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MANISTEE, MI
SOUTH BEND, IN
FORT WAYNE, IN

**ADDENDUM NO. 1
REVISED**

DATE: March 31, 2011
TO: All Planholders
FROM: Daniel A. Dombos, P.E.
Project Engineer
RE: City of Benton Harbor
John Street Sewer Replacement
Ox Creek Sewer Lining & Lift Station Rehabilitation.
MDEQ Project No.: 5330-01
OWNER: City of Benton Harbor
200 E. Wall Street
Benton Harbor, MI 49022

The following items are changes to and/or clarifications of the drawings and specifications, and shall be included in the Bid Proposal. All of these items will be part of the Contract Documents. The Bidder will acknowledge receipt of this Addendum in the appropriate space provided on the Bid Form. Failure to do so may result in disqualification of the bid.

Plans

- Item 1.1: Sheet 1 - Cover Sheet
1. Change "MDNRE Project No.: 5329-01" to read "MDEQ Project No.: 5330-01."

Specifications

- Item 1.2: Section 00200 - Instructions to Bidders
1. Article 5.01 Remove "No pre-bid conference will be held." and replace with "A pre-bid conference will be held Tuesday April 5th at 2:00pm in the City of Benton Harbor Council Chambers at 200 E. Wall Street, Benton Harbor, MI 49022.



Item 1.3: Section 02532 Duplex Submersible Lift Station

1. Article 2.01.A.3.a.II – Replace the current paragraph with the following: “Steel and ductile iron pipe and fittings shall be internally lined with a ceramic epoxy lining material suitable for exposure to wastewater. The internal coating shall be a minimum of 40 mils thick and shall be subjected to pinhole leak detection and thickness testing.

Ductile Iron Pipe shall be provided with external bituminous coating. Steel pipes shall be provided with an external ceramic epoxy coating with a 40 mil minimum thickness.”

2. Article 2.01.A.3.b.II – Add the following Paragraph:
II. Ball Valves: Ball Valves shall be in accordance with Section 02511 Valves with internal linings suitable for exposure to wastewater. Valves with non stainless metal body or internals shall be lined with a ceramic epoxy coating suitable for exposure to wastewater.

Item 1.4: Section 02958 Manhole Cleaning and Rehabilitation (attached)

1. Revised section with clarification for materials and execution.

Item 1.5: Wage Rates (attached)

1. Add Prevailing Wage Rates information to the specifications.

If you have any questions or comments, please feel free to contact our office.

DATE

BIDDING FIRM

AUTHORIZED REPRESENTATIVE

SECTION 02958
MANHOLE CLEANING AND REHABILITATION

PART 1 - GENERAL**1.01 DESCRIPTION**

A. This section includes:

1. Manhole Cleaning
2. Plugging, and grout sealing.
3. Cementitious or Polymeric Lining of Manhole Interior

1.02 RELATED SPECIFICATIONS:

- A. Section 02281 - Manhole Grade Adjustment.
- B. Section 02952 - Sewer and Manhole Testing.
- C. Section 02956 - Sewer and Pipe Joint Sealing.
- D. Section 02957 - Relining Sanitary Sewers.

1.03 REFERENCES

A. ASTM International:

1. ASTM C33 - Standard Specification for Concrete Aggregates.
2. ASTM C150 - Standard Specification for Portland Cement.
3. ASTM D4541 – Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
4. ASTM D412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension.
5. ASTM D2240 – Standard Test Method for Rubber Property-Durometer Hardness
6. ASTM D522 – Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
7. ASTM D4060 – Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser

1.04 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit product data on grout and sealant and lining system.
- C. Test Reports: Indicate vacuum testing results exfiltration testing results and electrostatic testing for pinhole leaks.
- D. Manufacturer's Certificate: Certify Products meet or exceed [specified requirements.

1.05 CLOSEOUT SUBMITTALS

- A. Section 01700 - Execution Requirements: Requirements for submittals.
- B. Project Record Documents: Record actual locations of sealed manholes.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with:
 - 1. 2003 MDOT Standard Specifications for Construction
 - 2. Great Lakes - Upper Mississippi Board of State and Provincial Public Health and Environmental Managers (GLUMRB) (10 State Standards)
 - a) Recommended standards for Waterworks
 - b) Recommended Standards for Wastewater Facilities
 - 3. Relevant standards set forth by the Municipality or Sewer Authority.

1.07 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum five (5) years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum three (3) years documented experience and approved by manufacturer.

1.08 PRE-INSTALLATION MEETINGS

- A. Section 01300 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Section 01600 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

- B. Accept materials on site in undamaged, unopened container, bearing manufacturer's original labels. Inspect for damage.
- C. Protect materials from damage by storage in secure location.

1.10 SEQUENCING

- A. Section 01100 - Summary: Requirements for sequencing.

1.11 SCHEDULING

- A. Section 01300 - Administrative Requirements.
- B. Schedule work to coincide with relining sewers joint sealing.

1.12 COORDINATION

- A. Section 01300 - Administrative Requirements: Requirements for coordination.
- B. Provide schedule of Work indicating when manhole grouting will occur.

PART 2 - PRODUCTS

2.01 GENERAL

- A. The materials to be utilized shall prohibit water infiltration and shall have proven resistance to a broad range of corrosive chemicals, including sulfuric acid created by hydrogen sulfide gas as well as other chemicals typically found in sanitary sewers. The materials shall be suitable for application over damp or dry surfaces without the use of a primer. The material shall have a non-sagging consistency to permit applications on vertical and overhead surfaces. The manufacturer of the corrosion protection products shall have a long proven experience in the production of the lining products utilized and shall have a satisfactory installation record.
- B. Equipment for installation of lining materials shall be high quality grade and be as recommended by the manufacturer.

2.02 EXTERIOR GROUT SEALANT

- A. Chemical Grout:
 - 1. Mixture of dry acrylamide and dry N, N-methylenebisacrylamide, in proportions capable of diluting aqueous solutions and when properly catalyzed, forming stiff gels.
 - 2. Follow Manufacturers recommendations for Concentration for Wastewater and Surface Acid Contact at concentrations associated with Municipal Sanitary Sewerage Collection with ability to tolerate ground water dilution and to react in moving water.

3. Viscosity of less than 2 centipoise, remaining constant until gelation concurs.
 4. Reaction time controllable from 10 seconds to 1 hour.
 5. Reaction produces continuous and irreversible gel at chemical concentrations specified by the manufacturer for this application.
- B. Catalyst: Ammonium persulfate; use in combination with activator; use of catalyst containing Dimethyl Amino Propionitrile (DMAPN) is prohibited.
- C. Activator: Triethanolamine or other compounds of equivalent properties.
- D. Inhibitor: Potassium ferricyanide.
- E. Root Growth Inhibitor:
1. Dichlorobenzonitrile meeting recommendations of grout manufacturer; root treatment additive capable of remaining active for minimum of two years.
 2. Active ingredient for destroying root intrusions: Sodium methylthiocarbamate.
 3. Root cell inhibiting agent 2,6 -dichlorobenzonitrile (DICHLOBENIL); for each application disperse root control agent into clear, cool water free of acid, alkali, oxidizing agents, or large amounts of oil or other organic compounds or materials. Use tanks for transportation or storage of makeup water free of material listed above.
- F. Portland Cement: ASTM C150, Type II.
- G. Fine Aggregate: ASTM C33 gradation.

2.03 INTERIOR PLUGGING AND GROUTING MATERIALS

1. Plugging Material shall be non-shrinking hydraulic cement compounds capable of rapid setting under running water and/or hydraulic pressure.
 2. Material shall be capable of stopping leaks within 1 minute of application.
 3. Plug materials shall be compatible with applications in excess of 2 inches in thickness.
- B. Grouting Materials
1. Cementitious Grouting Materials for manhole interior manhole repairs shall be fast-setting fiber reinforced designed for patching cracks, spalls and invert repairs.
 2. The grouting material shall be fast setting under hydraulic pressure.
 3. Application of the grouting system shall be in accordance with manufacturer's recommendations and the following guidelines

- a) Grouting materials shall be hand pointed in cracks or spalls deeper than 1 inch.
 - b) The material shall be trowel applied in deteriorated areas less than 1 inch and trowel-finished flush with the existing manhole surface.
 - c) Spray applied repair grouts shall not be accepted.
4. Grout Repair Systems shall be compatible with
 5. Coating Systems shall be compatible with vertical and inverted installations with installation thicknesses up to 2 inches.

2.04 CEMENTITIOUS COATING SYSTEMS

A. Materials

1. Cementitious liner materials shall be sprayable Calcium Aluminate cementitious material with natural aggregate and/or fiber reinforcement.
2. Cementitious Coating Systems shall be compatible with vertical and inverted installations with installation thicknesses up to 2 inches.

2.05 POLYMERIC (COMPOSITE LINING SYSTEM)

A. The lining system to be utilized for manhole structures shall be a multi-component stress skin panel liner system as described below:

1. Liner.

Installation

Moisture displacement barrier
Moisture barrier
Surfacer
Final corrosion barrier

Liner

Primer
Modified Polymer
Polyurethane/Polymeric blend foam
Modified polymer

B. Primer shall be 100% solids

C. Modified polymer shall be sprayable, solvent free, two-component polymeric, moisture/chemical barrier specifically developed for the corrosive wastewater environment.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify manholes requiring grouting.

3.02 MANHOLE INTERIOR CLEANING

- A. Clean each defective or fouled manhole interior with high velocity water jet. Remove grease, dirt, sludge, and roots. Cut flush roots not removed by water jet.
- B. Flush foreign material cleaned from interior of manhole. Remove and legally dispose of material off project site.
- C. When leaks are not readily identifiable upon completion of cleaning operation, use blower to dry manhole interior for positive identification of leaks and weep areas.

3.03 EXTERIOR GROUT SEALING

- A. All procedures shall conform to the recommendations of the manufacturer, including materials handling, mixing, environmental controls during application, safety and spray equipment.
- B. Drill hole at each identifiable leakage point from inside manhole extending through sidewall of manhole. Insert metal rod through hole to determine if exterior void space exists.
- C. Fill exterior void spaces with chemical grout mix. Pump into void space until refusal is recorded by rise in pressure on pump pressure gauge. Ensure hole through manhole wall is kept open and free of chemical grout. Plug hole and allow one hour for chemical grout to set.
- D. Upon completion of grouting, pump manhole sealant until refusal at minimum pressure of 3.0 psig (20 kPa) through probe type injection equipment. Deposit sealant from interior surface of set chemical grout through drilled hole to inside surface of manhole.
- E. Upon setting of manhole sealant, remove excess material protruding into inside of manhole.

3.04 SURFACE PREPARATION AND REPAIR

- A. Conduct surface preparation program to include monitoring of atmosphere for hydrogen sulfide, methane, low oxygen or other gases, approved flow control equipment, and surface preparation equipment.
- B. Surface preparation methods may include high pressure water cleaning, hydro blasting, abrasive blasting, grinding, detergent water cleaning and shall be suited to provide a surface compatible for installation of the liner system.
- C. Surface preparation method shall produce a cleaned, abraded and sound surface with no evidence of laitance, loose concrete, brick or mortar, contaminants or debris, and shall display a surface profile suitable for application of liner system.
- D. After completion of surface preparation, perform the seven point check list, which is the inspection for:

1. Leaks Ring and Cover condition.
 2. Cracks
 3. Holes
 4. Exposed Rebar
 5. Ring and Cover condition
 6. Invert Condition
 7. Inlet and Outlet Pipe Condition
- E. After the defects in the structure are identified, repair all leaks with a chemical or hydraulic sealant designed for use in field sealing of ground water. Severe cracks shall be repaired with a urethane based chemical sealant. Product to be utilized shall be as approved by owner/engineer prior to installation. Repairs to exposed rebar, defective pipe penetrations or inverts, etc. shall be repaired utilizing non-shrink grout or approved alternative method.

3.05 LINER SYSTEM INSTALLATION

- A. Application procedures shall conform to recommendations of the manufacturer, including materials handling, mixing, environmental controls during application, safety and spray equipment.
- B. Spray equipment shall be specifically designed to accurately ratio and apply the liner system.
- C. Application of multi-component liner system shall be in strict accordance with manufacture's recommendation. Final installation shall be a minimum of 500 mils. A permanent identification and date of work performed shall be affixed to the structure in a readily visible location.
- D. Provide final written report to owner/engineer detailing the location, date of report, and description of repair.

3.06 INSPECTION

- A. Final liner system shall be completely free of pinholes or voids. Liner thickness shall be the minimum value as described herein.
- B. Visual inspection shall be made by the Owner/Engineer. Any deficiencies in the finished liner system shall be marked and repaired according to the procedures set forth by Manufacturer.
- C. The sewer system may be returned to full operational service as soon as the final inspection has taken place.

PART 4 - MEASUREMENT FOR PAYMENT

4.01 BASIS OF PAYMENT

- A. Payment for the manhole cleaning and rehabilitation items of work shall cover all materials, equipment and labor necessary to install the following pay items in accordance with the plans and these specifications. Payment will be made at the contract unit price for the following pay item(s).

4.02 METHOD OF MEASUREMENT

Description	Unit
Manhole Interior Cleaning, <u>(utility)</u> , ____ dia.	Each
Manhole Rehabilitation, Cement Mortar, <u>(utility)</u> , ____ dia.	Each
Manhole Rehabilitation, Composite, <u>(utility)</u> , ____ dia.	Each

Manhole Interior Cleaning, (utility) , ____ dia. includes cleaning manhole with high velocity water jet, removal of roots, and removable of debris.

Manhole Rehabilitation, Cement Mortar, (utility) , ____ dia. and **Manhole Rehabilitation, Composite, (utility) , ____ dia.** includes investigation to determine leaks, grouting leaks, and installation of the specified manhole lining system.

Measurement for **Manhole Interior Cleaning** and **Manhole Rehabilitation**, identified by utility type, shall be paid at the contract unit price based on structure diameters **48 inch and less dia.** , **49 to 96 inch dia.** , and **greater than 96 inch dia.**

END OF SECTION

General Decision Number: MI100156 03/11/2011 MI156

State: Michigan

Construction Type: Heavy

County: Berrien County in Michigan.

HEAVY CONSTRUCTION PROJECTS (does not include airport or bridge construction projects, or sewer or water line work if it is incidental to a highway construction project)

Modification Number	Publication Date
0	01/07/2011
1	03/11/2011

CARP0525-006 06/01/2010

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 21.39	13.86

ELEC0153-007 05/31/2010

	Rates	Fringes
ELECTRICIAN.....	\$ 30.00	16.87

ENGI0326-025 05/01/2010

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 28.39	18.90
GROUP 2.....	\$ 28.14	18.90
GROUP 3.....	\$ 27.64	18.90
GROUP 4.....	\$ 22.54	18.90
GROUP 5.....	\$ 21.94	18.90
GROUP 6.....	\$ 17.84	18.90

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

Certified Crane Operator Premiums:

- a) Swing Boom Truck Operator over 12 tons-\$.50 per hour
- b) Hydraulic Crane Operator 75 tons and under-\$.75 per hour
- c) Hydraulic Crane Operator over 75 tons-\$1.00 per hour
- d) Lattice Boom Crane Operator-\$1.50 per hour

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane operator with main boom and jib 400', 300', or 220' or longer. Tower crane operator with CCO certification for combined length of mast and boom 220' or longer

GROUP 2: Crane operator with main boom and jib 140' or longer, tower cranes (Operators without CCO certification, or less than 220' length), gantry crane, whirley derrick

GROUP 3: Backhoe/Excavator; Boring Machine; Bulldozer;

Crane; Forklift; Grader/Blade; Loader; Roller; Scraper;
Tractor; Trencher

GROUP 4: Bobcat/Skid Loader; Broom/Sweeper

GROUP 5: Boom truck (non-swinging)

GROUP 6: oiler

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50
per hour above the group 1 rate.

Crane operator with main boom and jib 400' or longer: \$3.00
per hour above the group 1 rate.

IRON0292-008 06/01/2010

	Rates	Fringes
IRONWORKER, REINFORCING AND STRUCTURAL.....	\$ 25.05	17.21

LABO0355-010 06/01/2010

	Rates	Fringes
LABORER Common or General; Grade Checker; Mason Tender - Cement/Concrete.....	\$ 17.89	11.49
Pipelayer.....	\$ 18.14	11.49

PAIN0312-014 06/01/2010

	Rates	Fringes
PAINTER Brush & Roller.....	\$ 20.65	11.60
Spray.....	\$ 21.85	11.60

PLAS0016-019 06/01/2010

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 23.78	12.33

* PLUM0172-009 01/03/2011

City of Niles & vicinity

	Rates	Fringes
PLUMBER.....	\$ 29.45	15.90

PLUM0357-011 06/01/2010

	Rates	Fringes
PLUMBER.....	\$ 30.50	15.30

SUMI2010-050 11/09/2010

	Rates	Fringes
LABORER: Landscape.....	\$ 12.25	0.00
TRUCK DRIVER: Dump Truck.....	\$ 18.00	6.43
TRUCK DRIVER: Off the Road Truck.....	\$ 20.82	3.69

TEAM0007-011 06/01/2010

	Rates	Fringes
TRUCK DRIVER Lowboy/Semi-Trailer Truck...	\$ 24.445	5.35+a
Tractor Haul Truck.....	\$ 24.195	5.35+a

FOOTNOTE: a.
 Effective 4/1/2010 - \$327.95 per week.
 Effective 4/1/2011 - \$331.00 per week.
 Effective 4/1/2012 - \$351.00 per week.

 WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====
 Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

 In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

 WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7).
Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION