Corporate Finance Department
Materials Management Division

554-2013 ADDENDUM 1

PANET ROAD/MOLSON STREET RECONSTRUCTION AND TWINNING – MUNROE AVENUE TO KIMBERLY AVENUE – PART 1: UNDERGROUND WORKS, PART 2: SURFACE WORKS

ISSUED: January 8, 2014
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URGENT

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

THIS ADDENDUM SHALL BE INCORPORATED INTO THE BID OPPORTUNITY AND SHALL FORM A PART OF THE CONTRACT DOCUMENTS

Template Version: A20131129

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 A – BID SUBMISSION

Replace: 554-2013 Bid Submission with 554-2013 Addendum 1 - Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission:

Form B(R1): Revised "Part" Titles and Added Item No. A.29 – Air Release Chamber

Replace: 554-2013_Form_B-Excel with 554-2013_Form_B-Excel (R1)

PART E – SPECIFICATIONS

Add: E29.4.3 (c)(vi): If the feedermain is exposed during freezing temperatures the Contractor shall ensure the pipe and existing pipe bedding is protected from freezing. The existing pipe bedding and foundation shall not be allowed to freeze. No construction or backfilling shall be undertaken on frozen soils. The feedermain and appurtenances shall be protected from freezing temperatures.

Add: E29.4.3 (i): Replacement of the Manual Air Release Valves

(i) There is one (1) existing manual air release valve within this Contract boundary (Plan Station 0+513.6). These valves have very little tolerance to accommodate movement without damaging their connection to the feedermain and shall be replaced with a manual air blow off valve and manhole as noted on the Construction Drawings. The air release valve shall be replaced prior to undertaking any road construction within 20 m of the existing air release valve. A temporary Feedermain shutdown is required to facilitate construction of the air release valve manhole.

(ii) During the installation of the Manual Air Valves and prior to any construction of the roadway, the integrity of the pipeline physical condition should be confirmed as the condition of the feedermain is integral to this analysis and our recommendations. The exterior of the pipeline should be visually confirmed to be sound and free of any deterioration related defects (e.g. no cracking, no softened mortar, no staining, etc.). The location and elevation should be noted and compared to records.

Add: E32: FEEDERMAIN AIR RELEASE CHAMBER

E32.1 Description

(a) The Specification shall cover the construction of the feedermain air release chamber.

E32.2 Materials

E32.2.1 Manhole Materials

(i) All manhole materials shall conform to CW 2130.

(j) Flat Top Reducers

(i) Flat top reducers shall be capable of supporting an AASHTO HS20 live load with no soil cover.

(k) Submittals

(i) Submit shop drawings in accordance with CW 1110.

(ii) Shop drawings shall contain the following:

- All dimensions
- Concrete compressive strengths
- Steel reinforcing bar and wire sizes, shapes, spacing, and applicable specifications
- Applicable standards for all components

(iii) All shop drawings shall be stamped by a Professional Engineer registered in the Province of Manitoba.

E32.2.2 Concrete and Reinforcement

(i) All concrete works shall conform to CW 2160 unless otherwise stated on the Drawings.

E32.2.3 Drain Piping

(i) PVC solid wall drain pipe and fittings shall conform to CSA B182.1 and B182.2.

(j) Drain piping within the chamber shall utilize a solvent weld joint type.

(k) Drain piping outside of the chamber shall conform to CW 2130.

E32.2.4 Sump Grating

(i) Sump grating shall be either FRP or Aluminum.

(j) FRP Sump Grating:

(i) FRP grating shall be a 38 mm deep by 38 mm square mesh.

(ii) Grating shall come complete with a 38 x 38 angle channel cast into the chamber floor and anchored with integral concrete anchoring ribs.

(iii) Approved Products: Fibergrate molded grating, or approved equal in accordance with B6.

(k) Aluminum Sump Grating:

(i) Aluminum grating shall be a 38 x 4.76 mm swage or pressure locked aluminum grating with 102 mm on center cross bars.

(ii) Grating shall come complete with a 38 x 38 x 6.35 mm aluminum angle channel cast into the chamber floor and anchored with 9.5 x 102 mm anchor studs. Minimum 2 anchor studs per side located 150 mm from corner.

(l) Submit shop drawings in accordance with CW 1110.

E32.2.5 Small Diameter Ball Valves

(i) Threaded ball valves shall be all cast bronze two-piece type with chromium plated ball complete with lever handle rated for minimum 1.0 MPa non-shock cold water service. Bronze material shall conform to ASTM B62.

(j) Submit shop drawings in accordance with CW 1110.

(k) Approved Products: Apollo, Red-White or approved equal in accordance with B6.

E32.2.6 Small Diameter Threaded Piping, Fittings and Flanges

(i) Small diameter brass threaded piping, fittings and flanges shall be cast red brass conforming to ASTM B43 or cast bronze conforming to ASTM B62. Flange dimension and drilling shall be in accordance with ANSI B16.24 - 150#.

(j) Small Diameter steel threaded fittings and flanges shall conform to ANSI B16.5 - Class 150.

(k) Small diameter steel pipe nipples shall be Schedule 80 steel.

(l) The interior and exterior of all steel piping shall be liquid epoxy coated in accordance with AWWA C210, E32.2.8, and E32.3.4.

(m) Submit shop drawings in accordance with CW 1110.

E32.2.7 Flange Isolation Kits

(i) Flange isolation kits shall be used anywhere dissimilar metal piping or fittings are joined.

(j) Flange isolation kits shall be to City of Winnipeg specification AT-4.1.1.74 except as modified herein.

(k) Each kit shall be double flange isolation kit with insulating sleeves and washers for each flange of the bolted connection.

(l) Bolt sleeves shall be comprised of G10 or G11 epoxy glass.

(m) Submit shop drawings in accordance with CW 1110.

(n) Approved Manufacturer: Advance Products and Systems, or approved equal in accordance with B6.

E32.2.8 Spray Applied Polyurethane Insulation

(i) Polyurethane foam shall be closed cell, less than 1% open cell content to ASTM D-6226.

(j) Approved Products: BASF Wallite CT (Cold Temperature grade) or approved equal in accordance with B6.

E32.2.9 Extruded Polystyrene Insulation

(i) High Strength Rigid insulation for below grade: to CAN/ULC S701, Type 4.

(j) Thickness as indicated on Drawings.

(k) Approved Products: Styrofoam HI 40 by Dow Chemical, Foamular 400 by Owens Corning, or approved equal in accordance with B6.

E32.2.10 Molded Polystyrene Insulation

(i) Molded polystyrene insulation shall conform to CSA S307 Type 1.

E32.2.11 Extrudable Polyurethane Waterstop

(i) Extrudable polyurethane waterstop shall be a Gun Grade extrudable polyurethane base waterstop.

(j) Approved Products: SikaSwell S by Sika, or approved equal in accordance with B6.

E32.2.12 Pipe Coatings

(i) Unless otherwise specified herein coatings for all chamber piping and fittings shall be a liquid epoxy meeting the requirements of AWWA C210.

(j) For potable water applications all coatings and linings must meet the requirements of ANSI/NSF 61 “Standard for Drinking Water System Components – Health Effects”.

(k) Linings and coatings shall consist of a minimum of two (2) layers (dry film thickness of 5 mils each coat) with a final coating dry film thickness of 16 mils.

(l) Linings for potable water applications shall be a 100% solids liquid epoxy, Enviroline 230, Bar-Rust 234P, or approved equal in accordance with B6.

(m) Coating for potable water applications shall be a Polyamide Epoxy, Enviroline 230, Bar-Rust 234P, Tnemec Series 140F Pota-Pox Plus, Amerlock 2 or approved equal in accordance with B6.

(n) Submit shop drawings for epoxy coatings in accordance with CW 1110.

E32.2.13 Pipe Seals

(i) EPDM sheets shall conform to ASTM D7465 or D4637.

(j) All stainless steel components shall be Type 316.

(k) Stainless steel banding shall be 19 mm wide with a minimum 0.76 mm thickness.

(l) EPDM sealant shall be compatible with the EPDM rubber sheet material and suitable for adhesion to a concrete substrate.

