

PART E
SPECIFICATIONS

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available in Adobe Acrobat (.pdf) format on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet Site at <http://www.winnipeg.ca/matmgt>.

E1.1.2 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing</u>	<u>City Dwg. No.</u>	<u>File Name and Size</u>
1 of 7	2004 Watermain Renewal & Storm Relief – Main Street (Westside) Sta. 1 + 00 to 2 + 00	D-8467	139-2004 – Drawing D-8467_R0.pdf
2 of 7	2004 Watermain Renewal & Storm Relief – Main Street (Westside) Sta. 2 + 00 to 3 + 25	D-8468	139-2004 – Drawing D-8468_R0.pdf
3 of 7	2004 Watermain Renewal & Storm Relief – Main Street (Westside) Sta. 3 + 25 to 4 + 55	D-8469	139-2004 – Drawing D-8469_R0.pdf
4 of 7	2004 Watermain Renewal & Storm Relief – Main Street (Westside) Sta. 4 + 55 to 5 + 90	D-8470	139-2004 – Drawing D-8470_R0.pdf
5 of 7	2004 Watermain Renewal & Storm Relief – Main Street (Westside) Sta. 5 + 90 to 7 + 30	D-8471	139-2004 – Drawing D-8471_R0.pdf
6 of 7	2004 Watermain Renewal & Storm Relief – Main Street (Westside) Sta. 7 + 30 to Disraeli Freeway	D-8472	139-2004 – Drawing D-8472_R0.pdf
7 of 7	Lombard Ave. 300 Combined Sewer Renewal Sta. 1 + 01 to Sta. 1 + 37.2	D-8472A	139-2004 – Drawing D-8472A_R0.pdf

E2. HERITAGE HYDRANTS

E2.1 Further to CW 2110, this contract will require the installation of a Heritage style of Hydrant. The style of hydrant required will be a Clow McAvity Heritage Brigadier – Heritage M59M.

E2.2 Prior to construction the Contractor shall submit a product specification sheet to the Contract Administrator for approval.

E3. WATERMAIN ENCASEMENT PIPE

E3.1 Further to CW 2110, the Contractor shall install the proposed 300mm watermain under the pedestrian tunnel as shown on Drawing D-8470 in a Steel Pipe encasement pipe.

E3.2 The encasement pipe shall be SCH 40 Steel Pipe.

E3.3 The final length of encasement pipe shall be determined by the Contract Administrator to ensure that the existing tunnel structure and related utilities located within the right-of-way are not disturbed or damaged.

E3.4 All costs associated with the installation of the 450mm Steel encasement pipe including the auger hole, the 300mm PVC watermain pipe and the installation of the PVC or polyester

fibreglass casing spacers shall included in the unit price for "Watermain Renewal 0 300mm in a casing pipe (450mm Steel Encasement Pipe)" installed as per manufacturer's specifications.

E4. TESTING OF WATERMAINS – IN SECTIONS

- E4.1 The Contractor shall test and disinfect the watermain on a block by block basis or as directed by the Contract Administrator.
- E4.2 Any costs associated with additional testing requirements are incidental to the Contract and should be included in the unit price bid for the various "Watermain Renewals".

E5. CONSTRUCTION OF WATERMAIN OVER 1200MM AQUEDUCT

- E5.1 The original 1200mm Aqueduct that crosses Main Street at Pacific Avenue was constructed with wood shoring on both sides of the pipe. This shoring was in all likelihood never removed after construction.
- E5.2 The depth of the shoring sometimes is just below the surface. For this reason the shoring cannot be pulled out or broken off as this may damage the Aqueduct.
- E5.3 Therefore, the Contractor will have to carefully expose the shoring on each side or determine that the invert of the proposed 300 watermain pipe or the bottom or the subcut is above the shoring.
- E5.4 Once the shoring has been exposed, the Contractor shall cut the shoring to the required elevation for the pipe or road cut to proceed. There will be no extra payment for this and thus any extra costs should be included in the various watermain renewal or road construction items.

E6. ARCHAEOLOGICAL INVESTIGATION

- E6.1 The Contractor shall provide the Contract Administrator with a minimum of seventy-two (72) hours notice of the commencement of any excavation to allow the Contract Administrator to notify the Project Archaeological Consultant as required under the Environmental Requirements.
- E6.2 If heritage material is located during the construction and soil removal process, all Work shall cease and the Contractor shall immediately contact the Contract Administrator. This Historic Resources Branch, Manitoba Culture, Heritage and Citizenship, or the Project Archaeologist, shall be contacted by the Contract Administrator to determine the nature and extent of the archaeological material to arrange for its recovery in accordance with the Environmental License No. 1412. The archaeological remains shall be recovered by salvage excavation upon authorization by the Contract Administrator, having consulted with the Historic Resources Branch, Manitoba Department Culture, Heritage and Citizenship.
- E6.3 The Contractor shall be prepared to continue his Work elsewhere on the project while the Archaeologist investigates the finding and determines its heritage value.
- E6.4 The Contractor is advised that he may be denied access to such areas of the project until such time as a thorough archaeological investigation is conducted or the final is deemed to have no heritage value.
- E6.5 Construction and excavation Work shall not resume until the Contract Administrator, having consulted with the Historic Resources Branch, Manitoba Culture, Heritage and Citizenship, or the project archaeologist authorizes a resumption of Work.

E7. TEMPORARY PAVEMENT AND SIDEWALK RESTORATION

- E7.1 Following completion of the watermain renewals, the Contractor shall restore all shafts located in the sidewalk or pavement, within the limits of the contract, with the use of asphalt. The pavement shall be restored with a 100mm thick asphalt cap and the sidewalk with a 50mm asphalt cap.
- E7.2 These repairs shall be maintained by the Contractor at his expense until permanent repairs are completed in the road reconstruction part of the contract.

E8. EXPOSING EXISTING UNDERGROUND SERVICES AND UTILITIES

- E8.1 Further to CW 1120, the exact location and depth of some of the existing underground services and utilities within the project limits are unknown.
- E8.2 Therefore, the Contractor shall supply all labour, equipment and materials required to expose all underground services and/or utilities sufficiently far enough in advance of the proposed Works to permit the Contract Administrator where necessary, to adjust the alignment and grade to avoid existing lines and ducts.
- E8.3 All costs in connection with this item of Work shall be included in the unit price bid for the various bid items.

E9. OFFICE FACILITIES

- E9.1 The Contractor shall supply office facilities meeting the following requirements:
- (a) The field office shall be for the exclusive use of the Contract Administrator.
 - (b) The building shall be conveniently located near the Site of Work.
 - (c) The building shall have a minimum floor area of 25 square metres, a height of 2.4m with 2 windows for cross ventilation and a door entrance with a suitable lock.
 - (d) The building shall be suitable for all weather use. It shall be equipped with an electric heater and air conditioner so that the room temperature can be maintained between 16-18°C and 24/25°C.
 - (e) The building shall be adequately lighted with fluorescent fixtures and have a minimum of three wall outlets.
 - (f) The building shall be furnished with two desks, one drafting table, table 3m x 1.2m, one stool, one four drawer legal size filing cabinet and a minimum of 8 chairs.
 - (g) A portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City.
 - (h) The field office building and the portable toilet shall be cleaned on a weekly basis immediately prior to each Site meeting. The Contract Administrator may request additional cleaning when he deems it necessary.
- E9.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.
- E9.3 The office facilities will be provided from the date of the commencement of the Work to the date the Contract is completed.
- E9.4 Mobile structures provided and used by the Contractor shall be stabilized in a sufficient manner to prevent the structure from being overturned by wind forces as defined by the National Building Code. The stabilization methods shall be designed by a Professional Engineer

registered in the Province of Manitoba experienced in this type of design. Detailed drawings and design notes for the stabilization Works bearing the Engineer's seal shall be provided to the Contract Administrator upon request.

- E9.5 Costs associated with providing office facilities for the Contract Administrator's use will be included with the installation of the watermain renewal and will not be measured for separate payment.

E10. PROTECTION OF EXISTING TREES

- E10.1 The Contractor shall take the following precautionary steps to avoid damage from his construction activities to existing boulevard trees within and adjacent to the limits of construction:
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 meters of trees.
 - (b) Mature tree trucks shall be strapped with 25 x 100 x 24000mm (1" x 6" x 8") wood planks. Smaller trees shall be similarly protected using appropriately sized wood planks.
 - (i) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Roots over 50mm in diameter which must be cut to facilitate an excavation shall be neatly pruned with a saw prior to excavation and coated with an appropriate wound dressing to prevent infection.
 - (ii) Work on-Site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.
 - (c) American Elm trees are not to be pruned between April 1st and August 1st and Siberian Elm trees between April 1st and July 1st of any year under provisions of The Dutch Elm Disease Act.
- E10.2 All damages to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the City of Winnipeg, Parks and Recreation Department, Forestry Branch.
- E10.3 No separate measurement or payment will be made for protection of trees. It shall be considered incidental to the Contract Work.

E11. PEDESTRIAN SAFETY

- E11.1 During the project, a temporary snow fence shall be installed around any construction area. The Contractor shall be responsible for maintaining the snow fence in a proper Working condition. No measurement for payment shall be made for this Work.

E12. ALEXANDER 300MM WATERMAIN (EAST-WEST) INTERCONNECTION

- E12.1 Due to water distribution system requirements, the Contractor will be required to minimize the shutdown times of the Alexander 300mm Watermain Interconnection located at Sta. 8 + 00. To this end, the Contractor shall plan his/her operation that only a final reconnection to the existing watermain system is performed at this location.

E13. ALLSTREAM MANHOLES

- E13.1 The Contractor shall be required to coordinate with Allstream on the abandonment of several Allstream manholes which are blocking the alignment of the proposed watermain and land drainage sewer at certain locations.

E13.2 The Allstream manholes shall be abandoned by removing the concrete roof and concrete walls to a point 300mm below the 300 watermain invert.

E14. LOMBARD AVE. AND EAST SIDE MAIN STREET RESTORATION

E14.1 The Contractor will be required to permanently restore all excavations on the east side of Main Street and on Lombard Avenue.

E14.2

- (i) For the excavations at the various catchbasin locations on east side Main Street a Class 1 Backfill will be required.
- (ii) For the excavation at the Lombard Avenue 300 mm Combined Sewer Renewal a Class 2 backfill will be required up to the bottom limit of the original 2001 Main Street Pavement Reconstruction Pavement Structure.

Above this elevation the following pavement structure will be required:

1. 600mm of 150mm Crushed Rock
2. 300mm of 50mm Crushed Rock
3. 75mm of Granular Base Course
4. 250mm Reinforced Portland Cement Concrete

- (iii) For all pavement restorations on the east side of Main Street 24-hour (early opening) Portland Cement Concrete shall be used.

E14.3 The abandonment of the Allstream manholes will be measurement on a lump sum basis and paid as "Abandonment of existing Allstream Manholes".