Lee County Board Of County Commissioners **Agenda Item Summary**

Blue Sheet No. 20051083

DAME CRIMICAL

- 1. ACTION REQUESTED/PURPOSE: Approve the utilization of piggybacking from Broward County, Bid No. T-6-03-177-B-1, with Lanzo Lining Services, Inc., for a total amount of \$206,117.00 for Cured In Place Pipe Rehabilitation for cleaning, televising and lining storm sewers in various locations in Lee County for Lee County Department of Transportation, Operations Division. Also, allow Chairman to execute the Construction Contract on behalf of the Board.
- 2. WHAT ACTION ACCOMPLISHES: By allowing the Department to piggyback onto Broward County's contract with Lanzo Lining Services, it will allow Lee County DOT - Operations Division to complete the needed cleaning and lining of storm sewers as quickly as possible.
- 3. MANAGEMENT RECOMMENDATION: Staff recommends approval.

					DAIL	CRITTOAL
4. Departmental Category: 09 2 29C					Date:	8-9-05
6. Agenda:	7. Requirement/Purpose: (specify)		8. Request Initiated:			
X Consent		Statute		Commissio	ner _	
Administrative		Ordinance		Departmen	ıt _	Transportation
Appeals	X	Admin. Code	AC-4-4	Division	_	
Public	Other		By: _5	Scott Gi	lbertson, Director	
Walk-On					·	

9. Background:

The Contracts Management office received a request from Lee County Department of Transportation, Operations Division, to utilize piggybacking from Broward County, Bid No. T-6-03-177-B-1, to video, clean and re-line approximately 3,000 LF of failed storm drain pipes.

Section 5: Unique Services, 5.0 Piggybacking, of the Lee County Contract Manual allows Lee County to utilize the bids of other Governmental entities as long as the procurement has gone through their competitive bidding process.

The Operations Division of the Lee County Department of Transportation and Contracts Management have reviewed and verified the documents used. In addition, permission has been given from Broward County and Lanzo Lining to piggyback from their contract. Therefore, approval is requested to utilize piggybacking from Broward County's bid, which has gone through their formal bid process for Cured In Place Pipe Rehabilitation. Lee County will utilize this bid to line approximately 3,000 LF of storm drain pipes in various locations within the County, for a total amount of \$206,117.00.

The Contractor will be required to execute the County's standard Construction Contract and provide insurance as required by Risk Management.

Funds are available in the following account: PC5410117500.503490

- Attachments: 1) Department Request to Piggyback
 - 2) Authorization from Broward County to Piggyback
 - 3) Quote and Piggyback Authorization from Lanzo Lining Services, Inc.

10. Review	v for Schedi	uling:						
Department Director	Purchasing or Contracts	Human Resources	Other	County Attorney	В	Sudget Services		County Manager/P.W. Director
Januar 188.5	WILKER WILL	NA		i,	Analyst Ris		Mgr.	Jameler 7.28.5
11. Com	mission Acti Approved Deferred Denied Other	d		COL COL FOR	EIVED BY JNTY ADMIN: 1- AT- (S) JINTY ADMIN EWARDED TO: 1- ASS 4:	CO. A. FORMA	. Xiiti. Sa Salan	



125 SE 5th Court Deerfield Beach, FL 33441-4749 (954) 973-9700

Fax: (954) 974-3894

July 16th, 2005

Ms. Ann Parsons

Senior Account Clerk

Community Development/Public Works Center

4th Floor, Fiscal/Internal Services

1500 Monroe Street

Ft. Meyers, FL 33901

Tel:

239 479 8551

Fax: 239 479 8105

Re:

Emergency CIPP Liner in failed storm drain pipes

Various Locations

Piggyback of Broward County Contract T 6 03 177 B1

Dear Ms. Parsons:

We are providing pricing for cleaning, televising and lining of the storm sewers as requested. The CIPP lining shall be constructed in accordance with ASTM F 1216. which is made part of this proposal. Our price includes but may not be limited to:

SCOPE OF REPAIRS

Bonita Beach Road from Arroyo to US 41

24" CIP Pipe Lining, 7.5mm	800 LF	\$ 85.00/lf	\$ 68,000.00
Cleaning & Video Inspection	800 LF	\$ 6.00/lf	\$ 4,800.00

TOTAL COST OF REHABILITATION AT RESPECTIVE SITES

\$ 72,800.00

The units stated would be those required to rehabilitate all pipes in accordance with applicable ASTM F 1216 and other specifications, to a stand-alone liner with a fifty (50) year service life expectancy. Our work would include, but may not be limited to all cleaning, televising, inversion lining, pre & post warranty tapes, and third party testing of liners installed.

A water source shall be made available.

Thank you for your consideration of Lanzo Lining Services.

Respectfully Submitted,

LANZO LINING SERVICES, INC.

Fred Tingberg Jr., Assistant Secretary

FT/dgv



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SCOPE OF REPAIRS

1429 Sautern Drive - SFM

15" CIP Pipe Lining, 7.5mm 215 LF \$ 57.00/lf \$ 12,255.00 Cleaning & Video Inspection 215 LF \$ 6.00/lf \$ 1.290.00

Jet Port Loop Road - SFM

15" CIP Pipe Lining, 7.5mm	45 LF	\$ 57.00/lf	\$ 2,565.00
Cleaning & Video Inspection	45 LF	\$ 6.00/lf	\$ 2,303.00
evening ev video hispection	45 Li	3 0.00/11	\$ 270.00
4310 Harbor Lane - NFM			
15" CIP Pipe Lining, 7.5mm	102 LF	\$ 57.00/lf	\$ 5,814.00
Cleaning & Video Inspection	102 LF	\$ 6.00/lf	\$ 612.00
5327 Shalley Circle - SFM			
12"x18" CIP Pipe Lining, 7.5mm	720 LF	\$ 57.00/lf	\$ 41,040.00
Cleaning & Video Inspection	720 LF	\$ 6.00/lf	\$ 4,320.00
1595 Main Street - FMB			
15" CIP Pipe Lining, 7.5mm	110 LF	\$ 57.00/lf	\$ 6,270.00
Cleaning & Video Inspection	110 LF	\$ 6.00/lf	\$ 660.00
11350 Cypress Lane - SFM			
12"x18" CIP Pipe Lining, 7.5mm	112 LF	\$ 57.00/lf	\$ 6,384.00
Cleaning & Video Inspection	112 LF	\$ 6.00/lf	\$ 672.00
5733 Inverness Circle - NFM			
24" CIP Pipe Lining, 7.5mm	150 LF	\$ 85.00/lf	\$ 12,750.00
Cleaning & Video Inspection	150 LF	\$ 6.00/lf	\$ 900.00
5733 Inverness Circle - NFM			
30" CIP Pipe Lining, 7.5mm	305 LF	\$ 114.00/lf	\$ 34,770.00
Cleaning & Video Inspection	305 LF	\$ 9.00/lf	\$ 2,745.00
TOTAL COST OF REHABILITATION	AT RESPECTI	VE SITES	\$ 133,317.00

The units stated would be those required to rehabilitate all pipes in accordance with applicable ASTM F 1216 and other specifications, to a stand-alone liner with a fifty (50) year service life expectancy. Our work would include, but may not be limited to all cleaning, televising, inversion lining, pre & post warranty tapes, and third party testing of liners installed.

A water source shall be made available.

Thank you for your consideration of Lanzo Lining Services.

Respectfully Submitted,

LANZO LINING SERVICES, INC.

Fred Tingberg Jr., Assistant Secretary

FT/dgv

Enclosure

SUBMIT BID TO:



Broward County Purchasing Division 115 S. Andrews Avenue, Room 212 Maro county Fort Lauderdale, Florida 33301-1801 (954) 357-6065/66

BOARD OF COUNTY COMMISSIONERS BROWARD COUNTY, FLORIDA

INVITATION FOR BID

Bidder Acknowledgment

- GENERAL CONDITIONS -

THESE INSTRUCTIONS ARE STANDARD FOR ALL CONTRACTS FOR COMMODITIES/SERVICES ISSUED BY THE BOARD OF COUNTY COMMISSIONERS. THE BOARD OF COUNTY COMMISSIONERS MAY DELETE, SUPERSEDE OR MODIFY ANY OF THESE STANDARD INSTRUCTIONS FOR A PARTICULAR CONTRACT BY INDICATING SUCH CHANGE IN THE SPECIAL INSTRUCTIONS TO BIDDERS OR IN THE BID SHEETS. BY ACCEPTANCE OF A PURCHASE ORDER ISSUED BY THE COUNTY, BIDDER AGREES THAT THE PROVISIONS INCLUDED WITHIN THIS INVITATION FOR BID SHALL PREVAIL OVER ANY CONFLICTING PROVISION WITHIN ANY STANDARD FORM CONTRACT OF THE BIDDER REGARDLESS OF ANY LANGUAGE IN BIDDER'S CONTRACT TO THE CONTRARY.

BIDDER ACKNOWLEDGEMENT MUST BE SIGNED AND RETURNED WITH YOUR BID

SEALED BIDS: This form must be executed and submitted with all bid sheets in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE BID PER ENVELOPE). The face of the envelope shall contain the above address, the date and the time of bid opening, and bid number. Bids not submitted on attached bid form may be rejected. All bids are subjected to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.

- 1. EXECUTION OF BID: Bid must contain an original signature of an individual authorized to bind the bidder. Bid must be typed or printed in ink. All corrections made by bidder to his bid must also be initialled. The bidder's name should also appear on each page of the bid sheet if required. Bids will not be accepted from firms in arrears to the Board of County Commissioners upon debt or contract nor from a defaulter upon obligations to the Board of County Commissioners. Bidder certifies by signing the bid that no principals or corporate officers of his firm were principals or corporate officers in any other firm which may have been suspended or debarred from doing business with Broward County within the last three years, unless so noted in the bid documents.
- 2. NO BID: If not submitting a bid, respond by returning this Bidder Acknowledgement form, marking it "NO BID", no later than the stated bid opening date and hour, and explain the reason in the space provided. Failure to respond without justification may be cause for removal of the bidder's name from the bid mailing list. NOTE: To qualify as a respondent, bidder must submit a "NO BID."
- 3. BID WITHDRAWAL: No bidder may withdraw his bid before the expiration of ninety (90) calendar days from the date of bid opening unless vendor so notes in the bid.
- 4. BID OPENING: Shall be public, on date, location and time specified on the bid form. The official time is the time clock located in the Purchasing Division reception area and will be accepted by all parties without reservation. It is the bidder's responsibility to assure that his bid is delivered on date, location and time specified on the bid form. Bids, which for any reason are not so delivered, will not be considered. Bid files and any bids after they are opened may be examined during normal working hours by appointment. Bid tabulations are available for inspection upon request,

(Continued on Page 2)

BIDS WILL BE OPENED 2 p.m. SEPTEMBER 2, 2003 and may not be withdrawn within 90 calendar days after such date and time.

CURED IN PLACE PIPE REHABILITATION BID TITLE

BID NO. T-6-03-177-B-1

PURCHASING AGENT JORDAN LONDON (954) 357-6290

DELIVERY DATE

LaroH

SEE SPECIAL INSTRUCTION CASH DISCOUNT TERMS

20 TEICON W

NET 08

BID GUARANTY IS ATTACHED, WHEN REQUIRED, IN THE AMOUNT OF

REASON FOR NO BID

FEDERAL EMPLOYER I.D. or SOCIAL SECURITY NUMBER

65-0414559

DUN & BRADSTREET NUMBER

87-421-4554

BIDDER NAME

Lanzo Lining Services, Inc.

BIDDER MAILING ADDRESS/CITY/STATE/ZIP

1900 NW 44 Street

Pompano Beach FL 33064

AREA CODE TELEPHONE NO.

CONTACT PERSON

954-973-9700

Fred Tingberg

FAX NO

INTERNET ADDRESS

954-974-3894

fredt@lanzo.org

AUTHORIZED SIGNATURE (original in ink)

Fred Tingberg

Assistant Secretary

TYPED NAME OF SIGNER

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same items/services, and is in all respects fair and without collusion or fraud. Lagree to abide by all conditions of this bid and certify that farr authorized to sign this bid for the bidder. Further by signature of this form, pages 1 through 4 are acknowledged and accepted as well as any special instruction sheet(s) if applicable.

BID SHEET

CURED-IN-PLACE PIPE REHABILITATION SERVICES

TO: BOARD OF COUNTY COMMISSIONERS BROWARD COUNTY, FLORIDA

All blanks have been filled in, BID SHEET is attached to the completed "Invitation For Bid" and returned herewith.

In accordance with all terms, conditions, specifications and requirements, the bidder offers the following:

GROUP 1 (ITEMS 1 THRU 53)

ITEM NO.	ESTIMATED ANNUAL QUANTITY	COMMODITY CODE DESCRIPTION	UNITS OF MEASURE	TOTAL PRICE
1.	250 LF	#913 77 008 0250 Clean/TV Pipe up to 12"	\$4.00 /LF	\$ 1,000.00
2.	900 LF	#913 77 008 0255 Clean/TV Pipe>12" thru 24"	\$6.00/LF	\$ 5,400.00
3.	1,000 LF	#913 77 008 0260 Clean/TV Pipe>24" thru 42"	\$	\$ 9,000.00
1.	750 LF	#913 77 008 0265 Clean/TV Pipe>42" thru 54"	\$	\$_10,500.00
5.	750 LF	#913 77 008 0270 Clean/TV Pipe>54" thru 72"	\$	\$ 11,250.00
5.	4 EA	#913 77 008 1015 Sealing of Existing Catch Basin or Manhole	\$_600.00 /EA	s 2,400.00
	50 LF	#913 77 008 0115 Specialty Cleaning, 12" thru 24"	\$9.00 / LF	\$ 450.00
	50 LF	#913 77 008 0250 Specialty Cleaning, >24" thru 42"	\$15.00/LF	\$ 750.00
	8 EA	#913 77 008 0128 Specialty Cleaning, >24" thru 42", First 10 Feet	\$ <u>150.00</u> /EA	\$ 1,200.00
) .	8 EA	#913 77 008 0131 Specialty Cleaning, >42" thru 72", First 10 Feet	\$	1,200.00
AME OI	F COMPANY:	Lanzo Lining Services, Inc.	T	\$_1,200.00

BID SHEET (Continued)

CURED-IN-PLACE PIPE REHABILITATION SERVICES

GROUP 1 (ITEMS 1 THRU 53) (Continued)

		, ,		
ITEM NO.	ESTIMATED ANNUAL QUANTITY	COMMODITY CODE DESCRIPTION	UNITS OF MEASURE	TOTAL PRICE
11.	50 LF	#913 77 008 0222 Specialty Cleaning, >42" thru 72"	\$15.00/LF	\$ 750.00
12.	10 EA	#913 77 008 1005 By-Pass Pumping	\$600.00_/EA	\$ 6,000.00
13.	10 EA	#913 77 008 1010 Reconnection of Laterals	\$240.00/EA	\$ 2,400.00
14.	50 LF	#913 77 008 1105 8" Diameter, Pipe Depth thru 4'	\$	\$ 1,700.00
15.	50 LF	#913 77 008 1108 8" Diameter, Pipe Depth >4' thru 8'	\$	s 1,700.00
16.	50 LF	#913 77 008 1111 8" Diameter, Pipe Depth >8' thru 12'	\$34.00 /LF	\$ _1,700.00
17.	50 LF	#913 77 008 1114 10" Diameter, Pipe Depth thru 4'	\$ 36.00 /LF	\$ 1,800.00
18.	50 LF	#913 77 008 1117 10" Diameter, Pipe Depth >4' thru 8'	\$	\$ 1,800.00
19.	50 LF	#913 77 008 1119 10" Diameter, Pipe Depth >8' thru 12"	\$36.00 /LF	\$ 1,800.00
20.	150 LF	#913 77 008 1121 12" Diameter, Pipe Depth thru 4'	\$	\$ _6,000.00

NAME OF COMPANY:	Lanzo	Lining	Services,	Inc.

BID SHEET (Continued)

CURED-IN-PLACE PIPE REHABILITATION SERVICES

GROUP 1 (ITEMS 1 THRU 53) (Continued)

ITEM NO.	ESTIMATED ANNUAL QUANTITY	COMMODITY CODE DESCRIPTION	UNITS OF MEASURE	TOTAL PRICE
21.	150 LF	#913 77 008 1124 12" Diameter, Pipe Depth >4' thru 8'	\$_40.00 /LF	\$ 6,000.00
22.	100 LF	#913 77 008 1127 12" Diameter, Pipe Depth >8' thru 12'	\$_40.00 / L F	\$ 4,000.00
23.	100 LF	#913 77 008 1139 15" Diameter, Pipe Depth thru 4'	\$ ^{57.00} /LF	s 5,700.00
24.	100 LF	#913 77 008 1142 15" Diameter, Pipe Depth >4' thru 8'	\$ 57.00 /LF	\$ 5,700.00
5.	100 LF	#913 77 008 1145 15" Diameter, Pipe Depth >8' thru 12'	\$	\$ 5,700.00
6.	50 LF	#913 77 008 1157 18" Diameter, Pipe Depth thru 4	\$_63.00 /LF	\$ _ 3,150.00
7.	50 LF	#913 77 008 1160 18" Diameter, Pipe Depth >4' thru 8'	\$_63.00 /LF	\$ 3,150.00
3.	50 LF	#913 77 008 1163 18" Diameter, Pipe Depth>8' thru 12'	\$_63.00 /LF	\$ 3,150.00
).	50 LF	#913 77 008 1175 21" Diameter, Pipe Depth thru 4'	\$66.00 /LF	s 3,300.00
	50 LF	#913 77 008 1178 21" Diameter, Pipe Depth >4' thru 8'	\$	\$ 3,300.00
ME OF	COMPANY:	Lanzo Lining Services, Inc.	- 	¥. <u> </u>

BID SHEET (Continued)

CURED-IN-PLACE PIPE REHABILITATION SERVICES

GROUP 1 (ITEMS 1 THRU 53) (Continued)

ITEM NO.	ESTIMATED ANNUAL QUANTITY	COMMODITY CODE DESCRIPTION	UNITS OF MEASURE	TOTAL PRICE
31.	50 LF	#913 77 008 1181 21" Diameter, Pipe Depth >8' thru 12'	\$66.00 /LF	\$ 3,300.00
32.	150 LF	#913 77 008 1193 24" Diameter, Pipe Depth thru 4'	\$ <u>85.00</u> /LF	\$ 12,750.00
33.	150 LF	#913 77 008 1196 24" Diameter, Pipe Depth >4' thru 8'	\$85.00/ LF	\$ _12,750.00
34.	150 LF	#913 77 008 1199 24" Diameter, Pipe Depth >8' thru 12'	\$85.00/ LF	\$ 12,750.00
35.	50 LF	#913 77 008 1211 27" Diameter, Pipe Depth thru 4'	\$ 68.00 /LF	\$ 3,400.00
36.	50 LF	#913 77 008 1214 27" Diameter, Pipe Depth >4' thru 8'	\$ <u>68.00</u> /LF	\$ 3,400.00
37.	50 LF	#913 77 008 1217 27" Diameter, Pipe Depth >8' thru 12'	\$ <u>68.00</u> /LF	\$ 3,400.00
38.	50 LF	#913 77 008 1229 30" Diameter, Pipe Depth thru 4'	\$_114.00/LF	\$ _5,700.00
39.	50 LF	#913 77 008 1232 30" Diameter, Pipe Depth >4' thru 8'	\$_114.00 / LF	\$ _5,700.00
0.	50 LF	#913 77 008 1235 30" Diameter, Pipe Depth >8' thru 12'	\$_ ^{114.00} / LF	\$ _5,700.00
IAME OI	COMPANY:	Lanzo Lining Services, Inc.		

NAME OF COMPANY:	Lanzo	Lining	Services, Inc.	
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BID SHEET (Continued)

CURED-IN-PLACE PIPE REHABILITATION SERVICES

GROUP 1 (ITEMS 1 THRU 53) (Continued)

ITEM NO.	ESTIMATED ANNUAL QUANTITY	COMMODITY CODE DESCRIPTION	UNITS OF MEASURE	TOTAL PRICE
		#913 77 008 1247		
41.	50 LF	36" Diameter, Pipe Depth thru 4'	\$_142.00 _/LF	\$_7,100.00
42.	50 LF	#913 77 008 1250 36" Diameter, Pipe Depth >4' thru 8'	\$ 142.00 /LF	\$ 7,100.00
43.	50 LF	#913 77 008 1253 36" Diameter, Pipe Depth >8' thru 12'	\$_142.00 /LF	\$ _7,100.00
44.	50 LF	#913 77 008 1269 42" Diameter, Pipe Depth thru 8'	\$_152.00/ LF	\$ _7,600.00
45.	50 LF	#913 77 008 1271 42" Diameter, Pipe Depth >8' thru 12'	\$_152.00/LF	\$ 7,600.00
46.	50 LF	#913 77 008 1287 48" Diameter, Pipe Depth thru 8'	\$ 200.00 /LF	\$ 10,000.00
47.	50 LF	#913 77 008 1289 48" Diameter, Pipe Depth >8' thru 12'	\$ <u>200.00</u> /LF	\$ 10,000.00
48.	50 LF	#913 77 008 1305 54" