structure using a 150 mm diameter core barrel at the seven (7) locations designated by the Earth Tech (Canada) Inc. and retain the cores for photographing at ENG-TECH's laboratory.
- Drill a test hole at each designated location to a minimum depth of 2.0 m below the surface of the pavement structure. Collect samples of the underlying sub-grade soils at 0.3 m intervals for laboratory testing and classification.
- Complete a report outlining the work conducted including test hole summary logs, laboratory test results, and photographs of the cores.

Coring, Test Hole Drilling and Laboratory Testing Program

ENG-TECH completed the coring and test hole drilling program between March 9th to March 14th of 2006. The specific location of each test hole is shown in Table 1. The test holes were drilled using 125 mm diameter solid stem continuous flight augers mounted on a S250 Bobcat drill rig owned and operated by Winnipeg Environmental Remediation Inc (WERInc). The completion depth for all test holes was approximately 2.0 m below grade, with soil samples collected at regular depth intervals and at stratigraphic changes. All test holes were backfilled with the auger cuttings and all core holes were backfilled with limestone base followed by a bituminous cold mix upon the completion of drilling. The core thicknesses and stratigraphy at the test hole locations are outlined on the attached tables and summary logs.

In ENG-TECH's laboratory, moisture content analyses was performed on all soil samples collected, with five (5) soil samples selected and tested for Atterberg Limit and Particle Size Analyses. Outlined on the tables appended are the results from the coring, test hole drilling and laboratory testing program. The test hole locations, summary tables, test hole summary logs, and photographs of the cores are also appended to this report. The test hole locations provided to ENG-TECH are shown on Figure 1, attached.

Closure

ENG-TECH trusts this is all the information required. If there are any questions, please contact the undersigned.

Sincerely,
ENG-TECH Consulting Limited



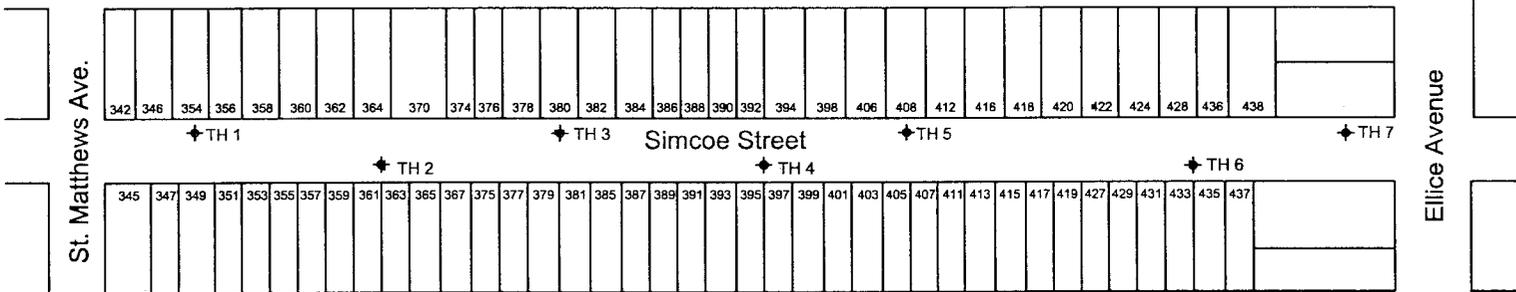
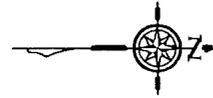
Clark Hryhoruk, M.Sc., P. Eng.
Principal, Geotechnical Engineer

Reviewed by


for: Danny Holfeld, Principal
Manager of Operations

CDH/kik

- Attachments:
- Figure 1 – Test Hole Location Plan
 - Table 1 - Test Hole Summary Locations
 - Table 2 – Summary of Pavement Structure and Sub-grade Description
 - Stratigraphy Soil Logs (7)
 - Particle Size Analysis Reports E6-079-2-1 to 5
 - Photographs of Cores (4 sheets)



No.	DD / MM / YYYY		BY
No.	DD / MM / YYYY	DESCRIPTION	BY


 #6 - 854 Marion Street
 Winnipeg, MB R2J 0K4
 Phone: (204) 233-1694
 Fax: (204) 235-1579

ENG. STAMP:


 Certificate of Authorization
 ENG-TECH Consulting Limited
 No. 2475 Expiry: April 30, 2006

CLIENT:
EARTH TECH (CANADA) LTD.

PROJECT:
GEOTECHNICAL INVESTIGATION - SIMCOE STREET REHABILITATION - BETWEEN ELLICE AVENUE AND ST. MATTHEWS AVENUE

DWG DESCRIPTION:
TEST HOLE LOCATION PLAN

SCALE:
NOT APPLICABLE

DRAWN BY: KIK	DATE: MARCH 2006
------------------	---------------------

FILE No.: 06-079-02	CLIENT DWG/FIG. No.:
------------------------	----------------------

ENG-TECH DWG/FIG. No.: 1	REV.: 0
-----------------------------	------------

**Table 1 – Test Hole Summary Locations
Geotechnical Investigation – Simcoe Street Rehabilitation
Between Ellice Avenue and St. Matthews Avenue, Winnipeg, Manitoba**

Test Hole #	Lane	Location
TH1	South Bound	<ul style="list-style-type: none"> • In front of 354 Simcoe Street • 326 meters south of the centre line of Ellice Avenue • 1.96 meters east of the west curb
TH2	North Bound	<ul style="list-style-type: none"> • Between 361 and 363 Simcoe Street • 273 meters south of the centre line of Ellice Avenue • 1.60 meters west of the east curb
TH3	South Bound	<ul style="list-style-type: none"> • In front of 380 Simcoe Street • 222 meters south of the centre line of Ellice Avenue • 1.93 meters east of the west curb
TH4	North Bound	<ul style="list-style-type: none"> • Between 395 and 397 Simcoe Street • 178 meters south of the centre line of Ellice Avenue • 1.83 meters west of the east curb
TH5	South Bound	<ul style="list-style-type: none"> • In front of 408 Simcoe Street • 136 meters south of the centre line of Ellice Avenue • 1.50 meters east of the west curb
TH6	North Bound	<ul style="list-style-type: none"> • Between 433 and 435 Simcoe Street • 61 meters south of the centre line of Ellice Avenue • 1.68 meters west of the east curb
TH7	South Bound	<ul style="list-style-type: none"> • Along east side of 770 Ellice Avenue • 20 meters south of the centre line of Ellice Avenue • 1.63 meters east of the west curb

**Table 2 – Summary of Pavement Structure and Sub-grade Description
Geotechnical Investigation – Simcoe Street Rehabilitation
Between Ellice Avenue and St. Matthews Avenue, Winnipeg, Manitoba**

Test Hole No.	Pavement Surface		Pavement Structure Material		Sub-grade Description	Depth of Sample (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits		
	Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
1	Asphalt	120	Granular Base Course	65	Silty Clay Fill	0.41	31.4	--	--	--	--	--	--	--
					Clay	0.71	31.8	--	--	--	--	--	--	--
					Clay	0.91	32.0	--	--	--	--	--	--	--
					Clayey Silt	1.22	20.5	0.0	7.9	67.5	24.6	33.8	19.0	14.8
	Concrete	121			Clayey Silt	1.52	22.0	--	--	--	--	--	--	--
					Silty Clay	1.93	33.2	--	--	--	--	--	--	--
					Silty Clay	2.49	48.1	--	--	--	--	--	--	--
2	Asphalt	80	Granular Base Course	85	Silty Clay Fill	0.41	32.4	--	--	--	--	--	--	--
					Clay	0.66	29.2	0.0	10.9	38.9	50.2	66.3	29.5	36.8
					Clay	0.92	29.6	--	--	--	--	--	--	--
					Silty Clay	1.17	30.7	--	--	--	--	--	--	--
	Concrete	136			Clayey Silt	1.57	26.3	--	--	--	--	--	--	--
					Granular Fill	1.88	6.8	--	--	--	--	--	--	--
					Granular Fill	2.13	8.8	--	--	--	--	--	--	--
3	Asphalt	125	Granular Base Course	65	Silty Clay Fill	0.35	27.6	--	--	--	--	--	--	--
					Clay	0.61	30.0	--	--	--	--	--	--	--
					Clay	0.91	27.9	--	--	--	--	--	--	--
					Clay	1.22	28.4	--	--	--	--	--	--	--
	Concrete	116			Silty Clay	1.52	25.9	--	--	--	--	--	--	--
					Silt	1.83	24.8	--	--	--	--	--	--	--
					Clay	2.13	38.4	--	--	--	--	--	--	--

**Table 2 – Summary of Pavement Structure and Sub-grade Description
Geotechnical Investigation – Simcoe Street Rehabilitation
Between Ellice Avenue and St. Matthews Avenue, Winnipeg, Manitoba**

Test Hole No.	Pavement Surface		Pavement Structure Material		Sub-grade Description	Depth of Sample (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits		
	Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
7	Asphalt	125	Granular Base Course	152	Silty Clay Fill	0.33	26.5	--	--	--	--	--	--	--
					Silty Clay Fill	0.61	29.1	0.0	3.2	28.0	68.8	85.0	36.5	48.5
					Clay	0.91	31.7	--	--	--	--	--	--	--
					Clay	1.22	36.9	--	--	--	--	--	--	--
					Clayey Silt	1.52	32.7	--	--	--	--	--	--	--
					Silty Clay	1.98	34.1	--	--	--	--	--	--	--
					Clay	2.44	49.0	--	--	--	--	--	--	--

ENG-TECH CONSULTING LIMITED

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Client: Earth Tech (Canada) Inc.

Project: Geotechnical Investigation - Simcoe Street Rehabilitation

Site: Simcoe Street, Winnipeg, Manitoba

Location: South Bound Lane / 326 m south of center line of Ellice Ave.

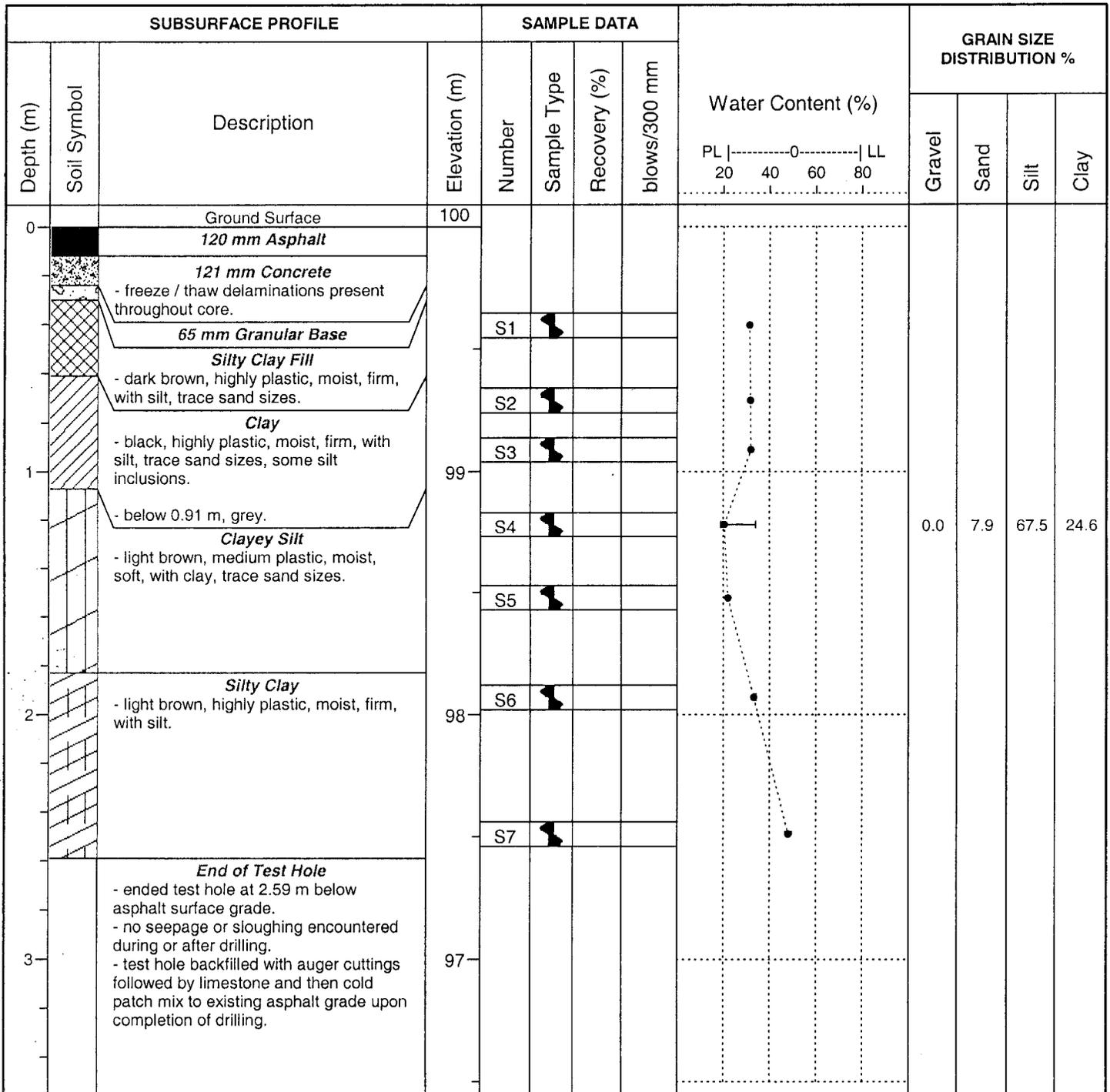
Test Hole #: TH1

File No: 06-079-02

Date Drilled: March 14, 2006

Grade Elevation: 100.0 m (local)

Water Elevation: --



ENG-TECH Consulting Limited

Logged by: KIK

Reviewed by: *CA*

Sample Type



Split Barrel



Shelby Tube



Auger Cuttings



Split Spoon

Drilled By: WERInc.

Drill Rig: S250 Bobcat

Auger Size: 125 mm dia. solid stem

Completion Depth: 2.59 m

Completion Elevation: 97.41 m

Sheet: 1 of 1

ENG-TECH CONSULTING LIMITED

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Client: Earth Tech (Canada) Inc.

Project: Geotechnical Investigation - Simcoe Street Rehabilitation

Site: Simcoe Street, Winnipeg, Manitoba

Location: North Bound Lane / 273 m south of center line of Ellice Ave.

Test Hole #: TH2

File No: 06-079-02

Date Drilled: March 14, 2006

Grade Elevation: 100.0 m (local)

Water Elevation: --

SUBSURFACE PROFILE			SAMPLE DATA				GRAIN SIZE DISTRIBUTION %								
Depth (m)	Soil Symbol	Description	Elevation (m)	Number	Sample Type	Recovery (%)	blows/300 mm	Water Content (%)							
								PL	0	LL					
0		Ground Surface	100												
		80 mm Asphalt													
		136 mm Concrete - concrete has no visible freeze / thaw damage present.													
		85 mm Granular Base													
		Silty Clay Fill - dark brown, highly plastic, moist, firm, with silt, trace sand sizes.		S1	Shelby Tube										
		Clay black, highly plastic, moist, firm, and silt, some sand sizes, some silt inclusions. - below 0.91 m, brown.		S2	Shelby Tube							0.0	10.9	38.9	50.2
			99	S3	Shelby Tube										
		Silty Clay - brown, highly plastic, moist, firm, with silt.		S4	Shelby Tube										
		Clayey Silt - light brown, medium plastic, moist, firm to soft, with clay, trace sand sizes.		S5	Shelby Tube										
		Granular Fill - suspected buried utility underlying granular fill.		S6	Shelby Tube										
			98	S7	Shelby Tube										
		End of Test Hole - ended of test hole at 2.29 m below asphalt surface grade. - no seepage or sloughing encountered during or after drilling. - test hole backfilled with auger cuttings followed by limestone and then cold patch mix to existing asphalt grade upon completion of drilling.													
3			97												

ENG-TECH Consulting Limited

Logged by: KIK

Reviewed by: *AK*

Drilled By: WERInc.

Drill Rig: S250 Bobcat

Auger Size: 125 mm dia. solid stem

Completion Depth: 2.29 m

Completion Elevation: 97.71 m

Sheet: 1 of 1

Sample Type



Split Barrel



Shelby Tube



Auger Cuttings



Split Spoon

ENG-TECH CONSULTING LIMITED

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Client: Earth Tech (Canada) Inc.

Project: Geotechnical Investigation - Simcoe Street Rehabilitation

Site: Simcoe Street, Winnipeg, Manitoba

Location: South Bound Lane / 222 m south of the center line of Ellice Ave.

Test Hole #: TH3

File No: 06-079-02

Date Drilled:

Grade Elevation: 100 (local)

Water Elevation: --

SUBSURFACE PROFILE			SAMPLE DATA				Water Content (%)	GRAIN SIZE DISTRIBUTION %			
Depth (m)	Soil Symbol	Description	Elevation (m)	Number	Sample Type	Recovery (%)		blows/300 mm	Gravel	Sand	Silt
0		Ground Surface	100								
		125 mm Asphalt									
		116 mm Concrete - concrete has severe freeze / thaw damage. - core could not be retrieved.		S1	Shelby Tube						
		65 mm Granular Base									
		Silty Clay Fill - dark brown, highly plastic, moist, stiff, with silt, trace sand sizes.		S2	Shelby Tube						
		Clay - black, highly plastic, moist, firm, some silt, trace sand sizes.		S3	Shelby Tube						
1		- below 0.91 m, turning brown	99								
		- below 1.02 m.		S4	Shelby Tube						
		Silty Clay - light brown, highly plastic, moist, firm, with silt.		S5	Shelby Tube						
		Silt - light brown, low plastic, moist, soft, some clay, trace sand sizes.		S6	Shelby Tube						
2		Clay - brown, high plastic, moist, stiff, with silt.	98								
				S7	Shelby Tube						
		End of Test Hole - ended test hole at 2.29 m depth - no seepage or sloughing encountered during or after drilling. - test hole backfilled with auger cuttings followed by limestone and then cold patch mix to the existing asphalt grade upon completion of drilling.									
3			97								

ENG-TECH Consulting Limited

Logged by: KIK

Reviewed by: *AK*

Sample Type



Split Barrel



Shelby Tube



Auger Cuttings



Split Spoon

Drilled By: WERInc.

Drill Rig: S250 Bobcat

Auger Size: 125 mm dia. solid stem

Completion Depth: 2.29 m

Completion Elevation: 97.71

Sheet: 1 of 1

ENG-TECH CONSULTING LIMITED

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Client: Earth Tech (Canada) Inc.

Project: Geotechnical Investigation - Simcoe Street Rehabilitation

Site: Simcoe Street, Winnipeg, Manitoba

Location: North Bound Lane / 178 m south of the center line of Ellice Ave.

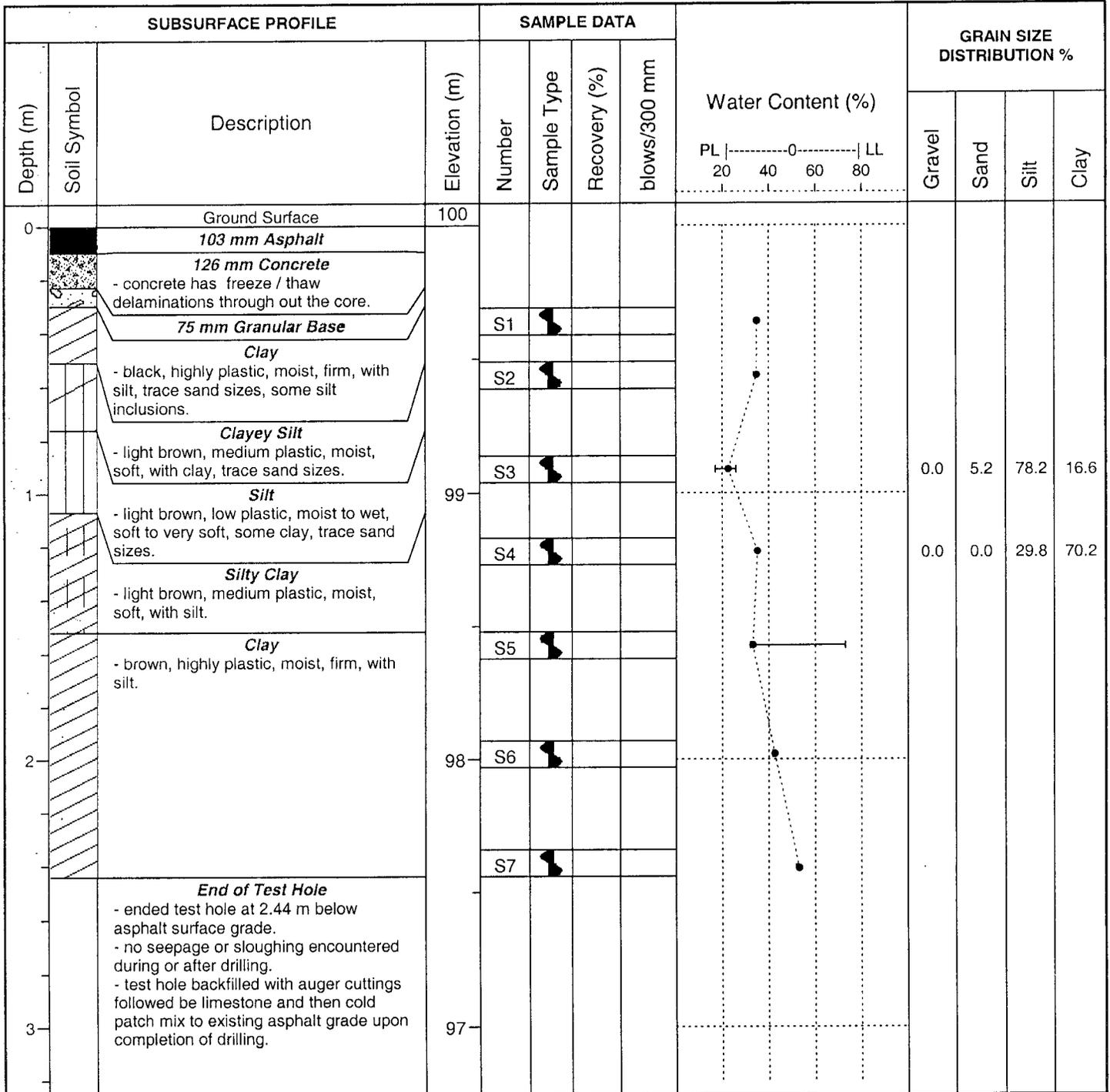
Test Hole #: TH4

File No: 06-079-02

Date Drilled: March 14, 2006

Grade Elevation: 100 (local)

Water Elevation: --



ENG-TECH Consulting Limited

Logged by: KIK

Reviewed by: *KA*

Drilled By: WERInc.

Drill Rig: S250 Bobcat

Auger Size: 125 mm dia. solid stem

Completion Depth: 2.44 m

Completion Elevation: 97.56

Sheet: 1 of 1

Sample Type



Split Barrel



Shelby Tube



Auger Cuttings



Split Spoon

ENG-TECH CONSULTING LIMITED

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Client: Earth Tech (Canada) Inc.

Project: Geotechnical Investigation - Simcoe Street Rehabilitation

Site: Simcoe Street, Winnipeg, Manitoba

Location: South Bound Lane / 136 m south of the center line of Ellice Ave.

Test Hole #: TH5

File No: 06-079-02

Date Drilled: March 14, 2006

Grade Elevation: 100 (local)

Water Elevation: --

SUBSURFACE PROFILE				SAMPLE DATA				GRAIN SIZE DISTRIBUTION %							
Depth (m)	Soil Symbol	Description	Elevation (m)	Number	Sample Type	Recovery (%)	blows/300 mm	Water Content (%)							
								PL	0	LL					
								20	40	60	80	Gravel	Sand	Silt	Clay
0		Ground Surface	100												
		83 mm Asphalt													
		136 mm Concrete													
		- concrete has severe freeze / thaw damage.													
		- core could not be retrieved.													
		75 mm Granular Base													
		Clay													
		- dark brown, highly plastic, moist, firm, with silt, trace sand sizes, some silt inclusions.													
1		Clayey Silt	99												
		- light brown, medium plastic, moist, soft, with clay, trace sand sizes.													
		Silt													
		- light brown, low plastic, moist to wet, soft to very soft, some clay, trace sand sizes.													
		Clay													
		- brown, highly plastic, moist, stiff, with silt.													
2			98												
3		End of Test Hole	97												
		- ended test hole at 2.59 m below asphalt surface grade.													
		- no seepage or sloughing encountered during or after drilling.													
		- test hole backfilled with auger cuttings followed by limestone and then cold patch mix to existing asphalt grade upon completion of drilling.													

