Corporate Finance Department
Materials Management Branch

545-2007 ADDENDUM 1

2007 COMBINED SEWER RENEWALS BY CIPP LINING, CONTRACT 20

ISSUED: August 2, 2007
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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: 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 E – SPECIFICATIONS

Add E2.3.8 CIPP Non-circular Design Requirements – General

(a) Design full segment CIPP as a Type II lining system in accordance with Section 5 of Volume II – Sewer Renovation, WRc Sewerage Rehabilitation Manual, 4th Edition and these specifications as a gravity pipe in a partially or fully deteriorated pipe condition in accordance with design conditions noted in the Drawings and Specifications.

(b) Size CIPP in accordance with the design objectives to provide a close-fit to the host pipe with no annulus except for the maximum allowable diametric shrinkage due to curing permitted in ASTM D5813.

(c) Perform a design check to confirm the full flow hydraulic capacity of the CIPP will be equal to or greater than the existing sewer. Use “Manning’s” formula with assumed ‘n’ value of 0.010 for the CIPP and an “n” value for the existing section estimated on the observed condition of the pipeline from the Sewer Maintenance Inspection and the general guidelines presented in Appendix C of Volume I – Rehabilitation Planning, WRc Sewerage Rehabilitation Manual, 4th Edition.

Add E2.3.9 CIPP Type II Design - Partially Deteriorated Condition

(a) Where partially deteriorated design conditions are indicated design CIPP as a Type II non-circular liner in accordance with Section 5 of Volume II – Sewer Renovation, WRc Sewerage Rehabilitation Manual, 4th Edition and the following minimum design checks:
  (i) Short term buckling/deformation checks (only required if secondary grouting is contemplated);
  (ii) Long term check buckling/deformation checks due to hydrostatic pressure;
  (iii) No allowance required for earth and superimposed loading.

(b) Use the following minimum design assumptions:
  (i) Flexible liner, no bond with host pipe;
  (ii) Groundwater table is 2.0 m below the existing ground surface;
  (iii) Long-term values for flexural modulus of elasticity and flexural strength will be considered to be the projected value at 50 years of a continuous application of the design load based on the specific resin and felt composite approved for use in the pre-qualification process;
  (iv) Minimum factor of safety (N) of 2 against failure in determination of maximum permissible external pressure.

Add E2.3.10 CIPP Type II Design - Fully Deteriorated Condition

(a) Where fully deteriorated design conditions are indicated design CIPP as a Type II non-circular liner in accordance with Section 5 of Volume II – Sewer Renovation, WRc Sewerage Rehabilitation Manual, 4th Edition and the following minimum design checks:
  (i) Short term buckling/deformation checks (only required if secondary grouting is contemplated);
  (ii) Long term check buckling/deformation checks due to hydrostatic pressure;
  (iii) Provide allowance for full earth and superimposed loading as noted below.

(b) Use the following minimum design assumptions:
  (i) Flexible liner, no bond with host pipe;
  (ii) Groundwater table is 2.0 m below the existing ground surface;
  (iii) Long-term values for flexural modulus of elasticity and flexural strength will be considered to be the projected value at 50 years of a continuous application of the design load based on the specific resin and felt composite approved for use in the pre-qualification process;
  (iv) Calculate dead load pressure at obvert based on soil density of 1920 kg/m^3 and minimum assumption of prism loading on host pipe.
  (v) Include an allowance for an AASHTO HS30 concentrated live load in the total external pressure on the pipe.
  (vi) Minimum factor of safety (N) of 2 against failure in determination of maximum permissible external pressure.

(c) Thickness of the CIPP liner shall be determined by:

  (i) The WRc Type II design method with design checks for stress (at full safety factor) and for deflection (based on serviceability considerations);
  (ii) Maximum permissible design head due to hydrostatic pressure shall be computed relative to maximum applied stress at invert
  (iii) Maximum permissible head due to dead and live loads shall be determined by expressing dead and live load pressure as an equivalent hydrostatic based on the specified densities noted herein. As noted above the maximum permissible head due to earth and live loads shall be measured relative to the obvert of the pipe.
  (iv) Alternate design methods will be considered with the proviso that they shall not yield a minimum wall thickness less than the minimum wall thickness that would be computed by the design methodology noted herein.

Revise: E5.5 to read: The flood activation elevations for each site are as follows:

Repair Location						Flood Manual Activation Elevation	
Street Name	Asset ID	Sewer Length (m)	Drawing Number	Sewer District	Lowest Invert (m)	Elevation at Site (m)	Referenced to datum
Bronx Ave.	MA70011446	120.6	06093	Munroe Annex	225.630	223.45	James 07
Chelsea Ave.	MA40005101	119.9	06094	Munroe Annex	225.812	223.45	James 07
Chelsea Ave.	MA40005062	120.3	06095	Munroe Annex	224.771	223.45	James 07
Chelsea Ave.	MA40005060	120.5	06096	Munroe Annex	224.771	223.45	James 07
Donalda Ave.	MA40005464	104.8	06097	Munroe	227.649	223.45	James 07
Dunrobin Ave.	MA40006529	120.4	06098	Munroe Annex	226.510	223.45	James 07
Harbison Ave. W.	MA40005214	122.8	06099	Hart	225.851	223.60	James 08
Kimberley Ave.	MA40005149	120.4	06100	Munroe Annex	226.747	223.45	James 07

Repair Location						Flood Manual Activation Elevation	
Street Name	Asset ID	Sewer Length (m)	Drawing Number	Sewer District	Lowest Invert (m)	Elevation at Site (m)	Referenced to datum
Kimberley Ave.	MA40005148	119.5	06101	Munroe Annex	226.134	223.45	James 07
Watt St.	MA40008450	82.4	06102	Munroe	224.816	223.45	James 07
Roch St.	MA40005000	55.4	06128	Munroe	225.176	223.45	James 07