

97-2007 ADDENDUM 1

WINNIPEG WATER TREATMENT PROGRAM – CONSTRUCTION OF ROADS AND LANDSCAPING

URGENT

**PLEASE FORWARD THIS DOCUMENT TO
WHOEVER IS IN POSSESSION OF THE BID
OPPORTUNITY**

ISSUED: December 6, 2007
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**THIS ADDENDUM SHALL BE INCORPORATED
INTO THE BID OPPORTUNITY AND SHALL
FORM A PART OF THE CONTRACT
DOCUMENTS**

Template Version: A20070419

Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Bid Opportunity, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 10 of Form A: Bid may render your Bid non-responsive.

PART D – SUPPLEMENTAL CONDITIONS

Revise: D2.2(d) to read Removal of the west access to the site including excavation and disposal of the temporary access at the railway lines to the chemical feed building and the chlorine feed station, removal and disposal of the culverts and removal of the gate and replacement with fencing to match existing, work to be completed in 2009.

PART E – SPECIFICATIONS

The following clauses E14 to E20 have been added:

AQUEDUCT BRIDGES

E14. GENERAL

- E14.1 All three Aqueduct Bridges have been constructed. Anchors have been installed for the placement of guardrail. The Contractor shall supply and install all material related to bridge guardrail and approach guardrail as indicated on the Drawings.
- E14.2 Grading and extension of pavement structure adjacent to the aqueduct bridges, as indicated on the guardrail drawings, shall be considered part of the work for installing the guardrails. The earth, sub-base, base, and asphaltic concrete used in this operation shall be paid for at contract unit prices.
- E14.3 According to the Drawings, field offices are presently in the location of the segment of roadway that lies south of the western bridge. Upon removal of these field offices (by others), the Contractor shall proceed to construct this portion of roadway. The geometry of this roadway is indicated on the Drawings.

E15. MISCELLANEOUS METAL

- E15.1 Notwithstanding Specifications 1062 M, "Specifications for Placing Miscellaneous Metal" and Specifications 1064 M "Specifications for Placing Steel Beam Guard Railing", the Contractor shall add the following:
- (i) The Contractor shall supply all material, labour, plant and equipment required to complete the work as hereinafter specified and as shown on the Drawings including but not necessarily confined to the following:
 - (a) Supply and installation of bridge railing and rail posts
 - (b) Supply and installation of bridge railing rail post washers
 - (c) Supply and installation of edge screed angle

E15.2 Materials

- (i) All miscellaneous metal shall be new structural carbon steel and conform to CSA G40.20 and G40.21 grade 300 W.
- (ii) High strength bolts shall be ASTM A325M including suitable nuts and plain hardened washers.
- (iii) All miscellaneous metal shall be hot dip galvanized in accordance with CSA Standard G164 after fabrication.
- (iv) All metal surfaces to be galvanized shall be cleaned thoroughly of rust, rust scale, mill scale, dirt, paint and other foreign material by commercial sand, grit or shop blasting or pickling prior to galvanizing. Heavy deposits of oil and grease shall be removed with solvents prior to blasting or pickling.

E15.3 Construction Methods

- (i) All miscellaneous metal shall be fabricated in strict accordance with the Drawings. Work shall be straight and true to curve or radius, shape and size. Exposed ends and edges of metal shall be made smooth.
- (ii) All miscellaneous metal shall be galvanized after fabrication.
- (iii) Miscellaneous metal must be handled in a careful and workmanlike manner and must be stored on build-up platforms in such a manner as to protect the finish.
- (iv) Miscellaneous metal shall be installed and fastened as shown on the drawings.
- (v) High tensile bolts shall be tightened to provide the following minimum bolt tension:

<u>Bolt Size</u>	<u>Minimum Bolt Tension</u>
M 16 mm diameter	85 KN
M 20 mm diameter	125 KN
M 22 mm diameter	174 KN

- (vi) At no time shall the bolt tension be in excess of the required minimum bolt tension given above by more than 15%.
- (vii) Unless otherwise specified, bolts shall be tightened by the turn-of-the-nut method. Where necessary the bolt may be turned while the nut is prevented from rotating.
- (viii) The turn-of-the-nut method is as follows. First a sufficient number of bolts shall be brought to a "snug-tight" condition to ensure that the parts of the joint are brought into full contact with each other. "Snug-tight" shall be defined as the tightness attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench. Following this initial step, bolts shall be placed in all remaining holes and brought to snug-tightness. After all bolts are snug-tight, each bolt in the connection shall then be further tightened by a rotation of one-half turn with tightening progressing systematically from the most rigid part of the joint to its free edges. During this operation there shall be no rotation of the part not turned by the wrench. If this is not practical, the bolt and nut shall be match-marked to enable the amount of relative rotation to be determined.
- (ix) All steel work shall be accurately set and secured in place. The use of iron sledges in driving or hammering steel members into position will not be permitted. Failure of the material to fit properly shall be reported to the Contract Administrator before any corrective measures are taken.
- (x) All welding shall conform to the requirements of CSA Standard W59 and AWS D1.1, and shall be made by an approved fabricator to the requirements of CSA Standard W47-1.

E15.4 Method of Measurement

- (i) The supply and installation of miscellaneous metal will be paid for on a lump sum basis and no measurement will be taken of this work.

E15.5 Basis of Payment

- (i) The supply and installation of miscellaneous metal will be paid for at the Contract Lump Sum Price for "Supplying and Installing Guardrail" measured as specified herein which price shall be payment in full for

performing all operations herein described and all other items incidental to the work included in this Specification.

E16. SUPPLY AND INSTALLATION OF APPROACH GUARDRAIL

- (i) This Special Provision shall cover all operations related to the supply and installation of approach guardrail. The work will consist of supplying materials, field drilling, threading and cutting any bolts as may be required, installing the necessary posts and erecting approach guardrail and end treatment.
- (ii) The Contractor shall supply and install all materials necessary for the approach guardrail and end treatment as shown on the Drawings.

E16.1 Supply of Materials

- (i) The approach guardrail components, Thrie beam to W-shape transition guard rail, and modified eccentric loader breakaway cable terminal (MELBCT) end treatment complete with miscellaneous hardware shall be supplied by the Contractor. Nails and spikes shall conform to CSA B111 and shall be supplied and installed by the Contractor.

E16.2 Handling and Storage of Materials

- (i) The Contractor shall be responsible for storing the approach guardrail and MELBCT end treatment components including supplying all necessary equipment.
- (ii) All approach guardrail and end treatment components shall be handled in a careful and workmanlike manner. The components shall be stored on timber blocks or built up platforms. Smaller sized components such as fasteners and miscellaneous hardware shall be stored separately in suitable bins.

E16.3 Construction Methods

- (i) The guardrail shall be erected in accordance with Specification No. 1064 M, "Specification for Placing Steel Beam Guard railing" and the Drawings with the following additions:
- (ii) References to Steel Beam Rail sections in the Specifications shall be interpreted as guard rail sections as indicated in the Drawings and Tender.
- (iii) Rail sections and ends shall be erected to a true alignment. Posts are to be installed vertically. Maximum allowable tolerance is ± 5 mm in any direction. Dimensional tolerance not shown or implied are intended to be those consistent with the proper function of the part including its appearances and accepted manufacturing practice.

E16.4 Installation of Guardrail Posts

- (i) The Contractor shall install wooden guardrail posts in the locations set out by the Contract Administrator. The posts shall be installed to leave the necessary length above ground level as shown on the Drawings.
- (ii) The Contractor shall drill a suitable hole in the ground, place the guardrail posts, backfill around the posts, and compact the backfill material to the satisfaction of the Contract Administrator. Where necessary, the Contractor will satisfactorily cut a hole in the pavement surface prior to drilling a hole to accommodate the post.
- (iii) Drill material may be used for backfill around posts provided it is deemed suitable by the Contract Administrator. In the event that the drill material is deemed unsuitable, the Contractor shall use granular backfill as backfill material. Payment for the use of granular backfill as backfill material will be at the Contract Unit Price per cubic metre for Traffic Gravel Class "D" Modified.
- (iv) Backfill material shall be placed and hand tamped around the guardrail posts in such a manner that the posts remain vertical.

E16.5 Placing Steel Beam Railing

- (i) Steel beam rail sections and flared ends shall be erected to an alignment as shown on the drawings and verified by the Contract Administrator.
- (ii) The railing shall be secured to the rail posts with steel beam bolts, nuts and malleable washers. All bolts shall be tightened with standard steel beam nuts. Maximum tolerance in any direction shall be + 5 mm.

- (iii) Lap joints in the railing shall be bolted securely by means of splice bolts and nuts. The outside laps shall overlap the next section in the direction of the traffic flow on both sides of the bridge.

E16.6 Threading and Cutting Bolts

- (i) All bolts specified in the Bill of Miscellaneous Metals on the drawings will be supplied by the Contractor.
- (ii) Bolts for the lap joints in the railing are ready for use as specified, but the bolts connecting the steel beam to the rail posts are sometimes extra long and such bolts shall be given extra thread in the field in order to make a positive connection. The projecting lengths of the steel beam bolts shall be cut off in the field approximately 5 mm from the tightened nut.
- (iii) The Contractor shall not use packing washers in lieu of threading and cutting the bolts.

E16.7 Guardrail Connection to Bridge

- (i) The Contractor shall attach the Thrie beam guardrail to the bridge structure according to the details as shown on the Drawings.

E16.8 MELBCT Installation

- (i) The MELBCT end terminal shall be assembled and installed in accordance with the details shown on the Drawings.

E16.9 Cleaning

- (i) Steel beam sections and flared ends shall be cleaned by the Contractor after placing.

E16.10 Method of Measurement

- (i) The supply and installation of the approach guard railing consisting of the connection between the guard rail to the bridge, the W-beam, the Thrie beam, the transition between the W-beam and Thrie beam, and the installation of the MELBCT end terminals as shown on the Contract drawings will be paid for on a lump sum basis. No measurements will be made for this work.

E16.11 Basis of Payment

- (i) The supply and installation of the approach guard rail will be paid for at the Contract Lump Sum Price for the "Supplying and Installing Approach Guardrail", measured as specified herein, which price will be payment in full for performing all operations herein described and all other items incidental to the work included in this Special Provision.

E17. CLEANOUT OF MANHOLES AND CATCHBASINS

E17.1 Further to CW 3210-R7, the Contractor will be required to clean out all existing and newly installed manholes or catchbasins within each construction limit, prior to opening of the roads to traffic.

E17.2 Cleanout will involve the removal and disposal off-site of all debris from the barrel and base of the manhole or catchbasin, including any debris that existed prior to the commencement of construction, to the satisfaction of the contract Administrator.

E17.3 Costs associated with the cleaning of manholes and catchbasins will be considered incidental to the works in the Contract, and no additional payment will be made for the work.

E18. QUALITY CONTROL OF MATERIALS

E18.1 All materials supplied under this Specification shall be subject to random inspection and testing by the Contract Administrator or by the certified testing laboratory designated by the Contract Administrator. There will be no charge for materials taken by the Contract Administrator for testing purposes.

E18.2 The Contract Administrator shall review all materials before any construction is undertaken. If, in the opinion of the Contract Administrator such materials, in whole or part, do not conform to the Specification detailed herein or are found to be defective in manufacture or have become damaged in transit, storage or handling operations, then such materials shall be rejected by the Contract Administrator and replaced by the Contractor at his own expense.

- E18.3 The Contractor shall allow the Contract Administrator unhindered access to the materials and shall assist the Contract Administrator in carrying out any sampling, testing or inspection, including but not limited to the provision for necessary traffic control, suitable access and storage.
- E18.4 The Contractor shall reinstate pavement layers or other structures to prior condition at the position that samples have been taken.

E19. SUPPLY OF TIE BARS

- E19.1 The Contractor shall supply tie bars in accordance with City of Winnipeg Specification CW 3230. These 1200 mm long 15 M tie bars shall be submitted to the Contract Administrator upon award of Contract. The tie bars will be cast into the doorway concrete slabs. All work related to the installation of these tie bars will be performed by others.
- E19.2 Each tie bar supplied will be measured and paid for at the Contract Unit Price for "Supply of Tie Bars - 15M Deformed Tie Bar (1200 mm long)".

E20. INSULATION FOR CELL 3 OUTLET PIPE

- E20.1 The Cell 3 Outlet Pipe shall be insulated throughout the area of the Water Treatment Plant parking lot.
- E20.2 The Contractor shall supply and install all sand and insulation in accordance with the Drawings.
- E20.3 Costs associated with supplying and installing the insulation and aggregate will be considered incidental to the works in the Contract, and no additional payment will be made for the work. Excavation and subbase course aggregate will be paid at the contract unit prices.

**Consultant
Drawing No.**

City Drawing No.

Title

CM-G002

ACCESS ROAD LAYOUT