ENG-TECH Consulting Limited

Logged by: KIK

Reviewed by: *CA*

Sample Type



Split Barrel



Shelby Tube



Auger Cuttings



Split Spoon

Drilled By: WERInc.

Drill Rig: S250 Bobcat

Auger Size: 125 mm dia. solid stem

Completion Depth: 2.59 m

Completion Elevation: 97.41

Sheet: 1 of 1

ENG-TECH CONSULTING LIMITED

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Client: Earth Tech (Canada) Inc.

Project: Geotechnical Investigation - Simcoe Street Rehabilitation

Site: Simcoe Street, Winnipeg, Manitoba

Location: North Bound Lane / 61 m south of the center line of Ellice Ave.

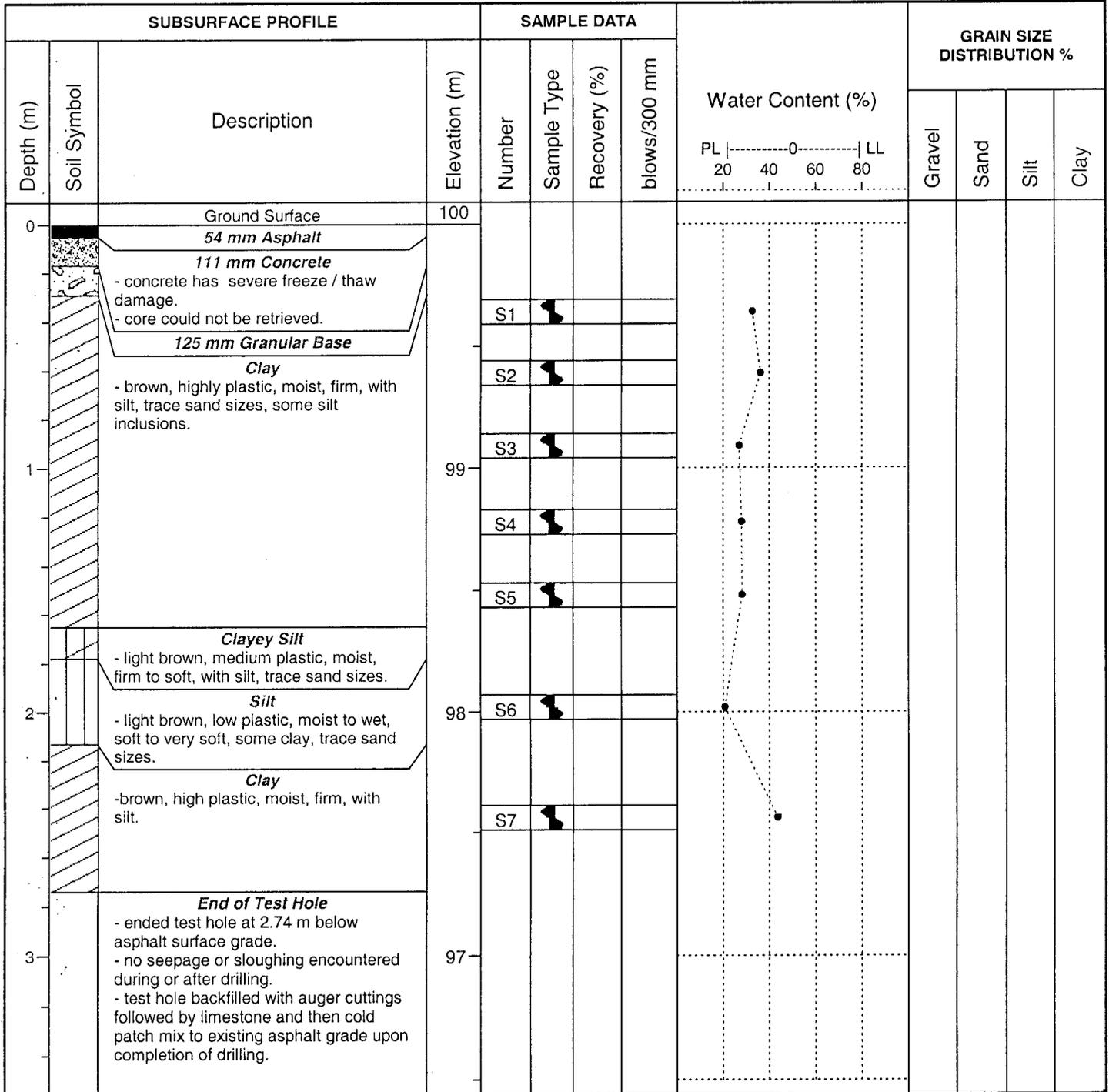
Test Hole #: TH6

File No: 06-079-02

Date Drilled: March 14, 2006

Grade Elevation: 100 (local)

Water Elevation: --



ENG-TECH Consulting Limited

Logged by: KIK

Reviewed by: *CA*

Drilled By: WERInc.

Drill Rig: S250 Bobcat

Auger Size: 125 mm dia. solid stem

Completion Depth: 2.74 m

Completion Elevation: 97.26

Sheet: 1 of 1

Sample Type



Split Barrel



Shelby Tube



Auger Cuttings



Split Spoon

ENG-TECH CONSULTING LIMITED

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Client: Earth Tech (Canada) Inc.

Project: Geotechnical Investigation - Simcoe Street Rehabilitation

Site: Simcoe Street, Winnipeg, Manitoba

Location: South Bound Lane / 20 m south of the center line of Ellice Ave.

Test Hole #: TH7

File No: 06-079-02

Date Drilled: March 14, 2006

Grade Elevation: 100 (local)

Water Elevation: --

SUBSURFACE PROFILE				SAMPLE DATA				GRAIN SIZE DISTRIBUTION %							
Depth (m)	Soil Symbol	Description	Elevation (m)	Number	Sample Type	Recovery (%)	blows/300 mm	Water Content (%)							
								PL	0	LL					
0		Ground Surface	100												
		125 mm Asphalt													
		152 mm Granular Base													
		Silty Clay Fill - dark brown, highly plastic, moist, firm, with silt, trace sand sizes.		S1	Shelby Tube										
				S2	Shelby Tube							0.0	3.2	28.0	68.8
		Clay - black, highly plastic, moist, firm, with silt, trace sand sizes, some silt inclusions. - below 1.02 m, brown	99	S3	Shelby Tube										
				S4	Shelby Tube										
		Clayey Silt - light brown, medium plastic, moist, soft, with clay, trace sand sizes.		S5	Shelby Tube										
		Silty Clay - light brown, medium plastic, moist, firm, and silt.	98	S6	Shelby Tube										
		Clay - brown, highly plastic, moist, firm, with silt.		S7	Shelby Tube										
3		End of Test Hole - Ended test hole at 2.59 m below asphalt surface grade. - no seepage or sloughing encountered during or after drilling. - test hole backfilled with auger cuttings followed by limestone and then cold patch mis to existing asphalt grade upon completion of drilling	97												

ENG-TECH Consulting Limited

Logged by: KIK

Reviewed by: *CA*

Sample Type



Split Barrel



Shelby Tube



Auger Cuttings



Split Spoon

Drilled By: WERInc.

Drill Rig: S250 Bobcat

Auger Size: 125 mm solid stem

Completion Depth: 2.59 m

Completion Elevation: 97.41 m

Sheet: 1 of 1



#6 - 854 Marion Street
 Winnipeg, Manitoba
 R2J 0K4
 eng_tech@mts.net
 www.eng-tech.ca

**PARTICLE SIZE
 ANALYSIS REPORT**

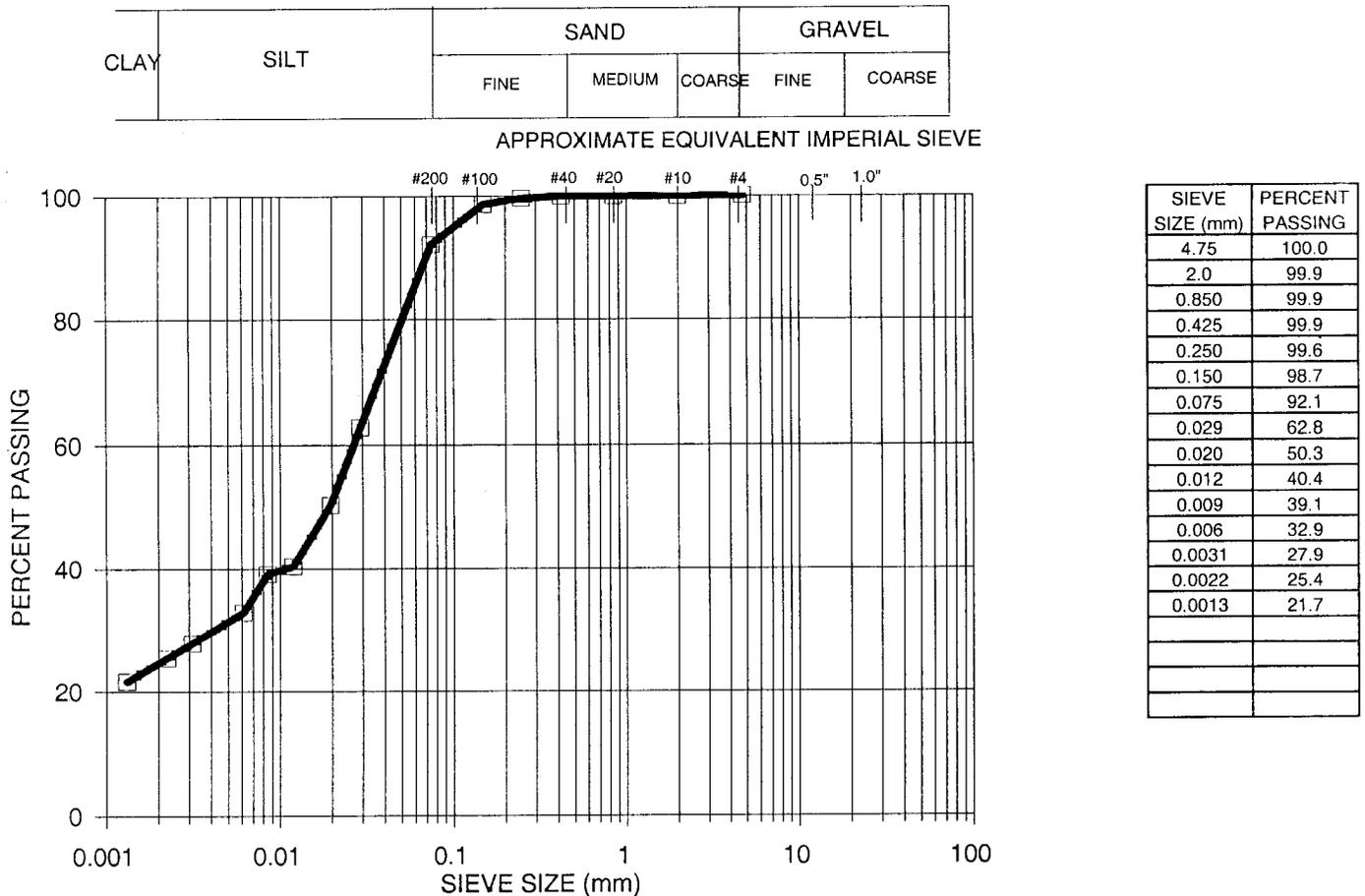
Earth Tech (Canada) Inc.
 850 Pembina Highway
 Winnipeg, Manitoba
 R3M 2M7

File No.: 06-079-02
Reference No.: 6-79-2-1

ATTENTION: Ryan Cunningham, E.I.T.

PROJECT: Geotechnical Investigation, Simcoe Street Rehabilitation, Winnipeg, MB.

Test Hole No.	TH 1	Sample No.	S4	Depth:	1.22 m
Sampled By:	ENG-TECH	Type of Sample:	Grab	Source:	Simcoe Street
Date Sampled:	March 9/06	Date Received:	March 17/06	Date Tested:	Mar 22/06



Percent of: GRAVEL (0.0%), SAND (7.9%), SILT (67.5%) and CLAY (24.6%)
Sample Description: See Test Hole Logs

COMMENTS:

ENG-TECH Consulting Limited

per
 Clark Hryhoruk, M.Sc, P.Eng.
 Ph: (204) 233-1694
 Fax: (204) 235-1579



#6 - 854 Marion Street
 Winnipeg, Manitoba
 R2J 0K4
 eng_tech@mts.net
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**PARTICLE SIZE
 ANALYSIS REPORT**

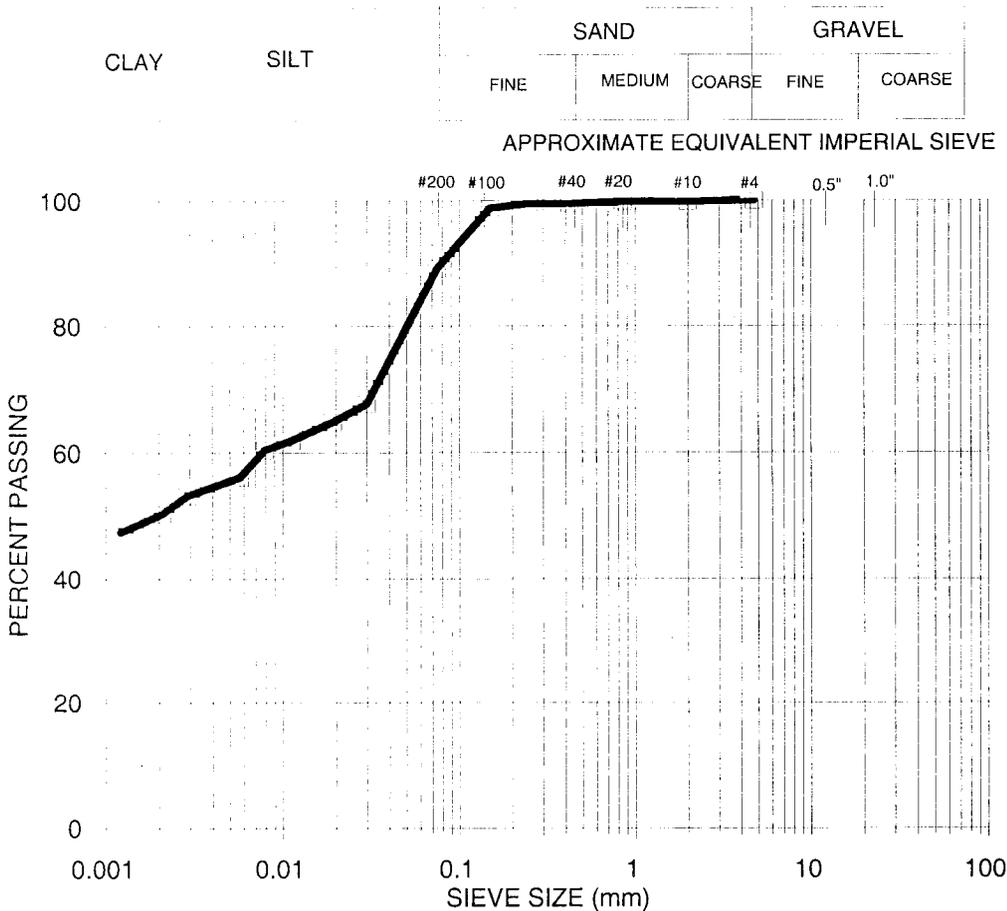
Earth Tech (Canada) Inc.
 850 Pembina Highway
 Winnipeg, Manitoba
 R3M 2M7

File No.: 06-079-02
Reference No.: 6-79-2-2

ATTENTION: Ryan Cunningham, E.I.T.

PROJECT: Geotechnical Investigation, Simcoe Street Rehabilitation, Winnipeg, MB.

Test Hole No. TH 2 **Sample No.** S2 **Depth:** 0.61m
Sampled By: ENG-TECH **Type of Sample:** Grab **Source:** Simcoe Street
Date Sampled: March 9/06 **Date Received:** March 17/06 **Date Tested:** Mar 22/06



SIEVE SIZE (mm)	PERCENT PASSING
4.75	100.0
2.0	99.9
0.850	99.9
0.425	99.6
0.250	99.6
0.150	98.8
0.075	89.1
0.030	67.6
0.019	64.7
0.011	61.9
0.008	60.4
0.006	56.2
0.0029	53.3
0.0021	50.5
0.0012	47.6

Percent of: GRAVEL (0.0%), SAND (10.9%), SILT (38.9%) and CLAY (50.2%)
Sample Description: See Test Hole Logs

COMMENTS:

ENG-TECH Consulting Limited

per 
 Clark Hryhoruk, M.Sc, P.Eng.
 Ph: (204) 233-1694
 Fax: (204) 235-1579

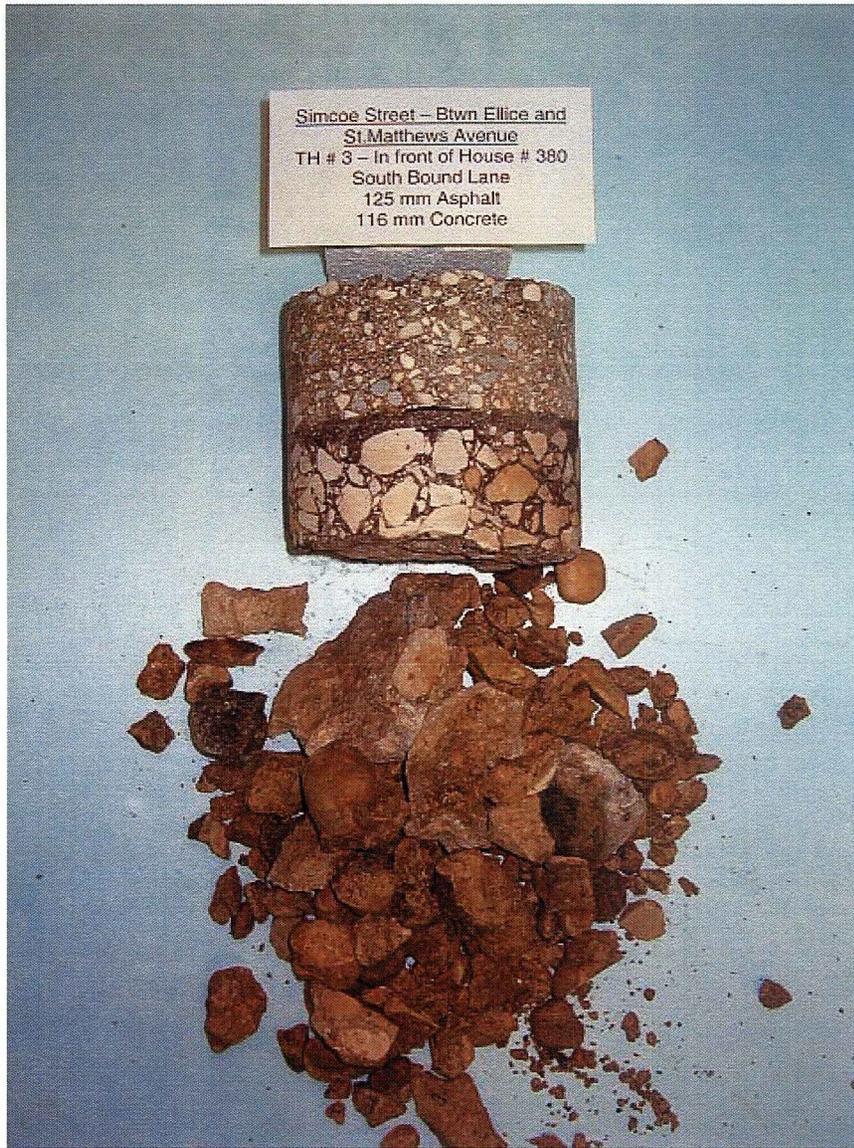
Simcoe Street – Btwn Ellice and
St. Matthews Avenue
TH # 1 – In front of House # 354
South Bound Lane
120 mm Asphalt
121 mm Concrete



Simcoe Street – Btwn Ellice and
St. Matthews Avenue
TH # 2 – Btwn House # 361 and #363
North Bound Lane
80 mm Asphalt
136 mm Concrete



Simcoe Street – Test Holes TH1 and TH2

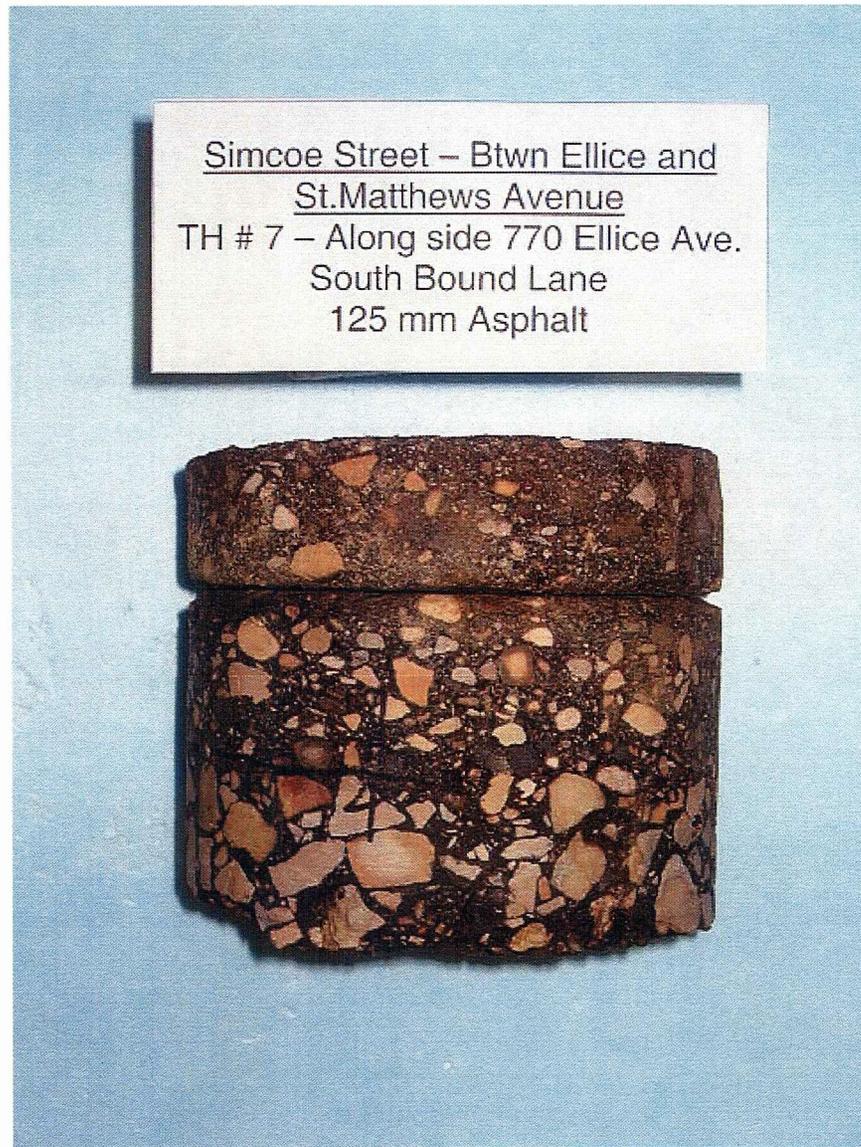


Simcoe Street – Test Holes TH3 and TH4



Simcoe Street – Test Holes TH5 and TH6

Simcoe Street – Btwn Ellice and
St. Matthews Avenue
TH # 7 – Along side 770 Ellice Ave.
South Bound Lane
125 mm Asphalt



Simcoe Street – Test Hole TH7