(m) The pressure ring shall be oval or oversized to accommodate curvature of manhole barrel without obstructing the 75 mm annulus between the pipe and manhole wall. No gaps shall be permitted between the two halves of the pressure ring once installed.

E32.3 Methods

E32.3.1 All Work shall be carried out in accordance with E29.

E32.3.2 Excavation and Backfill

(i) All excavation work shall be carried out in accordance with E29.

(j) Excavation

(i) Granular bedding in the vicinity of existing pipelines shall be dewatered and stabilised prior to undermining pipes to prevent loss of granular pipe foundation.

(ii) The Contractor shall ensure existing pipe bedding is not disturbed outside of the shored area during excavation, installation/removal of shoring, or backfilling.

(iii) Keep the excavation dewatered during construction and prevent runoff water from entering the excavation and compromising the existing soils and pipe bedding.

(k) Shoring

(i) Excavation shoring is required for construction of the air release chamber.

(ii) Excavation shoring shall be designed to accommodate the existing feedermain, the construction of the air release chamber, and all proposed piping.

(iii) Shop drawings shall be submitted for the shoring in accordance with CW 1110. Shoring designs shall be stamped by a Professional Engineer registered in the Province of Manitoba.

(iv) Shoring may be left in place to facilitate placement of pipe bedding. Shoring left in place must be cut off a minimum of 0.755 m below the proposed grade.

(l) Backfill

(i) The chamber shall be backfilled to CW 2030 Class 2 standards up to the bottom of the roadway base.

E32.3.3 Construction of Chamber

(i) All concrete works shall conform to CW 2160.

(j) Install manhole components in accordance with CW 2131.

E32.3.4 Spray Applied Polyurethane Insulation

(i) Spray applied polyurethane insulation shall be applied to the exterior of the manhole chamber as shown on the drawings.

(j) Insulation shall be applied as per the manufactures recommendations.

E32.3.5 Polystyrene Insulation

(i) Install polystyrene installation where shown on the drawings

(j) Where installed within the manhole chamber, affix to the concrete surface as per the manufactures recommendations. Fasteners shall be stainless steel or zinc, epoxy, or otherwise coated for corrosion protection.

(k) Polystyrene installation shall be covered with a 12 mm thick cement board where installed within the manhole chamber. All joint gaps in edges of the cement board shall grouted as recommended by the cement board manufacturer for freeze/thaw and wet environments.

E32.3.6 Extrudable Polyurethane Waterstop

(i) Install extrudable polyurethane waterstop where shown on the drawings as the manufacturers recommendations.

E32.3.7 Pipe Coatings

(i) Prepare metal surfaces for coating using the following methods:

(i) Steel - Prepare steel surfaces for recoating by blast cleaning to near-white metal as specified by Joint Surface Preparation Standard NACE No.2/SSPC-SP10.

(ii) Cast and Ductile Iron - Prepare ductile iron surface in accordance with NAPF 500-03

(iii) Remove all dust and loose residues from the prepared surfaces and chamber floor. The surface shall be roughened to a degree suitable for the coating system employed.

(j) Protect valve seals, machined surfaces, threads, and nameplates from sandblasting.

(k) Primer coat to follow immediately after completion of sandblasting and prep.

(l) Paint prepared surfaces in accordance to AWWA C210, E32.2.8 and the manufactures recommendations.

(m) Provide adequate ventilation and heat to facilitate curing of coatings.

(n) Linings for pipes and fittings shall be applied and cured in conditions suitable to attain complete cure suitable for water immersion prior to assembly of piping. Where accelerated cure times are required for assembly and water immersion a coating and curing plan shall be submitted to the Contract Administrator in accordance with CW1110.

E32.3.8 Pipe Seals

(i) Pipe seals shall be constructed as shown on the Drawings.

(j) Remove all rough edges and high spots from existing pipe and manhole.

(k) Clean the existing pipe and manhole as per the sealant manufactures recommendations.

(l) Seal seams in EPDM sheets as per the manufactures recommendations.

E32.4 Measurement and Payment

E32.4.1 Construction of the air release chamber will not be measured and will be paid on a lump sum basis for “Air Release Chamber”. Payment shall include all materials and work required to construct the air release chamber including but not limited to: excavation, shoring, dewatering, concrete works, manhole components, insulation, air release valve and piping, and backfilling.

Replace drawing list:

Drawing No.	Drawing Name/Title
P-3350-01	COVER SHEET
P-3350-02	GENERAL ARRANGEMENT
P-3350-03	REMOVALS - PANET-MOLSON (1 OF 5)
P-3350-04	REMOVALS - PANET-MOLSON (2 OF 5)
P-3350-05	REMOVALS - PANET-MOLSON (3 OF 5)
P-3350-06	REMOVALS - PANET-MOLSON (4 OF 5)
P-3350-07	REMOVALS - PANET-MOLSON (5 OF 5)
P-3350-08	REMOVALS – CONCORDIA-WEST (1 OF 2)
P-3350-09	REMOVALS – CONCORDIA-WEST (2 OF 2)
P-3350-10	REMOVALS – CONCORDIA-EAST
P-3350-11	CONSTRUCTION –TRAFFIC STAGING - STAGE 1
P-3350-12	CONSTRUCTION – TRAFFIC STAGING - STAGE 2
P-3350-13	CONSTRUCTION –TRAFFIC STAGING - STAGE 3
P-3350-14	COORDINATE GEOMETRY - PANET-MOLSON
P-3350-15	COORDINATE GEOMETRY - CONCORDIA
P-3350-16	PLAN-PROFILE - PANET-MOLSON - STA. 0+155 TO 0+245
P-3350-17	PLAN-PROFILE - PANET-MOLSON - STA. 0+245 TO 0+340 (NORTHBOUND)
P-3350-18	PLAN-PROFILE - PANET-MOLSON - STA. 0+245 TO 0+340 (SOUTHBOUND)
P-3350-19	PLAN-PROFILE - PANET-MOLSON - STA. 0+340 TO 0+525
P-3350-20	PLAN-PROFILE - PANET-MOLSON - STA. 0+525 TO 0+680
P-3350-21	PLAN-PROFILE - PANET-MOLSON - STA. 0+680 TO 0+835
P-3350-22	PLAN-PROFILE - PANET-MOLSON - STA. 0+835 TO 0+920

P-3350-23	PLAN-PROFILE - CONCORDIA - STA. 2+005 TO 2+160
P-3350-24	PLAN-PROFILE - CONCORDIA - STA. 2+160 TO 2+315
P-3350-25	PLAN-PROFILE - CONCORDIA - STA. 2+315 TO 2+470
P-3350-26	CALLSBECK AVENUE
P-3350-27	SECTIONS (1 OF 5)
P-3350-28	SECTIONS (2 OF 5)
P-3350-29	SECTIONS (3 OF 5)
P-3350-30	SECTIONS (4 OF 5)
P-3350-31	SECTIONS (5 OF 5)
P-3350-32	DETAILS (1 OF 2)
P-3350-33	DETAILS (2 OF 2)
P-3350-34	LDS - PANET-MOLSON (1 OF 3)
P-3350-35	LDS - PANET-MOLSON (2 OF 3)
P-3350-36	LDS - PANET-MOLSON (3 OF 3)
P-3350-37	LDS - CALLSBECK (1 OF 3)
P-3350-38	LDS - CALLSBECK (2 OF 3)
P-3350-39	LDS - CALLSBECK (3 OF 3)
P-3350-40	CONCRETE JOINT LAYOUT (1 OF 6)
P-3350-41	CONCRETE JOINT LAYOUT (2 OF 6)
P-3350-42	CONCRETE JOINT LAYOUT (3 OF 6)
P-3350-43	CONCRETE JOINT LAYOUT (4 OF 6)
P-3350-44	CONCRETE JOINT LAYOUT (5 OF 6)
P-3350-45	CONCRETE JOINT LAYOUT (6 OF 6)
P-3350-46	AIR RELEASE CHAMBER

DRAWINGS

Add: 554-2013_Addendum_1_Drawing_P-3350-46-R0

Replace: 554-2013_Drawing_P-3350-19-R3 with 554-2013_Addendum_1_Drawing_P-3350-19-R4

554-2013_Drawing_P-3350-35-R3 with 554-2013_Addendum_1_Drawing_P-3350-35-R4