



MANATEE COUNTY FLORIDA

FACSIMILE

January 22, 2009

TO: All Interested Bidders

SUBJECT: Invitation for Bid #08-3280DC
17th St East (US41 to Canal Road) Road and Utility improvements
ADDENDUM #3

Bidders are hereby notified that this Addendum shall be acknowledged on the Bid Form signature pages and made a part of the above named bidding and contract documents.

The following items are issued to add to, modify, and clarify the bid and contract documents. These items shall have the same force and effect as the original bidding and contract documents, and cost involved shall be included in the bid prices. Bids to be submitted on the specified bid date, shall conform to the additions and revisions listed herein.

1. Bid Opening has been extended to **February 13, 2009 at 3:30 P.M.**, same location.
2. What is the counties specification for the application of a sprayed on liner material for coating the sanitary manholes? The counties utility standards manual, dated 1999 do not cover this specifically. What are the approved products and what is the required thickness that needs to be applied?

Response: County Specification section 09970 "Surface Protection Spray System" is attached.

3. There seems to be a discrepancy between the plans and the bid form on some of the water improvement items. Item 99 on the bid form has a quantity of 4, the plans show 5. Item 107 on the bid form has a quantity of 5, the plans show 6.

Response: Bid Item Numbers 91, 92, 93, 94, 99, 106, 107, 108 and 109 have been revised on the Bid Form to match the quantities shown on the Plans.

Financial Management Department - Purchasing Division
1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205
PHONE: 941.749.3074 * FAX: 941.749.3034
www.mymanatee.org

4. Item 95 water services, the bid form has a quantity of 22, in the plans I could only find 2. Upon a site visit I found 5 and these were of various sizes. Could this be addressed?

Response: During design, the exact number, sizes or locations of the existing services could not be determined. We have estimated 22 services to be replaced. The locations and sizes will be identified during project excavation. Bid 22 services at 2" size, 11 short side and 11 long side.

5. The plans and Bid Forms were changed in Addendum #1 to include separate bid items for various earthwork activities. The earthwork bid items are as follows:

Regular Excavation – CY
Excavation, Subsoil (Roadway) - CY
Excavation, Subsoil (Rock) - CY
Embankment (Regular) - CY
Embankment (Replacement for Rock Removed) CY

Per the Standard Specifications, Section 120-14.2.2, hauling and disposal of Rock and Unsuitable Material is included in the price for Excavation, Subsoil (Roadway) and Excavation, Subsoil (Rock). There should be adequate excavation of suitable material to satisfy the required embankment required, so a bid item for Borrow Material is not included.

6. Bid Items 80 and 81 (1060-15) regarding the core boring of existing manholes at the depths specified will most likely require partial dismantling of the affected structures. The existing 18" sewer main appears to be an interceptor line that would require lining of these manholes by current County standards. Are these manholes lined and, if so, what is the type of lining and what, if any, repairs will be required?

Response: Assume the existing manholes in question are lined. The pipes shall be sealed with a mechanical sealing device per ASTM C-923 and the inside seam shall be grouted and sealed to match the liner. The cost for this work shall be included in the units cost for "Modify Existing Manhole, New Connection", item numbers 84, 85 and 86.

7. Please clarify what material is acceptable as an approved equal for limerock, as stated in addenda #1.

Response: Accepted materials are shown on sheet 1 of 2, Optional Base Group 9, Index No. 514, FDOT Standards. The Bid Form has been changed for Bid Item 20 to "Optional Base Group 9." The Contractor is to write in the selected base material being bid.

8. On sheet 23 of the plans on the bottom of the page it states to "continue fencing to enclose entire county owned parcel". Since the page does not continue. Could the configuration to continue the fence be clarified so that it could be determined what would be needed for fence accessories?

Response: The fence is to continue along the west, south and east property lines of Parcel 115 shown on the 17th Street East Right of Way maps.

9. Delete Bid Form pages 00300-2, 00300-4 and 00300-12 to 00300-14, Addendum 3. Revisions in accordance with Addendum 3.

If you have submitted a bid prior to receiving this addendum you may request in writing that your original, sealed bid be returned to your firm. All sealed bids received will be opened on the date stated.

THIS ADDENDUM MUST BE ACKNOWLEDGED ON THE BID FORM AND THE ATTACHED REVISED BID FORM PAGES RETURNED FOR YOUR BID TO BE CONSIDERED RESPONSIVE.

Bids will be received at Manatee County Purchasing, 1112 Manatee Avenue West, Suite 803, Bradenton, Florida 34205 until **February 13, 2009 at 3:30 P.M.**

Sincerely,



R.C. "Rob" Cuthbert, C.P.M.
Purchasing Division Manager

/dcr
Attachments

SECTION 00300 BID FORM
 (Submit in Triplicate)
17th STREET EAST (from US41 to Canal Road)
ROAD AND UTILITY IMPROVEMENTS
 (Bid "A" - Based on Completion Time of 540 days)

ITEM	FDOT ITEM	DESCRIPTION	UNIT	EST. QTY.	BID PRICE PER UNIT	EXTENDED BID PRICE
ROADWAY						
1	101-1	Mobilization	LS	1		\$
2	102-1	Maintenance of Traffic	LS	1		\$
3	----	Special Provisions Utility Coordination	LS	1	\$	\$
4	102-3	Commercial Matl for Drwy Maint	CY	300	\$	\$
5	104-10-2	Synthetic Bales	LF	950.0	\$	\$
6	104-11	Floating Turbidity Barrier	LF	400	\$	\$
7	104-13-1	Staked Silt Fence (Type III)	LF	9,600	\$	\$
8	104-15	Soil Tracking Prevention Device	EA	3	\$	\$
9	104-16	Rock Bags	EA	500	\$	\$
10	110-1-1	Clearing & Grubbing	AC	32	\$	\$
11	110-4	Removal of Exist. Conc. Pvmnt.	SY	1,928	\$	\$
12	110-7-1	Mailbox (Furnish & Install)	EA	2	\$	\$
13	120-1	Regular Excavation	CY	41,126	\$	\$
14	120-4	Excavation, Subsoil (Roadway)	CY	26,576	\$	\$
15	120-4	Excavation, Subsoil (Rock)	CY	59,857	\$	\$
16	120-6	Embankment (Regular)	CY	28,124	\$	\$
17	120-6	Embankment (Replacement for Rock Removal)	CY	12,000	\$	\$
18	160-6	12" Stabilized Sub-base	SY	38,100	\$	\$
19	285-701	4" Type ABC-III Base	SY	100	\$	\$
20	285-709	OPTIONAL BASE BROU9 9:	SY	34,300	\$	\$
21	327-70-6	Milling Exist. Asph. Pavement (1- 1/2" Avg. Depth)	SY	1,850	\$	\$
22	334-1-14	2" Type S-1 Asphalt Concrete (Incl Tack Coat)	TN	4,600	\$	\$
23	337-7-31	Asphaltic Friction Course (FC-125) (Traffic B) (Rubber) (165 LBS/SY)	TN	165	\$	\$
24	334-1-14	1" Type S-III Asphalt Concrete	TN	4,150	\$	\$
25	400-1-2	Class I Concrete (Endwalls)	CY	80	\$	\$
26	400-1-15	Class I Concrete (Misc)	CY	22	\$	\$
27	400-2-2	Class II Concrete (Endwalls)	CY	22	\$	\$
28	410-70-085	Precast Box Culvert (8' x 5')	LF	220	\$	\$
29	415-1-6	Reinforcing Steel	LB	2,300	\$	\$
30	425-1-351	Inlets (Curb) (Type P-5) (<10')	EA	10	\$	\$
31	425-1-361	Inlets (Curb) (Type P-6) (<10')	EA	12	\$	\$
32	425-1-451	Inlets (Curb) (Type J-5) (<10')	EA	2	\$	\$
33	425-1-461	Inlets (Curb) (Type J-6) (<10')	EA	3	\$	\$
34	425-1-521	Inlet (Dt Bot) (Type C) (<10')	EA	3	\$	\$
35	425-1-531	Inlet (Dt Bot) (Type C Modified) (<10')	EA	3	\$	\$
36	425-1-589	Inlet (Dt Bot) (Type H Modified) (<10')	EA	2	\$	\$
37	425-1-900	Diversion Structure (Attenuation Pond)	EA	1	\$	\$
38	425-2-41	Manholes (P-7) (<10')	EA	5	\$	\$
39	425-2-71	Manholes (J-7) (<10')	EA	9	\$	\$
40	430-171-101	Pipe Storm Sewer Culv (RCP)(15")	LF	430	\$	\$
41	430-171-101	Pipe Storm Sewer Culv (RCP)(18")	LF	1,020	\$	\$
42	430-171-101	Pipe Storm Sewer Culv (RCP)(24")	LF	1,320	\$	\$
43	430-171-102	Pipe Storm Sewer Culv (RCP)(30")	LF	1,540	\$	\$
44	430-171-102	Pipe Storm Sewer Culv (RCP)(36")	LF	570	\$	\$
45	430-171-105	Pipe Storm Sewer Culv (RCP)(84")	LF	18	\$	\$
46	430-171-201	Pipe Storm Sewer Culv (ERCP) (14"x23")	LF	980	\$	\$

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 (Submit in Triplicate)
17th STREET EAST (from US41 to Canal Road)
ROAD AND UTILITY IMPROVEMENTS
 (Bid "A" - Based on Completion Time of 540 days)

ITEM	FDOT ITEM	DESCRIPTION	UNIT	EST. QTY.	BID PRICE PER UNIT	EXTENDED BID PRICE
WATER IMPROVEMENTS						
88	1050-11-114	Conc. Collar for 8" DIP Pipe	LF	1	\$	\$
89	1050-11-223	Pipe, F&I, PVC, Water, 6" (C-900) (Incl all ftgs and jnts)	LF	137	\$	\$
90	1050-11-223	Pipe, F&I, PVC, Water, 6" (C-900) (Incl all ftgs and jnts) (R.J.)	LF	60	\$	\$
91	1050-11-224	Pipe, F&I, PVC, Water, 8" (C-900) (Incl all jnts)	LF	2892	\$	\$
92	1050-11-224	Pipe, F&I, PVC, Water, 8" (C-900) (Incl all jnts) (R.J.)	LF	358	\$	\$
93	1050-11-423	Pipe, F&I, DIP, Water, 6" (Class 50) (Incl all ftgs and jnts) (R.J.)	LF	703	\$	\$
94	1050-11-424	Pipe, F&I, DIP, Water, 8" (Class 50) (Incl all jnts) (R.J.)	LF	858	\$	\$
95	1050-11-92	Service, Water, F&I (Incl Connects, Valves, Meters and Boxes)	EA	22	\$	\$
96	1050-16-223	Pipe, Remove, 6"	LF	1585	\$	\$
97	1050-16-224	Pipe, Remove, 8"	LF	755	\$	\$
98	1055-11-414	Fittings, F&I, Ductile Iron, Bend, 8"	EA	20	\$	\$
99	1055-11-424	Fittings, F&I, Ductile Iron, Tee, 8"x6"	EA	5	\$	\$
100	1055-11-424	Fittings, F&I, Ductile Iron, Tee, 8"x8"	EA	3	\$	\$
101	1055-11-424	Fittings, F&I, Ductile Iron, Tee, 10"x10"	EA	1	\$	\$
102	1055-11-434	Fittings, F&I, Ductile Iron, Reducer, 8"x6"	EA	2	\$	\$
103	1055-11-434	Fittings, F&I, Ductile Iron, Reducer, 10"x8"	EA	1	\$	\$
104	1055-11-454	Fittings, F&I, Ductile Iron, Plug, 8"	EA	1	\$	\$
105	1055-11-494	Fittings, F&I, Ductile Iron, Cross, 8"x6"	EA	1	\$	\$
106	1080-11-34	Fixtures, F&I, 6", Gate Valve Assembly (Cast Iron) (250 PSI)	EA	11	\$	\$
107	1080-11-35	Fixtures, F&I, Blowoff Assembly	EA	6	\$	\$
108	1080-11-43	Fixtures, F&I, Solid Sleeve, 8"	EA	2	\$	\$
109	1080-11-44	Fixtures, F&I, 8", Gate Valve Assembly (Cast Iron) (250 PSI)	EA	9	\$	\$
110	1080-11-44	Fixtures, F&I, 10", Gate Valve Assembly (Cast Iron) (250 PSI)	EA	1	\$	\$
111	1080-11-46	Fixtures, F&I, 8", Air Release Valve Assembly (150 PSI)	EA	5	\$	\$
112	1644-13	Fire Hydrant Assembly, F&I, Standard, 6"	EA	7	\$	\$
WATER IMPROVEMENTS SUBTOTAL						\$
SIGNING AND MARKING						
113	700-20-11	R1-1 (30"x30") (Stop)	AS	5	\$	\$
114	700-20-11	R2-1 (24"x30") (Speed Limit)	AS	4	\$	\$
115	700-20-11	R3-16 (24"x30") (Bike Lane Ahead)	AS	2	\$	\$
116	700-20-11	R3-16A (24"x30") (Bike Lane Ends)	AS	2	\$	\$
117	700-20-11	R3-7R (30"x30") (Right Lane Must Turn Right)	AS	6	\$	\$
118	700-20-11	R4-7 (24"x30") (Keep Right)	AS	2	\$	\$
119	700-20-11	S1-1 (30"x30") (Watch for Children)	AS	1	\$	\$
120	700-20-11	W3-3 (30"x30") (Signal Ahead)	AS	1	\$	\$
121	700-20-40	Sign Single Post, Relocate	AS	7	\$	\$
122	705-10-2	Delineator, Double Unit	EA	10	\$	\$
123	706-3	Bi-Dir Yellow RPM's	EA	222	\$	\$
124	706-3	Bi-Dir W/R RPM's	EA	343	\$	\$
125	710-11-190	Reflective Paint (Island Nose) (White)	SF	8	\$	\$
126	710-12-190	Reflective Paint (Island Nose) (Yellow)	SF	113	\$	\$
127	711-11-160	Pavement Messages, Thermoplastic (Bike Lane Markings)	EA	13	\$	\$
128	711-11-160	Pavement Messages, Thermoplastic (School)	EA	1	\$	\$
129	711-11-160	Pavement Messages, Thermoplastic (Only)	EA	5	\$	\$
130	711-11-170	Directional Arrows, Thermoplastic	EA	41	\$	\$
131	711-11-131	Skip Traffic Stripe, 10'-30' White, Thermoplastic	GM	1.288	\$	\$

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131	711-11-131	Skip Traffic Stripe, 10'-30' White, Thermoplastic	GM	1.288	\$	\$

SECTION 09970 SURFACE PROTECTION SPRAY SYSTEM

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required to install and test the coating system complete and ready for operation for the structures listed in the specifications and as shown on the Drawings.
- B. The work includes coating of all surfaces as shown and specified on the Drawings. This includes, but is not limited to stairs, walls, floors, concrete divider, concrete slabs, manholes wet wells, and all other work obviously required to be coated unless otherwise specified herein or on the Drawings. The omission of minor items in the Schedule of Work shall not relieve the Contractor of his obligation to include such items where they come within the general intent of the Specification as stated herein.

1.02 RELATED WORK

- A. Bypass pumping is the responsibility of the General Contractor.
- B. Concrete surface cleaning in each lift station is the responsibility of the General contractor.
- C. Removal and offsite disposal of rubble is the responsibility of the General Contractor.

1.03 SUBMITTALS

- A. Submit to the Engineer shop drawings and schedules of all surfacing systems and appurtenances required. Submit design data and specification data sheets listing all parameters used in the surfacing system design and thickness calculations based on applicable provisions of ASTM.
- B. Submit to the Engineer the name of the surfacing supplier, a list of materials to be furnished, and the qualification (per 1.05 A) of the application contractor.

1.04 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)

ASTM D-638
ASTM D-790

- B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALIFICATIONS

- A. The Contractor performing the surfacing work shall be fully qualified, experienced a minimum of seven years and equipped to complete this work expeditiously and in a

satisfactory manner. The Contractor shall submit the following information to the Engineer for review and approval before any surfacing work is performed.

1. The number of years of experience in performing this type of specialized work must be seven years minimum.
 2. Name of the surfacing manufacturer and supplier for this work and previous work listed below. The Contractor shall be an approved installer as certified and licensed by the surfacing manufacturer and equipment supplier.
 3. A list of clients that the Contractor has performed this type of work.
 - a. The list shall contain names and telephone numbers of persons who can be called to verify previous satisfactory performance.
 - b. Installation dates and a description of the actual work performed.
 - c. The surfacing manufacturer shall provide an installation list of his product used for similar sewer rehabilitation projects. The list shall provide the same information as required in paragraphs 3.a and 3.b above.
- B. The Owner reserves the right to approve or disapprove the Contractor, based on the submitted qualifications.

1.06 GUARANTEE

All surfacing shall be guaranteed by the Contractor for a period of five years from the date of acceptance. During this period, all defects discovered in the surfacing, as determined by the Owner's Engineer, shall be repaired or replaced in a satisfactory manner at no cost to the Owner, this shall include, but is not limited to, all work and costs associated with the shut down of any pump stations and all bypass operations needed for the proper repairs to be made.

1.07 QUALITY ASSURANCE

- A. All surfacing products shall be from a single manufacturer. The supplier shall be responsible for the provisions of all test requirements specified in ASTM Standards D-638 and D-790 as applicable.
- B. The Contractor shall employ specialty workers who have proven ability to perform the Work included herein. This will consist of a minimum of two years or two project experiences installing this product. This is a requirement for each and every employee.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Care shall be taken in shipping, handling and placing to avoid damaging. Any material damaged in shipment shall be replaced as directed by the Engineer.
- B. Any material showing deterioration, or which has been exposed to any other adverse storage condition that may have caused damage, even though no such damage can be seen, shall be marked as rejected and removed at once from the work.

PART 2 PRODUCTS

2.01 GENERAL

- A. The material sprayed onto the surface shall be a urethane resin system formulated for the application within a sanitary sewer environment. The urethane will exhibit suitable corrosion resistance to corrosive gases and fluids found within domestic sanitary sewage. Unless dictated by varying effluent, the spray system shall be a urethane and exhibit the cured physical strengths specified herein.
- B. When cured, the surface coating shall form a continuous, tight-fitting, hard, impermeable surfacing data which is suitable for sewer system service and chemically resistant to any chemicals or vapors normally found in domestic sewage.
- C. The surface shall be an integral part of the structure being rehabilitated after being placed and cured. The surface shall cover the complete interior of the existing structure. The surface shall provide a continuous watertight seal or barrier.
 - 1. The surface shall effectively seal the interior surfaces of the structure and prevent any penetration or leakage of groundwater infiltration.
 - 2. Provide water resistance data on surface based on ASTM Standards.
 - 3. The surface shall be compatible with the thermal conditions of existing sewer lift stations and manholes. Surface temperature will range from 30 to 80 degrees F. Provide test data on thermal compatibility based on ASTM Standards.

2.02 MATERIALS

- A. Approved materials include
 - 1. Spraywall polyurethane by Sprayroq
 - 2. Aquatapoxy A-6 or Raven 405 epoxy by Raven Lining Systems
 - 3. Polyurethane Lining System by Protective Liner Systems
 - 4. SpectraShield system
 - 5. Sauereisen 210 system
- B. Polyurethane spray application shall comply with the following specifications:

The cured urethane system shall conform to the minimum physical standards, as listed below. The long-term data is for a 50-year design life of the process.

<u>Cured Urethane</u>	<u>Standard</u>	<u>Long-Term Data</u>
Tensile Stress	ASTM D-638	5,000 psi
Flexural Stress	ASTM D-790	10,000 psi
Flexural Modulus	ASTM D-790	550,000 psi

C. Epoxy spray application shall be 100% VOC free / 100% solids.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

- A. The contractor shall clean each structure and shall dispose of any resulting material.
- B. All contaminants including: oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants shall be removed.
- C. All concrete or mortar that is not sound or has been damaged by chemical exposure shall be removed to a sound concrete surface or replaced.
- D. Surface preparation method(s) should be based upon the conditions of the substrate, service environment and the requirements of the protective coating to be applied.
- E. Surfaces to receive protective coating shall be cleaned and abraded to produce a sound surface with adequate profile and porosity to provide a strong bond between the protective coating and the substrate. Generally, this can be achieved with a high pressure water cleaning using equipment capable of 5,000 psi at 4 gpm. Other methods such as abrasive blasting, shotblasting, grinding, scarifying or acid etching may also be used. Detergent water cleaning and hot water blasting may be necessary to remove oils, grease or other hydrocarbon residues from the concrete. Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound clean neutralized surface that is not excessively damaged.
- F. Infiltration shall be stopped by using a material which is compatible with and is suitable for topcoating with the specified protective coating.
- G. The area between the manhole and the manhole ring and any other area that might exhibit movement or cracking due to expansion and contraction, shall be grouted with a flexible grout or gel before surface coating spray application.
- H. All surfaces should be inspected by the Inspector during and after preparation and before the repair material is applied.
- I. No separate payment shall be made for any preparatory work required prior to application of the surface coating.

3.02 INSTALLATION

- A. The Contractor shall notify the Project Manager at least 48 hours in advance, giving the date, start time and estimated completion time for the work being conducted.
- B. The Contractor shall provide bypass pumping of sewage flows (as required) where and when the rehabilitation work is being performed. No flows will be permitted in the structure until the spray coating has properly cured to the manufacturer's specifications.
- C. The installation of the surface coating shall be in complete accordance with the applicable provisions of ASTM and the manufacturer's specifications. A representative of the manufacturer shall be present during the actual installation.
 - 1. Prior to placing the surface coating, the manufacturer's representative must

approve the surface preparation work and installation conditions including temperatures.

2. All surfaces shall be sufficiently smooth and even, to ensure good flow handling characteristics when complete.
 3. All surfaces shall have the surface coating applied to the required thickness by spray application.
- D. Application procedures shall conform to the recommendations of the protective coating manufacturer, including material handling, mixing, environmental controls during application, safety, and spray equipment.
- E. The spray equipment shall be specifically designed to accurately ratio and apply the specified protective coating materials and shall be regularly maintained and in proper working order.
- F. The protective coating material must be spray applied by a Certified Applicator of the protective coating manufacturer.
- G. Polyurethane spray application shall be applied such that all surfaces shall be coated in accordance with the manufactures recommended thickness but not be less than 125 mils.
- H. Epoxy spray application shall be applied such that all surfaces shall be coated in accordance with the following:

1. Specified surfaces shall be coated by spray application of a moisture tolerant, solvent-free, 100% solids, epoxy protective coating as further described herein. Spray application shall be to a minimum wet film thickness in accordance with the following table:

Concrete, New/Smooth	80-100 mils for immersion, 60-80 mils for atmospheric, splash and spill exposure
Concrete, Rough	100-125+ mils
Masonry/Brick	125-150+ mils
Steel	16-80 mils for immersion, 16-40 mils for atmospheric, splash and spill exposure; also profile dependent
Fiberglass Systems	40-60 mils tack coat, 9 oz/yd ² fabric, 40-60 mils top coat. Varies with circumstances

2. Airless spray application equipment approved by the coating manufacturer shall be used to apply each coat of the protective coating. Air assisted spray application equipment may be acceptable, especially for thinner coats (<10 mils), only if the air source is filtered to completely remove all oil and water.
3. If necessary, subsequent topcoating or additional coats of the protective coating should occur as soon as the basecoat becomes tack free, ideally within 12 hours but no later than the recoat window for the specified products. Additional surface

preparation procedures will be required if this recoat window is exceeded.

3.03 FIELD TESTING AND ACCEPTANCE

- A. Field acceptance of surface coatings shall be based on the Engineer's evaluation of the proper surfacing of the structure and the appropriate installation and curing test data along with review of the structure inspections.
- B. The surface coatings shall provide a continuous monolithic surfacing with uniform thickness throughout the structure interior. If the thickness of the coating surface is not uniform or is less than specified, it shall be repaired or replaced at no additional cost to the Owner.
 - 1. The Engineer will measure the surface cured thickness from a specimen retrieved by the Contractor. The Contractor shall retrieve the specimen by physically cutting through the surfacing (by drilling or coring). There will be up to three thickness measurement locations in each structure. A suitable non-destructive type of thickness measurement may also be used.
 - 2. All the surface coating thickness measurement locations shall be repaired by the Contractor in accordance with the manufacturer's recommendations. These repairs shall be included in the five year surface coating guarantee.
- C. All pipe connections shall be open and clear.
- D. There shall be no cracks, voids, pinholes, uncured spots, dry spots, lifts, delaminations or other type defects.
- E. If any defective surface coating is discovered after it has been installed, it shall be repaired or replaced in a satisfactory manner within 72 hours and at no additional cost to the Owner. This requirement shall apply for the entire five year guarantee period.

END OF SECTION