



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 691-2011**

**SNOW CLEARING ON REGIONAL AND LOCAL STREETS AND BACKLANES  
WITHIN THE SOUTH AREA (EAST)**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 SNOW CLEARING ON REGIONAL AND LOCAL STREETS AND BACKLANES WITHIN THE SOUTH AREA (EAST)

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, September 7, 2011.

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. ENQUIRIES**

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1(a).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 promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B3.3 If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B3.4 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.

B3.5 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.

B3.6 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 Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>

B4.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B4.3 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.

## **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 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 B13.
- 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.
- B5.10 Notwithstanding B5.2 to B5.9, and in accordance with B6.5, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B13.1(a).

## **B6. BID SUBMISSION**

- B6.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;

- B6.2 Further to B6.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B5.
- B6.3 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 in ink, to constitute a responsive Bid.
- B6.4 Bidders are advised not to include any information/literature except as requested in accordance with B6.1.
- B6.5 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B13.1(a)
- B6.6 The Bid may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B6.7 If the Bid is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg, MB R3B 1J1
- B6.7.1 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 Submission.
- B6.8 If the Bid is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.
- B6.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.
- B6.9 Bids submitted by internet electronic mail (e-mail) will not be accepted.

**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 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.

B7.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B7.4.2 All signatures shall be original.

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 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 Notwithstanding C11.1.1, prices on Form B: Prices shall not include the Goods and Services Tax (GST) or Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.

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 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **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, or if the Bidder does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B9.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B9.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);

B9.4 Further to B9.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>)

B9.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B9.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B10. OPENING OF BIDS AND RELEASE OF INFORMATION**

B10.1 Bid Submissions will not be opened publicly.

B10.2 Following the Submission Deadline, the names of the Bidders and their bid prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>

B10.3 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 Division website at <http://www.winnipeg.ca/matmgt>

B10.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, The Freedom of Information and Protection of Privacy Act (Manitoba), or by other authorities having jurisdiction.

## **B11. IRREVOCABLE BID**

B11.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B11.2 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.

## **B12. WITHDRAWAL OF BIDS**

B12.1 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.



- B12.1.1 Notwithstanding C22.5, 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.
- B12.1.2 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.
- B12.1.3 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 B12.1.3(b), declare the Bid withdrawn.
- B12.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B11.2 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.

### **B13. EVALUATION OF BIDS**

- B13.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (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;
- B13.2 Further to B13.1(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 or minor informalities or irregularities if the interests of the City so require.
- B13.3 Further to B13.1(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.
- B13.4 Further to B13.1(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.
- B13.4.1 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.
- B13.4.2 Further to B13.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B13.5 This Contract will be awarded as a whole.

### **B14. AWARD OF CONTRACT**

- B14.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

- B14.2 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.
- B14.2.1 Without limiting the generality of B14.2, 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.
- B14.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid in accordance with B13 .
- B14.3.1 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.
- B14.4 Notwithstanding C4.1, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B14.5 The Contract Documents, as defined in C1.1(n)(ii), in their entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that they are not necessarily attached to or accompany said Purchase Order.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

- C0.1 The *General Conditions for Supply of Services* (Revision 2007 04 12) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Supply of Services* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](http://www.winnipeg.ca/matmgt/gen_cond.stm)
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Supply of Services*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

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

- D1.1 In addition to the *General Conditions for Supply of Services*, 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 "Board of Commissioners" or "Commissioner" wherever it appears in the General Conditions and substituting the "Chief Administrative Officer".
- D1.4 The General Conditions are amended by striking out "Tender Package" wherever it appears in the General Conditions and substituting "Bid Opportunity".
- D1.5 The General Conditions are amended by striking out "Tender Submission" wherever it appears in the General Conditions and substituting "Bidding Procedures".
- D1.6 The General Conditions are amended by striking out "Bidding Instructions" wherever it appears in the General conditions and substituting "Bidding Procedures".

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

- D2.1 The Work to be done under the Contract shall consist of snow clearing supplemental to the City of Winnipeg's snow clearing operations for the period of October 15, 2011 to April 15, 2013, with a one (1) year extension at the option of the City, under mutually agreeable terms.
- D2.1.1 Snow clearing shall be performed on those regional, bus route, collector and residential streets listed in Appendices A, B and C where full width snow clearing is required on all or a major portion of the above streets.
- D2.2 The Contractor shall perform the Work of this Contract on an "as-required: basis for two (2) winter seasons from October 15, 2011 to April 15, 2013 except as hereinafter specified:
- (a) the Contractor may be required to remove snow which has fallen prior to October 15<sup>th</sup> and is on the streets as of that date;
  - (b) the Contractor shall continue and complete all authorized Work for a snowfall that begins on or before April 15<sup>th</sup>, notwithstanding that the Work occurs after April 15<sup>th</sup>; and,
  - (c) the Contractor shall remedy all damage and deficiencies such as curb damage by June 30<sup>th</sup> following the Contract year;
  - (d) the above requirements will apply also to any extension mutually agreed upon.
- D2.3 The major components of the Work are as follows:
- (a) full width snow clearing on the Priority I (Regional) Streets System identified in Appendix A;
  - (b) full width snow clearing on the Priority II (Bus Routes and Collectors) Street System identified in Appendix B;
  - (c) full width snow clearing on the Priority III (Residential) Street System identified in Appendix C;
  - (d) 2.7m width snow clearing on backlanes identified on Drawing 1 "Backlanes";
  - (e) Opening and keeping streets and lanes open during a major snowfall and/or snow blizzard;
  - (f) Other winter maintenance activities as required between major snowfalls.

- D2.4 The Contract Administrator reserves the right to perform routine winter maintenance on the streets listed in Appendices A and B using City forces. Routine winter maintenance includes:
- (a) curb lane spot plowing of street sections;
  - (b) full width spot plowing of street sections;
  - (c) spot plowing on backlane sections;
  - (d) widening for snow storage;
  - (e) snow hauling;
  - (f) clearing of drainage inlets in spring.

### D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

- (a) "**Business Day**" means any Calendar Day, other than a Saturday, Sunday, or a Statutory or Civic Holiday;
- (b) "**Submission Deadline**" and "**Time and Dates Set for the Final Receipt of Bids**" means the time and date set out in the Bidding Procedures for final receipt of Bids;
- (c) "**User**" means a person, department or other administrative unit of the City authorized by the Contract Administrator to order Work under this Contract;
- (d) "**Highway**" means any place or way, including any structure forming part thereof, which or any part of which the public is ordinarily entitled or permitted to use for the passage of vehicles or pedestrians, with or without fee or charge therefore, and includes all the space between the boundary lines thereof, whether or not used for vehicular or pedestrian traffic; and, without restricting the generality of the foregoing, includes roads, road allowances, streets, lanes, thoroughfares and other means of communication dedicated to the public use as highways as so defined, and also includes all bridges, subways, underpasses, grade separations, piers, wharves, ferries, and squares, and the road improvements thereon, dedicated to the public use.
- (e) "**Roadway**" means the paved portion of the street that is used exclusively for the passage of motorized vehicles.
- (f) "**Street**" means a highway over which the City of Winnipeg has jurisdiction.
- (g) "**Sidewalk**" means the paved portion of the street that is used exclusively for a passage of pedestrians.
- (h) "**Back lane**" means a highway situated wholly within the limits of any city, town or village or restricted speed area or reduced restricted speed area which has been designated, constructed and intended to provide access to and service at the rear of places of residence or business and includes alleys having a right-of-way width of not more than 9 metres.
- (i) "**Boulevard**" means the area between the street line and the nearest edge of a roadway and/or the area separating the roadways or a divided highway.
- (j) "**Street Right-of-Way**" means the limit of the publicly-owned land acquired for and devoted to streets, boulevards, appurtenances, as well as underground facilities.
- (k) "**Private Approach**" and "**Approach**" means a roadway, culvert crossing or other structure theretofore and hereafter, erected, installed or maintained in a street between the property of an owner and the nearest curb or edge of a roadway in the said street, for the use or benefit of the owner or occupant of the property adjoining or connected therewith, but does not include a roadway or other structure constructed for such purpose within an alley.
- (l) "**Traffic Lane**" means a 3.6 metre or greater width of pavement.
- (m) "**Pavement**" or the adjective "**Paved**" when used to describe a street, road, alley or other area, means an area which has a surface constructed of Portland Cement concrete, asphaltic concrete, brick, tile or similar material.

- (n) **"Bare Pavement"** means that the Contractor shall endeavour to completely clear the full pavement width of snow.
- (o) **"Face to face"** of curb on Priority I and II streets means the periodic exposure of the barrier curb vertical face with a maximum horizontal deviation of 150 mm (6 inches). This will enable the full width of the curb lane to be available for vehicular traffic.
- (p) **"Face to face"** of curb on Priority III streets means the periodic exposure of the top of the roll curb with a maximum horizontal deviation of 300 mm (12 inches) from the top of the curb into the traffic lane. Where barrier curb exists on Priority III streets, "face to face" curb means the periodic exposure of the barrier curb vertical face with a maximum horizontal deviation of 150 mm (6 inches).
- (q) **"Hauling"** means the relocation of cleared snow volumes by equipment normally employed for the snow clearing activity, but does not include the use of trucks.
- (r) **"Hauling away"** means the relocation of cleared snow volumes by use of trucks for purposes of transporting to a distant storage location.
- (s) **"Snow"** means all forms of frozen precipitation including ice associated with such snow.
- (t) **"Wing back"** means the Contractor shall push back the windrow to create storage space for snow in future plowing operations.
- (u) **"Cross Walk"** means any sidewalk at street intersections or at signed corridors.
- (v) **"Compacted Snow Surface"** of backlanes means a level, dense compacted layer of snow that will only allow minimal rutting from vehicular traffic and has a maximum thickness of 200mm from the compacted snow surface to underlying pavement.

#### **D4. CONTRACT ADMINISTRATOR**

D4.1 The Contract Administrator is:

Jim Berezowsky  
Support Services Supervisor  
104-1155 Pacific Ave  
Winnipeg, MB R3E 3P1  
Telephone No. (204) 986-5076  
Facsimile No. (204) 986-5566

D4.2 At the pre-commencement meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

#### **D5. CONTRACTOR'S SUPERVISOR**

D5.1 Further to C6.19, the Contractor shall employ and keep on the Work, at all times during the performance of the Work, a competent supervisor and assistants, if necessary, acceptable to the Contract Administrator. The supervisor shall represent the Contractor on the Site. The supervisor shall not be replaced without the prior consent of the Contract Administrator unless the supervisor proves to be unsatisfactory to the Contractor and ceases to be in his employ.

D5.2 Before commencement of Work, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D5.2.1 Further to C5.5 Contract Administrator may give instructions or orders to the Contractor's supervisor and such instructions or orders shall be deemed to have been given to the Contractor.

## **D6. OPERATOR'S COMPETENCE AND PERFORMANCE**

- D6.1 The Contractor's operator shall maintain all equipment/trucks in good working order and shall perform all obligations expressed and implied in this Bid Opportunity in a good, safe and workmanlike manner. Where, in the opinion of the City Inspector, an operator fails to meet the obligations expressed or implied in this Bid Opportunity, and without limited the generality of the foregoing, the operator is:
- (a) unqualified, or
  - (b) operating in an unsafe manner, or
  - (c) not performing a satisfactory amount of Work, or
  - (d) engaged in activity outside the City's interests.
- D6.2 The equipment/truck and operator may be dismissed immediately and shall not be re-engaged until such time as the inadequacies that resulted in the dismissal have been remedied to the sole satisfaction of the Contract Administrator.

## **D7. NOTICES**

- D7.1 Notwithstanding C22.3, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg  
Chief Financial Officer  
Facsimile No.: (204) 949-1174

## **SUBMISSIONS**

### **D8. AUTHORITY TO CARRY ON BUSINESS**

- D8.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

### **D9. INSURANCE**

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured; such liability policy to also contain a cross-liability clause, non-owned automobile liability and products and completed operations cover, to remain in place at all times during the performance of the Work;
  - (b) if required, automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00), to remain in place at all times during the performance of the Work;
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D9.4 The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

## **SCHEDULE OF WORK**

### **D10. COMMENCEMENT**

- D10.1 The Contractor shall not commence any Work until he is in receipt of a notice of award from the City authorizing the commencement of the Work.
- D10.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D8;
    - (ii) evidence of the workers compensation coverage specified in C6.14;
    - (iii) evidence of the insurance specified in D9; and
  - (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

### **D11. TOTAL PERFORMANCE**

- D11.1 The Contractor shall achieve Total Performance by June 30, 2013 for Work specified in D2.
- D11.2 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.
- D11.3 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.

### **D12. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

- D12.1 Further to C6.23, 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).



## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
1	Backlanes
2	PI, PII, PIII Streets

E1.2 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B5.

#### E2. SNOW CLEARING REQUIREMENTS

E2.1 General Work

E2.1.1 The entire shoulder width of highway type pavement shall be cleared of snow during the snow clearing operation.

E2.1.2 The entire length of the curb along the centre median shall be cleared to the face of the curb.

E2.1.3 Snow shall be cleared from centre median crosswalks and shall be stored on the side boulevards.

E2.1.4 Snow from centre median openings and traffic storage lanes shall be removed and stored in the side boulevards.

E2.1.5 Windrows at all intersections, cross walks, corridors, railway crossing and private approaches shall be removed in the initial clearing operations. The windrows shall be pushed downstream of traffic or into available storage area on the street right-of-way in order to eliminate blind spots for motorists. Snow shall not be placed on boulevards at or near corners so as to block visibility of vehicles moving through the intersection.

E2.1.6 Windrows at pedestrian corridors shall be cleared for a distance of fifteen (15) metres approaching the corridor and five (5) metres leaving the corridor on undivided roadways and for a distance of fifteen (15) metres approaching the corridor on divided roadways.

E2.1.7 Windrows at bus stops shall be removed to a distance of 12 m upstream from the bus stop sign. The bus stop platform and walk area connecting to the adjacent sidewalk shall be level to provide a safe footing for pedestrians.

E2.1.8 Snow windrows at hydrants shall be removed a loader bucket width.

E2.1.9 Snow windrows shall be removed a loader bucket width and a path cleared by back blading to a hard surface from the curb to the sidewalk at a limited number of locations designated as handicapped access. Actual addresses will be supplied to the Contractor after Contract award.

E2.1.10 Snow shall be removed around all G.R.E.A.T. (Guard Rail Energy Absorbing Terminal), Energite Barrel installations and between the curb and any adjacent guard rail that is within 3m of the curb and in the right-of-way. The G.R.E.A.T. units are used as crash cushions on the ends of guard rails to avoid abrupt stoppage of a vehicle. The Energite Barrel installations are used as crash cushions near overhead signs or any posts which do not have breakaway bases. This Work must be done carefully (by hand where necessary) such that the installations are not hit by snow clearing equipment or left covered in snow. The location of a limited number of installations will be supplied to the Contractor after the award.

- E2.1.11 Where adequate storage exists adjacent to the street, snow spillage onto the street as a result of the snow clearing operation shall be removed immediately by the Contractor. Any snow not removed may be removed by the City and the cost of the Work charged to the Contractor.
- E2.1.12 The City reserves the right, at its sole discretion, to allow windrow snow storage on the curb lane where no storage exists, provided that a reasonable attempt, satisfactory to the Contract Administrator or his designate, is made to minimize the extent of the encroachment during the Contractor's snow clearing operation. This storage shall only be utilized when specifically directed to do so by the Contract Administrator or his designate and only during unusual snow and blizzard conditions.
- E2.1.13 Snow shall not be deposited on islands between a yield or turnoff and the main roadway.
- E2.1.14 Snow shall not be stored or deposited on private property.
- E2.1.15 Snow from snow clearing operations shall not be deposited in sidewalk areas. All blocked sidewalk ends at intersections must be immediately cleared of snow in order to provide access for pedestrians and sidewalk plows. Any snow not immediately removed may be removed by the City and the resulting cost of the Work charged against the Contractor.
- E2.1.16 Snow from intersection windrows shall not be placed in bus stop areas.
- E2.1.17 The Contractor shall remove snow from the centre median (median cut) for snow storage and snow thaw purposes as and where directed, by the Contract Administrator. The median cut shall be to a width of 0.6m from the curb face and shall not expose, but be within 100mm of the median surface. The median cut shall be carried out in conjunction with the adjacent grader plow operations, and shall be included in the lane km price.
- E2.1.18 Snow removal at traffic circles shall include the removal of snow from the inner shoulder area, which shall be considered incidental to the full width snow clearing operation.
- E2.1.19 Work for each snow clearing operation shall commence only upon the instructions of the Contract Administrator.
- E2.1.20 Normally, Priority I (Regional) Streets shall receive the highest priority for snow clearing followed by Priority II (Bus Routes and Collectors) Streets and then Priority III (Residential) Streets. However, the Contact Administrator may direct otherwise and the Contractor shall conform to all such directives, either oral or written.
- E2.1.21 The Contractor shall respond immediately to rectify snow clearing deficiencies which generate citizens' complaints. If in the opinion of the Contract Administrator, the response is inadequate, then the City shall have the option of performing the necessary Work and the costs of such Work shall be borne by the Contractor.
- E2.1.22 The Contractor shall coordinate residential plowing location to minimize conflicts with the Garbage / Recycling collection.
- E2.2 PRIORITY I (REGIONAL) STREETS (See Appendix "A")
- E2.2.1 Snow clearing activities on Priority I streets includes:
- (a) Full width snow clearing and hauling.
  - (b) Curb lane snow clearing
  - (c) Loader support for truck plow snow clearing done by others.
  - (d) Interim plowing during major snowfalls.
  - (e) Other winter maintenance Work.
- E2.2.2 Snow clearing on Priority I streets may be required after:
- (a) A recent accumulation of 3 cm or more of snowfall.
  - (b) Poor street conditions caused by less than 3 cm of recent snow accumulation accompanied by snow drifting.

- (c) A gradual accumulation of snowfall results in poor street conditions.
- E2.2.3 Priority I streets, shall be completed within a twenty-four (24) hour period for a clearing operation following the time of commencement designated by the Contract Administrator.
- E2.2.4 Snow clearing on the Priority I street system shall normally be undertaken during the night shift (1900 hours to 0700 hours) unless otherwise directed.
- E2.2.5 Priority I streets shall be cleared to bare pavement over the full pavement width and plowed to the sides as shown in Appendix "A". The Contractor shall wing back snow windrows in order to create the required storage as directed by the Contract Administrator.
- E2.2.6 The Contractor shall clear and haul away snow from the street and lane intersections, crosswalks, corridors, railroad crossings, private approaches and bus stops on those Priority I streets noted in Appendix "A" during the initial clearing operation. The snow must be hauled away immediately where there is insufficient site storage. The snow shall be removed to within 300 mm of the existing ground elevation. Where there is on-site storage within the street right-of-way, and the on-site storage will not cause interruptions to either vehicular or pedestrian traffic or create a safety hazard, the snow may be stored for up to seventy-two (72) hours from the time commencement designated by the Contract Administrator for a snow clearing operation on Priority I, II and III streets and up to thirty-six (36) hours for a snow clearing operation on Priority I and II streets and bus loops. Snow from bus stops on those Priority I streets listed for hauling away in Appendix "A" shall be hauled away immediately and hauling completed by 0700 hours on the day following the commencement.
- E2.2.7 Payment for the full width snow clearing and hauling away of snow on Priority I streets will be made at the unit price Bid per lane kilometre and all the Work herein described shall be considered as incidental to the Contract and no further compensation will be considered.
- E2.3 PRIORITY II (BUS ROUTES/COLLECTORS) STREETS (See Appendix "B")
- E2.3.1 Snow clearing activities on Priority II streets includes:
- (a) Full width snow clearing and hauling.
  - (b) Curb lane snow clearing.
  - (c) Loader support for truck plow snow clearing done by others.
  - (d) Interim plowing during major snowfalls.
  - (e) Other winter maintenance Work.
- E2.3.2 Snow clearing on Priority II streets may be required after:
- (a) A recent accumulation of 5 cm or more of snowfall.
  - (b) Poor street conditions caused by less than 5 cm of recent snow accumulation accompanied by snow drifting.
  - (c) Gradual accumulation of snowfall results in poor street conditions.
- E2.3.3 Priority II streets shall be completed within a twenty-four (24) hour period for a clearing operation of a recent accumulation following the time of commencement designated by the Contract Administrator.
- E2.3.4 Priority II streets shall be cleared to bare pavement over the full pavement width. The Contractor shall wing back snow windrows in order to create the required storage and perform the 0.6m median cut as directed by the Contract Administrator. Where the Contractor is unable to meet the requirements of this specification due to parked vehicles, he shall arrange for a sign and tow operation with City forces to facilitate completion in these areas.
- E2.3.5 Payment for the full width snow clearing of Priority II streets will be made at the unit price Bid per lane kilometre and all the Work herein described shall be considered as incidental to the Contract and no further compensation will be considered.

## E2.4 PRIORITY III (RESIDENTIAL) STREETS (See Appendix "C")

E2.4.1 Residential streets shall normally be cleared after:

- (a) A recent snow accumulation of 10 cm or more.
- (b) Poor street conditions caused by less than 10 cm of recent snow accumulation accompanied by snow drifting.
- (c) Gradual accumulation of snowfall resulting in poor street conditions.

E2.4.2 Residential streets shall normally be cleared after Priority II streets.

E2.4.3 Priority III streets shall be completed within a thirty-six (36) hour period following the commencement time designated by the Contract Administrator.

E2.4.4 When Priority III streets are plowed within the same clearing operation as Priority II streets, the Priority III streets shall be completed within sixty (60) hours following the commencement time for the clearing of the Priority II streets.

E2.4.5 When Priority III streets are plowed within the same snow clearing operation as Priority I and Priority II streets, the Priority III streets shall be completed within seventy-two (72) hours following the commencement time for the snow clearing of the Priority I and II streets.

E2.4.6 Priority III streets shall be cleared to bare pavement over the full pavement width. The Contractor shall wing back snow windrows in order to create the required storage as directed by the Contract Administrator. Where the Contractor is unable to meet the requirements of this specification due to parked vehicles, he shall arrange for a sign and tow operation with City forces to facilitate completion in these areas.

E2.4.7 Notwithstanding the requirements of this specification, abnormal snow and ice conditions may make it impossible to adequately clear the Priority III streets to bare pavement. On those occasions, the Contract Administrator shall determine the level of snow clearing required and the time required to complete the operation.

E2.4.8 Payment for the full width snow clearing of Priority III streets will be made at the unit price Bid per lane kilometre and all the Work herein described shall be considered as incidental to the Contract and no further compensation will be considered.

E2.4.9 The Contractor shall provide zone requirements consisting of no less than two and no greater than 3 12hr shift plow zone to assist the City of Winnipeg's Residential Parking Ban By-law Residential Parking Ban will consist of two time frames, 07:00 – 19:00 and 19:00 – 07:00.

## E3. HOURLY EQUIPMENT SERVICES

### E3.1 GENERAL

E3.1.1 Snow clearing equipment shall be supplied on an hourly basis when requested by the Contract Administrator for winter maintenance activities between storms and opening up streets and keeping them open during major snow storms and blizzards.

E3.1.2 Snow hauling equipment shall be supplied on an hourly basis when requested by the Contract Administrator for the loading and hauling away of snow between major snowfalls.

E3.1.3 Any equipment supplied by the Contractor on an hourly basis shall meet the following specifications:

- (a) **Semi-Trailer Dump Trucks:** Category 3 GVW 36,500 kg
- (b) **J2 Class Loaders:** Rubber Tired - 4 Wheel Drive Loader,

SAE Net	Horsepower	Minimum 75 H.P.
Operating Weight	15,000-20,000 lbs.	
Bucket Size	1.5 – 2.25 cu. yd.	

(c) **J3 Class Loaders:** Rubber Tired - 4 Wheel Drive Loader

SAE Net	Horsepower	Minimum 100 H.P.
Operating Weight	21,000-28,000 lbs. (9500 kg to 13000 kg)	
Bucket Size	2.25 – 3.0 cu. yd.	

(d) **J5 Class Loaders:** Rubber Tired - 4 Wheel Drive Loader

SAE Net	Horsepower	Minimum 160 H.P.
Operating Weight	31,000 – 41,000 lbs (14000 kg – 18500 kg)	
Bucket Size	2.7 m (8' 9') width	

(e) **K4 Class Motor Graders:** Minimum 140 Flywheel Horsepower

(f) **K5 Class Motor Graders:** Minimum 160 Flywheel Horsepower

- E3.1.4 Contract supervision shall be as specified in E6.
- E3.1.5 The Contract Administrator may request snow clearing equipment on an hourly basis up to the number and type of pieces of equipment specified in E4.
- E3.1.6 The Contractor shall respond to the assigned location within two hours of official notice from the Contract Administrator or be subject to penalties as outlined in E12.
- E3.1.7 Contractors will be required to fill out approved Work tickets showing hours of Work, type of equipment, equipment model and serial number. All Work tickets must be signed by the City inspector and a representative of the Contractor to be valid.
- E3.1.8 Payment for hourly equipment will be made based on the hours actually worked and the unit price per hour shown in Form B: Schedule of Prices. There will be no overtime premium for Work under this Contract.

**E4. EQUIPMENT**

- E4.1 The Contractor shall provide the following minimum quantity and type of equipment in first class working condition:
- (a) 8 motor graders (K4/K5);
  - (b) 10 loaders (J2/J3/J5)
- E4.2 All equipment shall be made available for inspection by the Contract Administrator or his designate prior to the award of Contract.
- E4.3 The Bidder is not required to own the equipment at the time of the Submission Deadline. The Bidder shall, however, provide the Contract Administrator, within 72 hours of being requested, the name of the registered owner of each proposed piece of equipment and a copy of a binding contract, or option to purchase or to contract, for the use of the equipment for the duration of the Contract.

**E4.4 LIGHTING**

- E4.4.1 Each vehicle and each piece of equipment shall be provided with all of the necessary lighting prescribed by the motor vehicle laws of the Province of Manitoba.
- E4.4.2 Notwithstanding the generality of the foregoing, the Contractor shall ensure that all equipment is equipped with working lighting systems sufficient to facilitate the Work. At a minimum, all equipment must be equipped with the following lighting:
- (a) at least two headlights;
  - (b) at least two rear running lights;
  - (c) turning signals front and rear;
  - (d) stop light at rear;

- (e) at least one flashing or oscillating blue or amber light, clearly visible in all directions (360 degrees);
- (f) if the machine is in excess of 2 metres wide, at least four clearance lights (one green or amber light on each side at the front, facing the front, and one red light on each side at the rear facing rear-ward).
- (g) All equipment must maintain proper lighting throughout the entire shift or be removed from hired and contract work.

#### E4.5 IDENTIFICATION

- E4.5.1 All equipment shall be clearly labelled, indicating the Contractor's name and unit number. Letters and numbers used for identification purposes must be a minimum of 100 mm in height and positioned in such a manner as to be clearly visible when standing at either side of the machine.

#### E4.6 COMMUNICATION

- E4.6.1 At least one piece of equipment in a crew working in a specific area must have a means of two-way communications with the Contractor's Supervisor and office.

### E5. DRIVERS LICENSE FOR ALL HIRED HOURLY EQUIPMENT

- E5.1 The City requires that the Contractor's supervisor is to ensure all drivers and operators have the appropriate driver's license for all Hired Hourly and Contract Equipment supplied under this contract.

### E6. CONTRACTOR'S SUPERVISION AND COMMUNICATION

- E6.1 The Contractor shall have a qualified Supervisor on duty during all snow clearing activities regardless of the type and magnitude of the operation. The Supervisor shall be able to attend, monitor and respond to all operational and equipment concerns throughout the contract area.
- E6.2 The Contractor's Supervisor shall have two-way communications with the Contractor's office and field crews, and continuously direct, coordinate and inspect the work of the field crews.
- E6.3 The Supervisor, or his designate, shall provide a means of two-way communications with City staff involved in the inspection of contract snow clearing operations. Failure by the Contractor to supply two-way communication to the City staff by first call-out will result in the City furnishing such equipment and deducting costs from the Contract payment.
- E6.4 The Contractor shall have the capability of receiving facsimile transmission (fax machine) and shall supply the facsimile number to the Contract Administrator.

### E7. EXTREME SNOWFALL AND BLIZZARD CONDITIONS

- E7.1 The Contractor shall provide snow clearing equipment to keep streets open during the extreme snowfall event if requested by the Contract Administrator. The Contract Administrator shall evaluate field conditions and at his discretion, continue or terminate the hourly snow clearing operations.
- E7.2 Time utilized by the Contractor to keep streets open during the snow storm shall not be part of the time limits established in E2.2 and E2.4.
- E7.3 During or after extreme snowfall and/or blizzards, the Contract Administrator may require that streets be opened using both Contract and City forces in order to open such streets and emergency routes as quickly as possible. The Contractor may be required to dispatch his equipment to work inside and outside the contract area with and under the direction of City forces.

E7.4 Once notified by the Contract Administrator of the official start time for the formal snow clearing operations following extreme snowfall and/or blizzards the Contractor shall immediately initiate the snow clearing operation.

## **E8. QUANTITIES**

E8.1 Further to B8 of the Bidding Procedures, the estimated quantities identified on Form B: Schedule of Prices (Unit Price) for the clearing and hauling of snow on the Priority II and III street systems are based on the following:

- (a) **Item No. 1 – Priority I (Regional) Street System:** The approximate quantity is based on 52.88 lane kms of street for one (1) clearing operation of 0-10 cm.
- (b) **Item No. 2 - Priority II (Bus Routes and Collector) Street System:** The approximate quantity is based on 50.14 lane kms of street for three (3) clearing operations of 0-10 cm.
- (c) **Item No. 3 - Priority III (Residential) Street System:** The approximate quantity is based on 116.45 lane kms of street for three (3) clearing operations of 0-10 cm.
- (d) **Item No. 4 – Backlanes:** The approximate quantity is based on 79.10 linear kms of backlanes for 6 clearing operations of 0-10 cm.

E8.2 The total length of lane kilometres, as established by the Public Works Department, are provided in Appendix "A" – Priority I Regional Streets System, Appendix "B" - Priority II Street System and Appendix "C" - Priority III Street System. In the event that streets are either added or deleted, then the total length shall be adjusted correspondingly for the purpose of measurement and payment.

E8.3 Appendix "D" showing the precipitation of snow based on the meteorological summary of the Environment Canada Atmospheric Environment Services for the last 40 years is provided strictly for the information of Bidders.

## **E9. TRAFFIC MOVEMENT AND PARKING RESTRICTIONS**

E9.1 After a significant snowfall, overnight parking may be restricted on Priority I & II streets with the declaration of the Declared Snow Route Parking Ban. This By-Law, when declared by the Director of Public Works, prohibits parking on Priority I and Priority II streets between the hours of midnight and 07:00 am. The ban will normally last for twenty-four (24) hours but may be extended.

E9.2 During snow clearing and hauling operations, the Contractor shall take all reasonable measures to facilitate the movement of traffic in accordance with the Manual of Temporary Traffic Control.

## **E10. MEASUREMENT AND PAYMENT**

E10.1 This section will govern payment for full width street clearing of snow and hauling services for snow removal performed by the Contractor which include:

- (a) Clearing and hauling services for snow after a recent accumulation of snow;
- (b) Clearing and hauling services after a gradual accumulation of snow where, in the opinion of the Contract Administrator, such clearing and hauling services are warranted;
- (c) Clearing and hauling services after a recent accumulation of snow combined with a gradual accumulation of snow; and
- (d) Maintenance snow clearing services between storms and keeping streets open during major snow storms and/or blizzards on the streets specified in this Contract.

E10.2 In this Contract, each such direction by the Contract Administrator for clearing and hauling services for snow removal and the performance thereof by the Contractor shall be referred to as a "clearing operation".

- E10.3 If there is additional precipitation before the expiration of the specified time period, the Contract Administrator will define the end of the most recent snowfall and will set another time limit based on the quantity of precipitation.
- E10.4 Where in the opinion of the Contract Administrator the amount of snowfall and/or accompanying severe drifting conditions makes it impractical to complete the full width snow clearing operations with the Contractor's full complement of equipment and continuous effort, the Contract Administrator may, at his sole discretion, extend the time limits specified.
- E10.5 The Contract Administrator will have the authority to determine whether any clearing and hauling operation constitutes a recent accumulation, a gradual accumulation or a combination of the two. The guideline to be utilized by the Contract Administrator for determining whether a clearing operation is a recent accumulation or a gradual accumulation will be that, where 5 cm or more of snow has fallen over the 48 hour period preceding the direction to commence clearing services, the accumulation will be considered a recent accumulation. Otherwise, the clearing operation will be considered a gradual accumulation.
- E10.6 Payment will be made for full width clearing and hauling operations on Priority I (Regional), Priority II (Collector) Streets, and Priority III (Residential) streets based on the unit price per lane kilometre and a snow accumulation factor (F) which is dependent on the quantity of snowfall and the type of snow accumulation. The payment for all such clearing operations will be based on multiplying the unit price Bid (R) for items (1) to (3), on Form B: Schedule of Prices (Unit Price), as the case may be, by the length in kilometres cleared (L), as determined by the Contract Administrator, multiplied by the snow accumulation factor (F), as determined by the Contract Administrator; or  $\text{Payment} = R \times L \times F$ .
- E10.7 The snow accumulation for purposes of payment for a recent accumulation shall be the quantity of snow deemed to be cleared/hailed by the Contractor as determined by the Contract Administrator in accordance with this section. There may be hourly snow hauling, plowing and/or salting operations carried on by others on some portions of the street systems affected by this Contract. Therefore, the depth of the snow accumulation to be used for payment for the removal of a recent accumulation will be that portion of snow that has recently fallen immediately preceding the start of a clearing operation and during the said operation, but not including cleared or removed by others or by environmental processes, as determined solely by the Contract Administrator. The duration and depth of snowfall will be based on official reports from a weather consulting service. Notice of any dispute by the City arising from the amount of snow accumulation used to calculate payments for a recent clearing operation shall be forwarded to the Contract Administrator within 15 days of the City notifying the Contractor of the amounts used for payment for a given clearing operation. Failure by the Contractor to give notice of such dispute within the time specified shall preclude the Contractor from disputing the amount for which the City will pay.
- E10.8 No payment will be made for gradual accumulation after March 15 of the Contract year in the event that all of the gradual accumulation has completely melted and does not physically exist on the street at the time of a plowing operation initiated by a recent accumulation. This determination will be made by the Contract Administrator.
- E10.9 The snow accumulation factor will be determined by the appropriate formula based on the type of accumulation and the quantity of snowfall. The formula to be used to calculate the snow accumulation factor for each payment scenario are identified in the following table and are further detailed in the sections and examples following the table:

Type of Accumulation	Snowfall Measurement	Snow Accumulation Factor Calculation
(1) Recent	0-10.0 cm	$F = 1.000$



(2) Recent	Greater than 10.0 cm	$F = 1 + (0.90 \times (x - 10) / 10)$ where $x$ is the number of centimetres of recent accumulation snowfall.
(3) Gradual	Up to but not including Dec. 15 of Contract year or since the preceding clearing operation, whichever is later.	$F = 1.000$ or $F = (0.30 \times y) / 10$ , whichever value is greater, where $y$ is the number of centimetres of gradual accumulation snowfall.
(4) Combination of recent and gradual	0-10.0 cm ( $x$ ) of recent and $y$ cm of gradual up to but not including Dec. 15 of Contract year or since the preceding clearing operation, whichever is later.	$F = 1.000$ or $F = (x + (0.30 \times y)) / 10$ , whichever value is greater, where $x$ is the number of centimetres of recent accumulation snowfall and $y$ is the number of centimetres of gradual accumulation snowfall.
(5) Combination of recent and gradual	Greater than 10.0 cm of recent ( $x$ ) and $y$ cm of gradual up to but not including Dec. 15 of Contract year or since the preceding clearing operation, whichever is later.	$F = 1 + (0.90 \times (x - 10) / 10) + ((0.30 \times y) / 10)$ , where $x$ is the number of centimetres of recent accumulation snowfall and $y$ is the number of centimetres of gradual accumulation snowfall.

E10.9.1 For a clearing operation required as a result of a recent accumulation of ten (10) cm or less (0-10 cm), the accumulation factor (F) is 1.00. Payment will be made at the unit price Bid multiplied by the length in kilometres of traffic lanes cleared multiplied by 1.000.

Example: The total payment for a clearing operation after 9.3 cm of recent accumulation would be unit price Bid x lane kilometres x 1.000).

E10.9.2 For a clearing operation required as a result of a recent accumulation in excess of ten (10) cm, the accumulation factor will be determined by adding 1.000 (which is the factor for the first ten (10) cm) to 90% of the snow accumulation in excess of 10 centimetres divided by 10. Payment will be made at the unit price Bid multiplied by the length in kilometres of traffic lanes cleared multiplied by the snow accumulation factor.

Example: The snow accumulation factor for a clearing operation after 14.3 cm of recent accumulation, would be based on the calculation,  $F=1+(0.9 \times (14.3-10)/10) = 1.387$ . The total payment for the clearing operation would be (unit price Bid x lane kilometres x 1.387).

E10.9.3 For a clearing operation required as a result of a gradual accumulation, the snow accumulation factor would be 1.000 or 30% of the gradual accumulation divided by 10, whichever value is greater. Payment will be made at the unit price Bid multiplied by the length in kilometres of traffic lanes cleared multiplied by the snow accumulation factor.

Example: Assume that, on February 28, the condition of the Priority III streets was such that a plowing operation was required and that no snowfall had occurred in the past 48 hours. The date of the last clearing operation was January 28 and 19 cm of snowfall (gradual accumulation) had fallen since that date. The snow accumulation factor would be 30% of 19 cm divided by 10, or  $F = (0.30 \times 19) / 10 = 0.570$ . Since the calculated factor is less than 1.000, the greater value of 1.000 would be used and the total payment for the clearing operation would be (unit price Bid x lane kilometres x 1.000).

E10.9.4 For a clearing operation required as result of a recent accumulation of 10.0 cm or less (0-10 cm) and where there has also been gradual accumulation measured up to but not including December 15 of the Contract year or since the immediately preceding clearing operation, whichever is later, the snow accumulation factor will be 1.000 or the value calculated by adding the recent accumulation to 30% of the gradual accumulation and dividing the sum by 10, whichever value is greater. Payment will be made at the unit price

Bid multiplied by the length in kilometres of traffic lanes cleared multiplied by the snow accumulation factor.

Example: Assume that during the Contract year there has been a snowfall on January 20 of 5.0 cm with severe winds, and in the opinion of the Contract Administrator, there is need for a snow clearing operation. Assume further that 14.5 centimetres of snow has gradually accumulated between December 15th and the commencement of the recent accumulation on January 20th. The snow accumulation factor and payment would be calculated as follows:

- (i) The recent accumulation of 5.0 cm is added to 30% of the gradual accumulation of 14.5 cm and the sum divided by 10 or  $F = (5.0 + (0.30 \times 14.5)) / 10 = 0.935$ . Since the calculated factor is less than 1.000, the total payment for the clearing operation would be (unit price Bid x lane kilometres x 1.000).

Assume that in the above scenario the snowfall on January 20th was 8.0 cm. Then the snow accumulation factor and payment would be calculated as follows:

- (ii) The recent accumulation of 8.0 cm is added to 30% of the gradual accumulation of 14.5 cm and the sum divided by 10 or  $F = (8.0 + (0.30 \times 14.5)) / 10 = 1.235$ . The total payment for the clearing operation would be (unit price Bid x lane kilometres x 1.235).

E10.9.5 For a clearing operation required as result of a recent accumulation of greater than 10.0 cm and where there has also been gradual accumulation measured up to but not including December 15 of the Contract year or since the immediately preceding clearing operation, whichever is later, the snow accumulation factor will be determined by adding 1.000 (which is the factor for the first ten (10) cm of recent accumulation) to 90% of the recent snow accumulation in excess of 10 centimetres divided by 10 and then adding 30% of the gradual accumulation and divided by 10. Payment will be made at the unit price Bid multiplied by the length in kilometres of traffic lanes cleared multiplied by the snow accumulation factor.

Example - Assume that during the Contract year there has been a snowfall on January 20 of 16.8 cm and, in the opinion of the Contract Administrator, there is need for a snow clearing operation. Assume further that 20.5 cm of snow has gradually accumulated between December 15th and the commencement of the recent accumulation on January 20th. The snow accumulation factor and payment would be calculated by adding 1.000 for the first 10 cm of recent accumulation to 90% of 6.8 cm (which is the recent snow accumulation in excess of 10 cm) divided by 10 and then adding 30% of 20.5 cm (which is the gradual accumulation) divided by 10, or  $F = 1.000 + (0.90 \times (16.8 - 10) / 10) + ((0.30 \times 20.5) / 10) = 2.227$ . The total payment for the clearing operation would be (unit price Bid x lane kilometres x 2.227).

E10.10 Payment shall be made for snow clearing services or maintenance snow clearing between snow storms and snow clearing during major storms/blizzards, as specified in E3 of the Specifications at the hourly rate Bid per equipment class on Form B: Schedule of Prices (Unit Price), as the case may be, multiplied by the hours actually worked for each specific class as determined by the Contract Administrator.

E10.11 Payment for wings, ice blades, and/or straight blades for Motor Graders engaged in a full width snow clearing operation shall be included in the unit price Bid per lane kilometre or kilometre respectively.

E10.12 Those attachments specifically requested by the Contract Administrator or his designate will be compensated for at the same rate per hour as those specified in the "Hourly Rental Rate for Public Works Department for the 2011 Snow Season".

E10.13 The City shall guarantee to pay to the Contractor a minimum amount (referred to as the "guaranteed minimum amount") equal to 60% of the Bid price shown on Form B: Schedule of Prices (Unit Price).

- E10.13.1 Payment for Work done shall be as provided in E8 and all such payments shall be deducted from the guaranteed minimum amount.
- E10.13.2 On December 31st, all payments received by the Contractor under this Contract will be totalled and the total compared with 10% of the Total Bid Price. If the total of the payments received is less than 10% of the Total Bid Price, then the difference between the aforesaid figures will be paid to the Contractor as an advance on the guaranteed minimum amount. The amount of the advance will be set off against subsequent payments for work done by the Contractor.
- E10.13.3 On February 28th, all payments received by the Contractor under this Contract for Work done and as an advance on the guaranteed minimum amount will be totalled and that total compared with 35% of the Total Bid Price. If the total of the payments received is less than 35% of the Total Bid Price, then the difference will be paid to the Contractor as an advance on the guaranteed minimum amount. The amounts of any advances received by the Contractor will be set off against subsequent payments for Work done by the Contractor pursuant to the Contract.
- E10.13.4 At the conclusion of the Contract year, all payments received by the Contractor or under this Contract for Work done or as an advance on the guaranteed minimum amount will be totalled and that total compared with the guaranteed minimum amount. Only when the total of the payments received is less than the guaranteed minimum amount will additional monies be payable by the City to the Contractor under the terms of this Contract.
- E10.13.5 The Contractor will not be compensated for any inconvenience and costs which may result from excavation Work on the streets, the parking of vehicles on the roadway, vehicle movement, or any other obstruction to his Work.
- E10.13.6 The Contractor shall note that on the P2 street system portion of this Contract, the unit price bid shall include the cost of the 0.6m median cut as specified in the contract.
- E10.13.7 It is the City of Winnipeg's intent to hold back five (5) percent of progress estimates for all Work performed under this Contract as a damage deposit relating to E11 of the Specifications. These funds will be released when damages are rectified in accordance with E11.

## **E11. DAMAGE TO PUBLIC AND PRIVATE PROPERTY**

- E11.1 The Contractor will be held responsible for any damage to City or private property sustained as a result of his snow clearing operation. Prior to commencement of the first clearing operation, the Contractor shall document and/or photograph all existing damage to pavements, curbs, utilities, street furniture, street signs, parking meters, etc., and shall provide this information to the City for verification.
- E11.2 The Contractor shall immediately report damages to City or private property to the Contract Inspector.
- E11.3 Any damage to pavements, boulevards, trees, etc. that in no way present a hazard to either pedestrian or vehicular traffic shall be reported to the Contract Administrator and rectified by the Contractor in accordance with City of Winnipeg specifications prior to June 30 following the snow clearing season. Damages not rectified by June 30 may be rectified by the City or its agents and all costs shall be borne by the Contractor and shall be deducted from monies owing.
- E11.4 The Contractor shall repair all curbs damaged as a result of snow clearing operations. The repairs will be conducted at the exact locations at which the curb damage was assessed. The Contractor shall remove and dispose of any loose curb material prior to April 15<sup>th</sup> each year.
- E11.5 Any damage to street appurtenances such as, but not limited to, street light standards, signal lights, hydrants, valve boxes, railway signal arm protective devices shall be rectified immediately. If in the process of clearing snow from a street, the Contractor dislodges a manhole frame, it must be restored immediately. Failure to rectify damages immediately may result in the damages being rectified by the City or its agents and the associated costs borne by

the Contractor. In the event that the manhole frame is damaged beyond replacement, the Contractor shall immediately install temporary warning devices to protect pedestrians and vehicles and notify the City at 311, so that a repair can be made by City forces. The costs for such repair will be borne totally by the Contractor.

E11.6 The Contractor shall repair any sod damage caused by his snow clearing operations with top soil and seed or with sod as directed by the Contract Administrator. All restorations shall be in accordance with City of Winnipeg Standard Construction Specifications.

E11.7 The Contractor shall replace with equal, any recycling bins or refuse containers destroyed, lost or misplaced by his operations at least (1) day prior to the next refuse day cycle.

## **E12. PENALTIES**

E12.1 Where the Contractor does not satisfactorily complete the Work on Priority II or III streets in accordance with the time and quality requirements specified in E2, the Contractor shall be assessed a penalty.

E12.1.1 For Priority I, Priority II and Priority III streets, the penalty shall be in the amount of \$1,500.00 or an amount equal to twenty-five percent (25%) of the unit price bid per lane kilometre multiplied by the lane kilometres not satisfactorily completed multiplied by the snow accumulation factor, whichever is greater.

E12.1.2 Streets that the Contract Administrator deems to be deficient in whole and not in part will be considered incomplete and may be subject to the above penalty.

E12.2 Where the Contractor does not supply up to the minimum quantity and type of equipment identified in E4 within two hours as outlined in E3.1.6 of the Specifications, the Contractor shall be assessed a penalty of five hundred dollars (\$500.00) per piece of equipment per call out below the minimum number as specified in E4. The minimum requirement shall apply throughout the duration of the operation from call-out to release of equipment.

E12.3 Where the Contractor does not satisfactorily perform any snow clearing operation in accordance with the requirements of E2, particularly in reference to the quality of the Work following an inspection by the Contract Administrator the Work shall be declared a deficiency. The Contractor shall be requested to rectify the portion of streets found to be unsatisfactory in quality within 24 hours of notification or in a time period to be agreed to by the Contract Administrator. Failure to respond may result in the City performing the required Work and charging the cost of such Work back to the Contractor.

E12.4 Any performance deficiency related to E2 such as, but not limited to, depositing snow in unauthorized locations, depositing snow on private property, or not removing snow windrows from approaches, shall be rectified immediately by the Contractor. Failure to respond will result in the City or its agent rectifying the deficiencies and charging the costs back to the Contractor.

E12.5 Where the Contractor fails to replace recycling bins or refuse containers as described in E11.7, the City will replace these items and assess a penalty of \$100.00 per item.

## PART F - APPENDICES

### APPENDIX A – SOUTH AREA (EAST) PRIORITY I

SOUTH AREA (EAST) PRIORITY I					
Street Name	From Street	To Street	Snow Route	Priority	Lane Kms
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.07
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.06
Ducharme Av	Grandmont Bv	Ducharme Av	Regional	P1	0.03
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.06
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.05
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.08
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.07
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.06
Lemay Av	Pembina Hw	Pembina Hw	Regional	P1	0.03
Pembina Hw	Lemay Av	Station Rd	Regional	P1	0.23
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.07
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.07
Perreault Av	Pembina Hw	Pembina Hw	Regional	P1	0.04
Turnbull Dr	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Minerva Av	Perreault Av	Regional	P1	1.49
Pembina Hw	Minerva Av	Perreault Av	Regional	P1	1.49
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.05
Cloutier Dr	Pembina Hw	Pembina Hw	Regional	P1	0.03
Pembina Hw	Pembina Hw SB to PTH 100 EB	Cloutier Dr	Regional	P1	0.35
Dalhousie Dr	Pembina Hw	Pembina Hw	Regional	P1	0.04
Dalhousie Dr	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Cloutier Dr	Pembina Hw NB to PTH 100 EB	Regional	P1	0.02
Pembina Hw	Cloutier Dr	PTH 100 EB to Pembina Hw SB	Regional	P1	0.14
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Chancellor Matheson Rd	University Cr	University Cr	Regional	P1	0.05
Killarney Av	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Bairdmore Bv	Dalhousie Dr	Regional	P1	0.74
Markham Rd	University Cr	University Cr	Regional	P1	0.02
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.05
Wedgewood Dr	University Cr	University Cr	Regional	P1	0.02
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Des Trappistes St	Lemay Av	Regional	P1	0.13
Sifton Rd	University Cr	University Cr	Regional	P1	0.02
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.04
University Cr	Dysart Rd	Chancellor Matheson Rd	Regional	P1	0.72
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.02

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Chancellor Dr	Pembina Hw	Pembina Hw	Regional	P1	0.04
Southpark Dr	Pembina Hw	Pembina Hw	Regional	P1	0.03
Dartmouth Dr	Pembina Hw	Pembina Hw	Regional	P1	0.03
Chancellor Matheson Rd	Pembina Hw	Pembina Hw	Regional	P1	0.03
Chancellor Matheson Rd	Pembina Hw	Pembina Hw	Regional	P1	0.03
University Cr	University Cr	University Cr	Regional	P1	0.02
University Cr	University Cr	University Cr	Regional	P1	0.02
Thatcher Dr	Pembina Hw	Pembina Hw	Regional	P1	0.04
Chancellor Dr	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.07
De Vos Rd	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	De Vos Rd	Pembina Hw	Regional	P1	0.04
Newdale Av	Pembina Hw	Pembina Hw	Regional	P1	0.05
Killarney Av	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	De La Digue Av	Lemay Av	Regional	P1	0.13
Greencrest Av	Pembina Hw	Pembina Hw	Regional	P1	0.05
Pembina Hw	Pembina Hw	Pembina Hw	Regional	P1	0.03
Pembina Hw	Grandmont Bv	Grandmont Bv	Regional	P1	0.02
Pembina Hw	Bison Dr	Dalhousie Dr	Regional	P1	0.06
Pembina Hw	Markham Rd	Southpark Dr	Regional	P1	0.75
University Cr	University Cr	University Cr	Regional	P1	0.02
Markham Rd	Pembina Hw	Pembina Hw	Regional	P1	0.05
Pembina Hw	Bison Dr	Dalhousie Dr	Regional	P1	0.06
Pembina Hw	Father Labonte Av	Perreault Av	Regional	P1	0.72
Chancellor Matheson Rd	University Cr	University Cr	Regional	P1	0.05
Pembina Hw	Bairdmore Bv	Bairdmore Bv	Regional	P1	0.04
Pembina Hw	Dalhousie Dr	Dalhousie Dr	Regional	P1	0.04
Pembina Hw	Des Trappistes St	Lemay Av	Regional	P1	0.14
Grandmont Bv	Pembina Hw	Pembina Hw	Regional	P1	0.03
Pembina Hw	Father Labonte Av	Perreault Av	Regional	P1	0.72
Thatcher Dr	University Cr	University Cr	Regional	P1	0.02
Pembina Hw	Killarney Av	Killarney Av	Regional	P1	0.03
Pembina Hw	Pembina Hw NB to PTH 100 WB	De Vos Rd	Regional	P1	0.31
Minerva Av	Pembina Hw	Pembina Hw	Regional	P1	0.04
University Cr	Dysart Rd	Sifton Rd	Regional	P1	0.32
Grandmont Bv	Pembina Hw	Pembina Hw	Regional	P1	0.03
University Cr	Chancellor Matheson Rd	Chancellor Matheson Rd	Regional	P1	0.03
Dysart Rd	University Cr	University Cr	Regional	P1	0.12
Pembina Hw	PTH 100 WB to Pembina Hw SB	Pembina Hw SB to PTH 100 EB	Regional	P1	0.22
Dalhousie Dr	Pembina Hw	Pembina Hw	Regional	P1	0.04
Pembina Hw	Pembina Hw	Bison Dr	Regional	P1	0.08
Pembina Hw	Pembina Hw	University Cr	Regional	P1	0.09
Pembina Hw	Pembina Hw	Dartmouth Dr	Regional	P1	0.05
Pembina Hw	Pembina Hw NB to PTH 100 EB	PTH 100 EB to Pembina Hw NB	Regional	P1	0.33
Pembina Hw	Pembina Hw NB to PTH 100 WB	PTH 100 EB to Pembina Hw NB	Regional	P1	0.22
University Cr	Sifton Rd	Dysart Rd	Regional	P1	0.22
University Cr	Pembina Hw	Pembina Hw	Regional	P1	0.14

Pembina Hw	Chancellor Dr	Chancellor Dr	Regional	P1	0.03
Pembina Hw	Chancellor Dr	Chancellor Dr	Regional	P1	0.03
University Cr	Sifton Rd	Markham Rd	Regional	P1	0.38
Pembina Hw	Pembina Hw	Chancellor Matheson Rd	Regional	P1	0.08
Pembina Hw	Grandmont Bv	Grandmont Bv	Regional	P1	0.02
Pembina Hw	Bairdmore Bv	Newdale Av	Regional	P1	0.80
Pembina Hw	Kirkbridge Dr	Kirkbridge Dr	Regional	P1	0.04
Pembina Hw	Pembina Hw	University Cr	Regional	P1	0.07
Pembina Hw	Bairdmore Bv	Pembina Hw	Regional	P1	0.92
University Cr	Markham Rd	Sifton Rd	Regional	P1	0.38
Pembina Hw	PTH 100	De Vos Rd	Regional	P1	0.29
Pembina Hw	Pembina Hw	Pembina Hw	No	P1	0.03
Pembina Hw	University Cr	University Cr	Regional	P1	0.16
Pembina Hw	Pembina Hw	Bairdmore Bv	Regional	P1	0.06
Pembina Hw	Cloutier Dr	Grandmont Bv	Regional	P1	0.77
Pembina Hw	Ducharme Av	Grandmont Bv	Regional	P1	0.65
Pembina Hw	Killarney Av	Newdale Av	Regional	P1	1.66
Pembina Hw	De La Digue Av	Ducharme Av	Regional	P1	0.76
Pembina Hw	Grandmont Bv	PTH 100	Regional	P1	0.62
University Cr	Chancellor Matheson Rd	Dysart Rd	Regional	P1	0.63
Pembina Hw	Dartmouth Dr	Chancellor Matheson Rd	Regional	P1	1.98
Pembina Hw	Bison Dr	Dartmouth Dr	Regional	P1	2.00
Pembina Hw	Markham Rd	Dartmouth Dr	Regional	P1	0.58
Pembina Hw	Markham Rd	Dartmouth Dr	Regional	P1	0.63
Pembina Hw	Southpark Dr	Markham Rd	Regional	P1	0.69
University Cr	Wedgewood Dr	Thatcher Dr	Regional	P1	0.54
University Cr	Thatcher Dr	Wedgewood Dr	Regional	P1	0.55
Pembina Hw	Southpark Dr	Thatcher Dr	Regional	P1	0.85
Pembina Hw	Ducharme Av	Grandmont Bv	Regional	P1	0.63
Pembina Hw	Chancellor Dr	Thatcher Dr	Regional	P1	0.99
Pembina Hw	Chancellor Dr	Thatcher Dr	Regional	P1	1.00
Pembina Hw	Newdale Av	Dalhousie Dr	Regional	P1	0.77
University Cr	Markham Rd	Thatcher Dr	Regional	P1	0.78
Pembina Hw	Pembina Hw	Pembina Hw	No	P1	0.22
Pembina Hw	Killarney Av	Newdale Av	Regional	P1	1.69
University Cr	Wedgewood Dr	Pembina Hw	Regional	P1	0.80
University Cr	Pembina Hw	Wedgewood Dr	Regional	P1	0.45
Pembina Hw	University Cr	Chancellor Dr	Regional	P1	0.71
Pembina Hw	Chancellor Dr	Pembina Hw NB to Bishop Grandin Bv EB	Regional	P1	0.43
Pembina Hw	Ducharme Av	Station Rd	Regional	P1	0.66
Pembina Hw	Chancellor Matheson Rd	Dalhousie Dr	Regional	P1	2.12
Pembina Hw	Bison Dr	Bairdmore Bv	Regional	P1	2.14
University Cr	Thatcher Dr	Markham Rd	Regional	P1	0.78
Pembina Hw	Bairdmore Bv	Greencrest Av	Regional	P1	0.73
Pembina Hw	Greencrest Av	Kirkbridge Dr	Regional	P1	1.14
Pembina Hw	Greencrest Av	Killarney Av	Regional	P1	1.13
Pembina Hw	Southpark Dr	Thatcher Dr	Regional	P1	0.82
Pembina Hw	Pembina Hw LaSalle River Bridge	Des Trappistes St	Regional	P1	0.14

Pembina Hw LaSalle River Bridge	Father Labonte Av	Des Trappistes St	Regional	P1	0.18
Pembina Hw	PTH 100	PTH 100 WB to Pembina Hw NB	Regional	P1	0.12
Pembina Hw	PTH 100 WB to Pembina Hw NB	Dalhousie Dr	Regional	P1	0.85
De Leglise Av Pembina Hw	Pembina Hw De Leglise Av	Pembina Hw Pembina Hw LaSalle River Bridge	Regional Regional	P1 P1	0.03 0.15
Pembina Hw LaSalle River Bridge	De Leglise Av	Turnbull Dr	Regional	P1	0.18
Pembina Hw	Pembina Hw LaSalle River Bridge	Turnbull Dr	Regional	P1	2.28
Pembina Hw	Father Labonte Av	Pembina Hw LaSalle River Bridge	Regional	P1	2.30

<b>Total</b>	<b>52.88</b>
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## APPENDIX B – SOUTH AREA (EAST) PRIORITY II

SOUTH AREA (EAST) PRIORITY II					
Street Name	From Street	To Street	Snow Route	Priority	Lane Kms
Kings Dr	Seier By	Freedman Cr	Non Regional	P2	0.15
Dalhousie Dr	Radcliffe Rd	St Dunstans By	Non Regional	P2	0.13
Dalhousie Dr	St Dunstans By	St Dunstans By	Non Regional	P2	0.17
Radcliffe Rd	Dalhousie Dr	Livingston Pl	Non Regional	P2	0.17
Kings Dr	Grierson Av	Seier By	Non Regional	P2	0.06
Silverstone Av	Aurora St	Townsend Av	Non Regional	P2	0.37
Dalhousie Dr	Millikin Rd	Radcliffe Rd	Non Regional	P2	0.17
Grandmont Bv	Bellemer Dr	Berard Wy	Non Regional	P2	0.25
Dalhousie Dr	Greyfriars Rd	St Edmunds By	Non Regional	P2	0.17
Dalhousie Dr	Rochester Av	Greyfriars Rd	Non Regional	P2	0.17
Grandmont Bv	Julien Pl	Cross Creek Pl	Non Regional	P2	0.06
Grandmont Bv	Verrier Pl	Solomon Pl	Non Regional	P2	0.16
Grandmont Bv	Mestre Pl	Solomon Pl	Non Regional	P2	0.07
Ducharme Av	Pembina Hw	Villeneuve Bv	Non Regional	P2	0.30
Grandmont Bv	Delorme By	Lamirande Pl	Non Regional	P2	0.11
Grandmont Bv	Bonin By	Nolin Av	Non Regional	P2	0.24
Killarney Av	Acadia By	Briar Cliff By	Non Regional	P2	0.17
Dalhousie Dr	Leeds Av	Nuffield Pl	Non Regional	P2	0.18
Dalhousie Dr	Rochester Av	Newcastle Rd	Non Regional	P2	0.18
Ducharme Av	Houde Dr	Houde Dr	Non Regional	P2	0.18
Grandmont Bv	Bonin By	Le Maire St	Non Regional	P2	0.17
Dalhousie Dr	Dalhousie Dr	Dalhousie Dr	Non Regional	P2	0.03
Lemay Av	Landry St	Pembina Hw	Non Regional	P2	0.41
Kilkenny Dr	Colindale Cv	Rice Rd	Non Regional	P2	0.66
Kilkenny Dr	Prestwood Pl	Radcliffe Rd	Non Regional	P2	0.29
Le Maire St	Bellemer Dr	Grandmont Bv	Non Regional	P2	0.32
Ducharme Av	Houde Dr	Le Maire St	Non Regional	P2	0.18
De La Digue Av	Pembina Hw	Landry St	No	P2	0.42
Lemay Av	La Barriere St	St Pierre St	Non Regional	P2	0.61
Dalhousie Dr	Silverstone Av	Dalhousie Dr	Non Regional	P2	0.15
Dalhousie Dr	Allegheny Dr	Silverstone Av	Non Regional	P2	0.84
Villeneuve Bv	Gendreau Av	Ducharme Av	Non Regional	P2	0.63
Dalhousie Dr	Dalhousie Dr	Dalhousie Dr	Non Regional	P2	0.02
Ducharme Av	Houde Dr	Villeneuve Bv	Non Regional	P2	0.20
Houde Dr	Ducharme Av	Lestang St	No	P2	0.74
Dalhousie Dr	Dalhousie Dr	Dalhousie Dr	Non Regional	P2	0.02
Rochester Av	Whitehaven Rd	Ryerson Av	No	P2	0.28
Baylor Av	Dalhousie Dr	Leeds Av	Non Regional	P2	0.50
Baylor Av	Bryn Mawr Rd	Leeds Av	Non Regional	P2	0.18
Dalhousie Dr	Allegheny Dr	Ulster St	Non Regional	P2	0.41
St Pierre St	Du Couvent Av	Lord Av	Non Regional	P2	0.20
St Therese Av	Campeau St	La Barriere St	No	P2	0.25
Campeau St	St Therese Av	End	No	P2	0.23
Grandmont Bv	Mestre Pl	St Denis Pl	Non Regional	P2	0.04
Dalhousie Dr	Emory Rd	Rice Rd	Non Regional	P2	0.17
Lemay Av	Landry St	La Barriere St	Non Regional	P2	0.36
St Pierre St	Lemay Av	St Gabriel Av	Non Regional	P2	0.23
Silverstone Av	Celtic By	Celtic By	Non Regional	P2	0.17
Silverstone Av	Tamworth By	Tunis By	Non Regional	P2	0.17

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Silverstone Av	Laval Dr	Macalester By	Non Regional	P2	0.17
Kilkenny Dr	Burgess Av	Longstone Pl	Non Regional	P2	0.24
Dalhousie Dr	Purdue By	Purdue By	Non Regional	P2	0.16
Killarney Av	Briar Cliff By	Dalhousie Dr	Non Regional	P2	0.20
Dalhousie Dr	Killarney Av	St Dunstans By	Non Regional	P2	0.17
Dalhousie Dr	Killarney Av	Rutgers By	Non Regional	P2	0.17
Dalhousie Dr	Ulster St	Allegheny Dr	Non Regional	P2	0.41
Killarney Av	Killarney Av	Killarney Av	Non Regional	P2	0.02
Aurora St	Silverstone Av	Townsend Av	Non Regional	P2	0.21
University Cr	Grierson Av	Pasadena Av	Non Regional	P2	0.24
University Cr	Grierson Av	Freedman Cr	Non Regional	P2	0.14
Agassiz Dr	Thatcher Dr	Wedgewood Dr	No	P2	0.70
Kilkenny Dr	Rice Rd	Whitehaven Rd	Non Regional	P2	0.55
Snow St	Dartmouth Dr	Markham Rd	Non Regional	P2	0.33
Aurora St	Townsend Av	Pasadena Av	Non Regional	P2	0.23
Silverstone Av	Kings Dr	Leach St	Non Regional	P2	0.52
Pasadena Av	Aurora St	University Cr	Non Regional	P2	0.39
Markham Rd	Snow St	Pembina Hw	Non Regional	P2	0.17
Kilkenny Dr	Colindale Cv	Prestwood Pl	Non Regional	P2	0.27
Cloutier Dr	Stormont Dr	Macbell Rd	Non Regional	P2	0.48
Leach St	Avila Av	Patricia Av	No	P2	0.21
Pasadena Av	April St	University Cr	Non Regional	P2	0.16
Markham Rd	University Cr	Snow St	Non Regional	P2	1.04
Kilkenny Dr	Patricia Av	Radcliffe Rd	Non Regional	P2	0.64
Campeau St	De Leglise Av	St Therese Av	No	P2	0.24
Grandmont Bv	Grandmont Bv	Grandmont Bv	Non Regional	P2	0.03
Silverstone Av	Mcgill Av	Mcmasters Rd	Non Regional	P2	0.16
Grandmont Bv	St Denis Pl	Laurent Dr	Non Regional	P2	0.15
		South Perimeter			
Waverley St	PTH 100	Service Road S	Non Regional	P2	0.10
Grandmont Bv	Berard Wy	Delorme Pl	Non Regional	P2	0.23
Grandmont Bv	Le Maire St	Pirson Cr	Non Regional	P2	0.17
Silverstone Av	Tamworth By	Tamworth By	Non Regional	P2	0.17
Silverstone Av	Macalester By	Mcmasters Rd	Non Regional	P2	0.17
		Perimeter 100			
Waverley St	Grandmont Bv	Hw	Non Regional	P2	0.27
	Mount Allison				
Baylor Av	By	Magdalene By	Non Regional	P2	0.17
Dalhousie Dr	Purdue By	Rutgers By	Non Regional	P2	0.16
Baylor Av	Magdalene By	Magdalene By	Non Regional	P2	0.17
Radcliffe Rd	Oberlin Rd	Vassar Rd	Non Regional	P2	0.30
Radcliffe Rd	Linacre Rd	Michigan Av	Non Regional	P2	0.20
Dalhousie Dr	Bromley Pl	Nuffield Pl	Non Regional	P2	0.69
Killarney Av	Acadia By	Greyfriars Rd	Non Regional	P2	0.18
Grandmont Bv	Mestre Pl	Mestre Pl	Non Regional	P2	0.03
Killarney Av	Caledon Rd	Greyfriars Rd	Non Regional	P2	0.50
Kings Dr	Parkwood Pl	Silverstone Av	Non Regional	P2	0.10
Radcliffe Rd	Linacre Rd	Oberlin Rd	Non Regional	P2	0.17
Le Maire St	La Porte Dr	Bellemer Dr	Non Regional	P2	0.13
Le Maire St	La Porte Dr	Ducharme Av	Non Regional	P2	0.54
Des Trappistes					
St	Pembina Hw	Villeneuve Bv	Non Regional	P2	0.36
Dalhousie Dr	Millikin Rd	Selwyn Pl	Non Regional	P2	0.17
Silverstone Av	Dalhousie Dr	Dalhousie Dr	Non Regional	P2	0.02
Silverstone Av	Tunis By	Townsend Av	Non Regional	P2	0.17
Dalhousie Dr	Rochester Av	Prescot Rd	Non Regional	P2	0.18
Kings Dr	Kilkenny Dr	End	Non Regional	P2	0.11
Ducharme Av	Houde Dr	Houde Dr	Non Regional	P2	0.44

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Kings Dr	Grierson Av	Pasadena Av	Non Regional	P2	0.13
Grandmont Bv	Bibeaudel Pl	Julien Pl	Non Regional	P2	0.15
Grandmont Bv	Cross Creek Pl	Waverley St	Non Regional	P2	0.19
Grandmont Bv	Cross Creek Pl	Cross Creek Pl	Non Regional	P2	0.07
Rochester Av	Dalhousie Dr	Morningside Dr	No	P2	0.26
Villeneuve Bv	St	Gendreau Av	Non Regional	P2	0.40
De Leglise Av	Campeau St	La Barriere St	Non Regional	P2	0.25
De Leglise Av	Landry St	Campeau St	Non Regional	P2	0.08
Silverstone Av	Aurora St	Leach St	Non Regional	P2	0.22
Leach St	Avila Av	Silverstone Av	No	P2	0.22
Pasadena Av	Kings Dr	April St	Non Regional	P2	0.27
Dalhousie Dr	Rice Rd	St Edmunds By	Non Regional	P2	0.17
Dalhousie Dr	Nuffield Pl	Ryerson Av	Non Regional	P2	0.04
Wedgewood Dr	Agassiz Dr	University Cr	No	P2	0.18
Baylor Av	Bryn Mawr Rd	Mount Allison By	Non Regional	P2	0.17
Baylor Av	By	Mount Allison By	Non Regional	P2	0.15
Killarney Av	Briar Cliff By	Briar Cliff By	Non Regional	P2	0.17
Grandmont Bv	Delorme Pl	Lamirande Pl	Non Regional	P2	0.06
Grandmont Bv	Laurent Pl	Payment St	Non Regional	P2	0.16
Dalhousie Dr	Silverstone Av	Allegheny Dr	Non Regional	P2	0.87
De Leglise Av	La Barriere St	St Pierre St	Non Regional	P2	0.47
Kilkenny Dr	Whitehaven Rd	Longstone Pl	Non Regional	P2	0.17
St Pierre St	St Gabriel Av	Lord Av	Non Regional	P2	0.15
Killarney Av	Caledon Rd	Baylor Av	Non Regional	P2	0.22
Grandmont Bv	Pirson Cr	Payment St	Non Regional	P2	0.23
Radcliffe Rd	Kilkenny Dr	Vassar Rd	Non Regional	P2	0.19
Kings Dr	Pasadena Av	Townsend Av	Non Regional	P2	0.23
Kings Dr	Grierson Av	Grierson Av	Non Regional	P2	0.12
Rochester Av	Ryerson Av	Dalhousie Dr	No	P2	0.40
Kings Dr	Kilkenny Dr	Kings Park Dr	Non Regional	P2	0.13
Rochester Av	Morningside Dr	Valence Av	No	P2	0.27
Rochester Av	Petersfield Pl	Valence Av	No	P2	0.26
Rochester Av	Petersfield Pl	Valence Av	No	P2	0.19
Rochester Av	Thornhill By	Valence Av	No	P2	0.17
Rochester Av	Thornhill By	Thornhill By	No	P2	0.17
Rochester Av	Thornhill By	Burgess Av	No	P2	0.17
Grandmont Bv	Nolin Av	Delorme By	Non Regional	P2	0.05
Kings Dr	Avila Av	Parkwood Pl	Non Regional	P2	0.11
Silverstone Av	Dalhousie Dr	Mcgill Av	Non Regional	P2	0.18
Radcliffe Rd	Michigan Av	Livingston Pl	Non Regional	P2	0.18
Dartmouth Dr	Dartmouth Dr	Pembina Hw	Non Regional	P2	0.04
Turnbull Dr	Turnbull Dr	Pembina Hw	Non Regional	P2	0.05
Kings Dr	Patricia Av	Avila Av	Non Regional	P2	0.21
		South Perimeter			
Waverley St	Public Rd	Service Road S	Non Regional	P2	0.68
Rochester Av	Whitehaven Rd	Rochester Pl	No	P2	0.17
Kilkenny Dr	Kings Dr	Patricia Av	Non Regional	P2	1.09
Killarney Av	Killarney Av	Pembina Hw	Non Regional	P2	0.05
Baylor Av	Magdalene By	Killarney Av	Non Regional	P2	0.23
Kings Dr	Silverstone Av	The Drive Af	Non Regional	P2	0.21
Dalhousie Dr	Dalhousie Dr	Pembina Hw	Non Regional	P2	0.06
Rochester Av	Burgess Av	Rochester Pl	No	P2	0.17
Killarney Av	Acadia By	Acadia By	Non Regional	P2	0.18
Kings Dr	Kings Park Dr	Patricia Av	Non Regional	P2	0.11
Dalhousie Dr	Dalhousie Dr	Pembina Hw	Non Regional	P2	0.06

Markham Rd	Markham Rd	Pembina Hw	Non Regional	P2	0.04
Markham Rd	Snow St	Pembina Hw	Non Regional	P2	0.09
Grandmont Bv	Pembina Hw	Bellemer Dr	Non Regional	P2	0.57
Grandmont Bv	Grandmont Bv	Pembina Hw	Non Regional	P2	0.25
Killarney Av	Pembina Hw	Killarney Av	Non Regional	P2	0.21
Turnbull Dr	Courchaine Rd	Pembina Hw	Non Regional	P2	1.82
St Pierre St	De Leglise Av	Du Couvent Av	Non Regional	P2	0.22
Turnbull Dr	Turnbull Dr	Turnbull Dr	No	P2	0.16
Killarney Av	Baylor Av	Pembina Hw	Non Regional	P2	0.41
Dalhousie Dr	Pembina Hw	Baylor Av	Non Regional	P2	0.75
Dalhousie Dr	Purdue By	Silverstone Av	Non Regional	P2	0.18
Dalhousie Dr	Pembina Hw	Ulster St	Non Regional	P2	0.55
Dalhousie Dr	Ulster St	Pembina Hw	Non Regional	P2	0.54
Burnham Rd	Cloutier Dr	End	Non Regional	P2	0.04
Dartmouth Dr	Snow St	Pembina Hw	Non Regional	P2	0.58
Turnbull Dr	Courchaine Rd	End	No	P2	1.27
Cloutier Dr	Burnham Rd	Stormont Dr	Non Regional	P2	1.48
Cloutier Dr	Pembina Hw	Burnham Rd	Non Regional	P2	1.20
Cloutier Dr	Burgess Av	Victor Pleshko	Non Regional	P2	0.86
Cloutier Dr	Macbell Rd	Victor Pleshko	Non Regional	P2	0.22
De Leglise Av	Pembina Hw	Landry St	Non Regional	P2	0.43

<b>TOTAL</b>	<b>50.14</b>
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## APPENDIX C – SOUTH AREA (EAST) PRIORITY III

SOUTH AREA (EAST) PRIORITY III					
Street Name	From Street	To Street	Snow Route	Priority	Lane Kms
Jolibois Pl	Bellemer Dr	End	No	P3	0.07
Delorme By	Delorme Pl	Grandmont Bv	No	P3	0.23
Bellemer Dr	Lafleur Pl	Le Maire St	No	P3	0.40
Bellemer Dr	Parisien Pl	Parisien Pl	No	P3	0.03
Demers Pl	Bellemer Dr	End	No	P3	0.18
Rice Rd	Emory Rd	Dalhousie Dr	No	P3	0.23
Rice Rd	Gillingham Av	Michigan Av	No	P3	0.12
Loyola By	Greyfriars Rd	Greyfriars Rd	No	P3	0.73
Payment St	Leclair Pl	Grandmont Bv	No	P3	0.18
Lafleur Pl	Bellemer Dr	End	No	P3	0.12
La Porte Dr	Dufort Pl	Payment St	No	P3	0.14
Michigan Av	Linacre Rd	Radcliffe Rd	No	P3	0.36
Nuffield Pl	Dalhousie Dr	Dalhousie Dr	No	P3	0.23
Gendreau Av	Dorge Dr	Lestang St	No	P3	0.26
St Gabriel Av	Charette St	St Pierre St	No	P3	0.20
Mount Allison By	Baylor Av	Baylor Av	No	P3	0.74
Sunbury Pl	Rice Rd	End	No	P3	0.25
Michigan Av	Linacre Rd	Millikin Rd	No	P3	0.12
Parisien Pl	Bellemer Dr	Bellemer Dr	No	P3	0.12
Houde Dr	Lestang St	Ducharme Av	No	P3	0.90
Payment St	Payment St	Pirson Cr	No	P3	0.31
Morningside Dr	Chatham Pl	Rochester Av	No	P3	0.36
Minerva Av	Minerva Av	End	No	P3	1.09
Waverley St	Public Rd	End	No	P3	1.73
Public Rd	Waverley St	End	No	P3	0.43
Brady Rd	Des Trappistes St	End	No	P3	0.63
Landry St	Lemay Av	De La Digue Av	No	P3	0.13
Laurent Dr	Grandmont Bv	Laurent Cv	No	P3	0.77
Des Trappistes St	Waverley St	Brady Rd	No	P3	6.56
Lamirande Pl	Champagne Cr	Nolin Av	No	P3	0.13
Lamirande Pl	Grandmont Bv	Champagne Cr	No	P3	0.16
Oberlin Rd	Radcliffe Rd	Vassar Rd	No	P3	0.55
Vassar Rd	Linacre Rd	Linacre Rd	No	P3	0.14
Vassar Rd	Oberlin Rd	Radcliffe Rd	No	P3	0.18
Colindale Cv	Kilkenny Dr	End	No	P3	0.06
Gervais Pl	Bellemer Dr	End	No	P3	0.09
Chabbert Pl	Bellemer Dr	End	No	P3	0.07
Lord Av	Lemay Av	End	No	P3	0.10
Lord Av	St Pierre St	La Grave St	No	P3	0.22
Ramage Pl	Bellemer Dr	End	No	P3	0.08
Linacre Rd	Michigan Av	Radcliffe Rd	No	P3	0.67
Chatham Pl	Morningside Dr	End	No	P3	0.14
Dubois Pl	Champagne Cr	End	No	P3	0.14
Peloquin By	Berard Wy	End	No	P3	0.10
Du Couvent Av	St Pierre St	End	No	P3	0.26
Waverley St	Des Trappistes St	Public Rd	No	P3	4.18
Millikin Rd	Dalhousie Dr	Michigan Av	No	P3	0.48
Payment St	La Porte Dr	Payment St	No	P3	0.19
Grimston Rd	Valence Av	Valence Av	No	P3	0.44

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Burgess Av	Gonville Pl	Rochester Av	No	P3	0.51
Patricia Av	Kings Dr	Leach St	No	P3	0.54
Whitehaven Rd	Kilkenny Dr	Gillingham Av	No	P3	0.19
Longstone Pl	Kilkenny Dr	End	No	P3	0.25
Selwyn Pl	Dalhousie Dr	End	No	P3	0.09
Bonin By	Grandmont Bv	End	No	P3	0.15
Delorme Pl	Delorme By	Grandmont Bv	No	P3	0.20
Bellemer Dr	Grandmont Bv	Ramage Pl	No	P3	0.12
Gosselin By	Berard Wy	End	No	P3	0.10
Nolin Pl	Nolin Av	End	No	P3	0.12
Lafayette By	Greyfriars Rd	Greyfriars Rd	No	P3	0.73
Thornhill By	Rochester Av	Rochester Av	No	P3	0.83
Cross Creek Pl	Grandmont Bv	Grandmont Bv	No	P3	0.15
St Denis Pl	Grandmont Bv	End	No	P3	0.09
McMasters Rd	Mcgill Av	Laval Dr	No	P3	0.10
McMasters Rd	Laval Dr	Silverstone Av	No	P3	0.69
Leeds Av	Newcastle Rd	Dalhousie Dr	No	P3	0.46
Bromley Pl	Dalhousie Dr	End	No	P3	0.20
Prescot Rd	Dalhousie Dr	Ryerson Av	No	P3	0.41
		South Perimeter			
Brady Rd	PTH 100	Service Road S	No	P3	0.09
Payment St	Payment St	End	No	P3	0.05
Laurent Cv	Laurent Dr	End	No	P3	0.06
Mestre Pl	Grandmont Bv	Grandmont Bv	No	P3	0.09
Solomon Pl	Grandmont Bv	End	No	P3	0.06
Julien Pl	Grandmont Bv	End	No	P3	0.08
St Edmunds By	Dalhousie Dr	Dalhousie Dr	No	P3	0.60
Louisiana Pl	Michigan Av	End	No	P3	0.05
Hadley Pl	Gillingham Av	End	No	P3	0.08
Bridgeport Pl	Gillingham Av	End	No	P3	0.05
Darcy Dr	Glengarry Dr	End	No	P3	0.09
Glengarry Dr	Thatcher Dr	Agassiz Dr	No	P3	0.51
Thatcher Dr	Agassiz Dr	Wedgewood Dr	No	P3	0.51
Ryerson Av	Prescot Rd	Rochester Av	No	P3	0.17
Ryerson Av	Miami Pl	Rice Rd	No	P3	0.34
La Grave St	Lemay Av	Lord Av	No	P3	0.37
Charette St	Du Couvent Av	St Gabriel Av	No	P3	0.25
Celtic By	Silverstone Av	Silverstone Av	No	P3	0.63
Emory Rd	Dalhousie Dr	Rice Rd	No	P3	0.39
Greyfriars Rd	Dalhousie Dr	Lafayette By	No	P3	0.33
Baldry By	Cornell Dr	Cornell Dr	No	P3	0.83
Cornell Dr	Baldry By	Baldry By	No	P3	0.17
South Perimeter	South Perimeter				
Service Road S	Service Road S	PTH 100	No	P3	0.09
Valence Av	Morningside Dr	Rochester Av	No	P3	0.34
Snow St	Dartmouth Dr	End	No	P3	0.30
Pasadena Av	Aurora St	Grierson Av	No	P3	0.37
Allegheny Dr	Dalhousie Dr	Bayridge Av	No	P3	0.23
Gonville Pl	Burgess Av	End	No	P3	0.08
Magdalene By	Baylor Av	Baylor Av	No	P3	0.67
Cornell Dr	Baldry By	Linacre Rd	No	P3	0.17
Linacre Rd	Cornell Dr	Vassar Rd	No	P3	0.23
Livingston Pl	Radcliffe Rd	End	No	P3	0.13
			Non		
Allegheny Dr	Dalhousie Dr	Dalhousie Dr	Regional	P3	0.02
Purdue By	Dalhousie Dr	Dalhousie Dr	No	P3	0.84
Temple By	Pasadena Av	Pasadena Av	No	P3	0.68

Landry St	Lemay Av	St Gabriel Av	No	P3	0.22
Villa Maria Pl	Lemay Av	End	No	P3	0.10
Rutgers By	Dalhousie Dr	Dalhousie Dr	No	P3	0.84
St Dunstons By	Dalhousie Dr	Dalhousie Dr	No	P3	0.79
Seier By	Kings Dr	End	No	P3	0.11
Grierson Av	University Cr	Pasadena Av	No	P3	0.98
Townsend Av	Kings Dr	Aurora St	No	P3	0.76
Avila Av	Kings Dr	Leach St	No	P3	0.51
Carrigan Pl	Ulster St	End	No	P3	0.52
Greencrest Av	Ulster St	Pembina Hw	No	P3	0.79
Mapleridge Av	Caledon Rd	End	No	P3	0.26
Caledon Rd	Mapleridge Av	Summerside Av	No	P3	0.21
Wendover Pl	Burgess Av	End	No	P3	0.08
Wedgewood Dr	Agassiz Dr	Thatcher Dr	No	P3	0.48
Champagne Cr	Dubois Pl	Lamirande Pl	No	P3	0.54
Agassiz Dr	Darcy Dr	Thatcher Dr	No	P3	0.20
Laval Dr	Pasadena Av	Mcmasters Rd	No	P3	0.76
Rochester Pl	Rochester Av	End	No	P3	0.05
Gillingham Av	Bridgeport Pl	Rice Rd	No	P3	0.18
Whitehaven Rd	Gillingham Av	Rochester Av	No	P3	0.27
Tunis By	Silverstone Av	Silverstone Av	No	P3	0.80
Parkwood Pl	Kings Dr	The Drive Af	No	P3	0.34
April St	Grierson Av	Pasadena Av	No	P3	0.24
Thatcher Dr	Pembina Hw	University Cr	No	P3	0.77
Grierson Av	Kings Dr	End	No	P3	0.15
Townsend Av	Aurora St	Silverstone Av	No	P3	0.57
Dubois Pl	Berard Wy	End	No	P3	0.20
Dubois Pl	Berard Wy	Champagne Cr	No	P3	0.17
Pasadena Av	Tulane By	Tulane By	No	P3	0.17
Lord Av	Lord Av	Lord Av	No	P3	0.21
Acadia By	Killarney Av	Killarney Av	No	P3	0.96
Greyfriars Rd	Lafayette By	Lafayette By	No	P3	0.17
La Barriere St	Du Couvent Av	St Gabriel Av	No	P3	0.07
Briar Cliff By	Killarney Av	Killarney Av	No	P3	0.93
Tulane By	Pasadena Av	Pasadena Av	No	P3	0.68
St Pierre St	St Therese Av	End	No	P3	0.72
La Barriere St	De Leglise Av	St Therese Av	No	P3	0.24
Verrier Pl	Grandmont Bv	End	No	P3	0.05
Pasadena Av	Temple By	Tulane By	No	P3	0.17
Du Couvent Av	La Barriere St	Charette St	No	P3	0.34
Nolin Av	Lamirande Pl	Nolin Pl	No	P3	0.18
Pasadena Av	Temple By	Temple By	No	P3	0.17
Bayridge Av	Allegheny Dr	Ulster St	No	P3	0.41
			Non		
Ulster St	Dalhousie Dr	Dalhousie Dr	Regional	P3	0.02
Landry St	De Leglise Av	St Gabriel Av	No	P3	0.11
Bibeaudel Pl	Grandmont Bv	End	No	P3	0.07
Greyfriars Rd	Killarney Av	Loyola By	No	P3	0.23
Leclair Pl	Payment St	End	No	P3	0.06
Laurent Pl	Grandmont Bv	End	No	P3	0.09
St Pierre St	St Pierre St	St Pierre St	No	P3	0.14
Prestwood Pl	Kilkenny Dr	End	No	P3	0.26
Ulster St	Bayridge Av	Dalhousie Dr	No	P3	0.22
St Therese Av	La Barriere St	St Pierre St	No	P3	0.62
Nolin Av	Grandmont Bv	Nolin Pl	No	P3	0.28
Valence Av	Grimston Rd	Morningside Dr	No	P3	0.17
Thatcher Dr	Glengarry Dr	End	No	P3	0.09

Glengarry Dr	Thatcher Dr	Darcy Dr	No	P3	0.20
Houde Dr	Ducharme Av	Ducharme Av	No	P3	0.99
Berard Wy	Peloquin By	Dubois Pl	No	P3	0.20
Linacre Rd	Cornell Dr	Radcliffe Rd	No	P3	0.69
Cornell Dr	Baldry By	Silverstone Av	No	P3	0.51
Greyfriars Rd	Loyola By	Loyola By	No	P3	0.17
Fordham By	Cornell Dr	Cornell Dr	No	P3	0.75
Macalester By	Silverstone Av	Silverstone Av	No	P3	0.82
Agassiz Dr	Glengarry Dr	End	No	P3	0.08
Linacre Rd	Vassar Rd	Vassar Rd	No	P3	0.04
Bellemer Dr	Chabbert Pl	Demers Pl	No	P3	0.30
Delorme By	Delorme Pl	Grandmont Bv	No	P3	0.37
Le Maire St	Gendreau Av	Ducharme Av	No	P3	0.67
Darcy Dr	Agassiz Dr	End	No	P3	0.18
Pasadena Av	Laval Dr	Temple By	No	P3	0.17
Grierson Av	April St	University Cr	No	P3	0.17
Payment St	Pirson Cr	Leclair Pl	No	P3	0.16
Rice Rd	Michigan Av	Ryerson Av	No	P3	0.08
Laurent Dr	Grandmont Bv	Laurent Cv	No	P3	0.49
Dufort Pl	La Porte Dr	End	No	P3	0.08
McGill Av	McMasters Rd	Silverstone Av	No	P3	0.50
Gendreau Av	Dorge Dr	Villeneuve Bv	No	P3	0.20
Bellemer Dr	Lafleur Pl	Parisien Pl	No	P3	0.06
Rice Rd	Kilkenny Dr	Sunbury Pl	No	P3	0.18
Grierson Av	April St	Kings Dr	No	P3	0.34
Rice Rd	Gillingham Av	Sunbury Pl	No	P3	0.08
Perreault Av	Pembina Hw	End	No	P3	0.77
Landry St	De La Digue Av	End	No	P3	0.02
Agassiz Dr	Glengarry Dr	Wedgewood Dr	No	P3	0.19
Caledon Rd	Killarney Av	Summerside Av	No	P3	0.25
Rice Rd	Emory Rd	Ryerson Av	No	P3	0.17
Patricia Av	Leach St	Kilkenny Dr	No	P3	0.95
St Gabriel Av	La Barriere St	Landry St	No	P3	0.35
St Gabriel Av	Charette St	La Barriere St	No	P3	0.40
Du Couvent Av	Charette St	St Pierre St	No	P3	0.20
Summerside Av	Caledon Rd	End	No	P3	0.37
Ulster St	Allegheny Dr	Carrigan Pl	No	P3	0.21
Bellemer Dr	Gervais Pl	Chabbert Pl	No	P3	0.15
Lamirande Pl	Nolin Av	End	No	P3	0.12
Lestang St	Gendreau Av	Houde Dr	No	P3	0.18
La Barriere St	Lemay Av	St Gabriel Av	No	P3	0.23
Lord Av	La Grave St	Lord Av	No	P3	0.15
Lemay Av	Lord Av	Villa Maria Pl	No	P3	0.16
Minerva Av	Pembina Hw	Minerva Av	No	P3	0.14
Burgess Av	Wendover Pl	Kilkenny Dr	No	P3	0.24
Burgess Av	Gonville Pl	Wendover Pl	No	P3	0.19
Gillingham Av	Hadley Pl	Whitehaven Rd	No	P3	0.16
Pasadena Av	Grierson Av	Tulane By	No	P3	0.18
Vassar Rd	Linacre Rd	Oberlin Rd	No	P3	0.16
Tamworth By	Silverstone Av	Silverstone Av	No	P3	0.63
		Ruines Du			
Des Trappistes St	Du Monastere St	Monastere St	No	P3	0.27
Valence Av	Grimston Rd	Grimston Rd	No	P3	0.44
Berard Wy	Grandmont Bv	Gosselin By	No	P3	0.19
La Barriere St	De Leglise Av	Du Couvent Av	No	P3	0.20
Lemay Av	La Grave St	Villa Maria Pl	No	P3	0.22
Lemay Av	La Grave St	St Pierre St	No	P3	0.18



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Darcy Dr	Agassiz Dr	Glengarry Dr	No	P3	0.74
Des Trappistes St	Du Monastere St	Villeneuve Bv	No	P3	1.11
Valence Av	Grimston Rd	Rochester Av	No	P3	0.17
Pembina Hw	Pembina Hw	End	No	P3	0.64
Minerva Av	Minerva Av	End	No	P3	0.37
Michigan Av	Louisiana Pl	Rice Rd	No	P3	0.18
Michigan Av	Louisiana Pl	Millikin Rd	No	P3	0.19
Ryerson Av	Prescot Rd	Dalhousie Dr	No	P3	0.67
Thatcher Dr	University Cr	Agassiz Dr	No	P3	0.54
Morningside Dr	Chatham Pl	Valence Av	No	P3	0.50
Des Trappistes St	Waverley St	Ruines Du Monastere St	No	P3	2.63
Ruines Du Monastere St	Des Trappistes St	End	No	P3	1.50
Ulster St	Greencrest Av	Mapleridge Av	No	P3	0.19
Wadham By	Dalhousie Dr	Dalhousie Dr	No	P3	0.79
Newcastle Rd	Dalhousie Dr	Leeds Av	No	P3	0.78
La Porte Dr	Le Maire St	Dufort Pl	No	P3	0.20
Berard Wy	Peloquin By	Gosselin By	No	P3	0.19
Bellemer Dr	Demers Pl	Ramage Pl	No	P3	0.10
Lord Av	Lord Av	End	No	P3	0.15
Gillingham Av	Bridgeport Pl	Hadley Pl	No	P3	0.25
Greyfriars Rd	Lafayette By	Loyola By	No	P3	0.17
Petersfield Pl	Rochester Av	End	No	P3	0.26
Bryn Mawr Rd	Baylor Av	Dalhousie Dr	No	P3	1.00
Leeds Av	Baylor Av	Newcastle Rd	No	P3	0.48
Thatcher Dr	Glengarry Dr	Wedgewood Dr	No	P3	0.17
Laval Dr	Pasadena Av	Silverstone Av	No	P3	0.44
Ulster St	Dalhousie Dr	Carrigan Pl	No	P3	0.22
Miami Pl	Ryerson Av	End	No	P3	0.07
Mapleridge Av	Caledon Rd	Ulster St	No	P3	0.51
Waverley St	Des Trappistes St	Grandmont Bv	No	P3	2.78
Brady Road Landfill Access	Brady Rd	Lanfill	No	P3	0.22
Brady Rd	Brady Road Landfill Access	South Perimeter Service Road S	No	P3	3.10
Bayridge Av	Ulster St	End	No	P3	0.25
Pirson Cr	Grandmont Bv	Payment St	No	P3	0.54
Brady Rd	Des Trappistes St	Brady Road Landfill Access	No	P3	3.68
Public Rd	Waverley St	End	No	P3	0.79
McGill Pl	McMasters Rd	End	No	P3	0.33
Bellemer Dr	Gervais Pl	Parisien Pl	No	P3	0.08
Ryerson Av	Rochester Av	Miami Pl	No	P3	0.17
Stormont Dr	Cloutier Dr	End	No	P3	0.47
Father Labonte Av	Pembina Hw	End	No	P3	0.16
Station Rd	Pembina Hw	End	No	P3	0.13
Dorge Dr	Gendreau Av	Gendreau Av	No	P3	1.02
Gendreau Av	Dorge Dr	Lestang St	No	P3	0.44
Du Monastere St	Des Trappistes St	End	No	P3	0.33
St Pierre St	De Leglise Av	St Therese Av	No	P3	0.28
Lord Av	Lemay Av	Lord Av	No	P3	0.45
Allegheny Dr	Ulster St	Dalhousie Dr	No	P3	0.82
South Perimeter Service Road S	South Perimeter Service Road S	Brady Rd	No	P3	3.24
South Perimeter Service Road S	Waverley St	South Perimeter Service Road S	No	P3	2.64

Bayridge Av	Allegheny Dr	End	No	P3	0.34
MacBell Rd	Cloutier Dr	End	No	P3	0.26
La Porte Dr	Payment St	La Porte Pl	No	P3	0.14
La Porte Pl	La Porte Pl	La Porte Pl	No	P3	0.24
Victor Pleshko Pl	Cloutier Dr	End	No	P3	0.13
				<b>TOTAL</b>	<b>116.45</b>

## APPENDIX D

### Snowfall - October 1 to April 30

<u>Year</u>	<u>Centimetres</u>
1968-1969	95.20
1969-1970	159.00
1970-1971	123.40
1971-1972	106.70
1972-1973	81.00
1973-1974	130.80
1974-1975	125.20
1975-1976	136.20
1976-1977	64.40
1977-1978	73.10
1978-1979	148.60
1979-1980	108.00
1980-1981	72.50
1981-1982	77.20
1982-1983	77.40
1983-1984	56.30
1984-1985	93.20
1985-1986	124.20
1986-1987	120.20
1987-1988	65.40
1988-1989	153.60
1989-1990	96.40
1990-1991	120.50
1991-1992	133.00
1992-1993	111.60
1993-1994	82.00
1994-1995	88.60
1995-1996	202.50
1996-1997	211.40
1997-1998	104.10
1998-1999	144.70
1999-2000	71.40
2000-2001	109.70
2001-2002	105.40
2002-2003	90.90
2003-2004	149.80
2004-2005	136.60
2005-2006	151.20
2006-2007	135.60
2007-2008	111.90
2008-2009	129.20
2009-2010	81.60
2010-2011	149.10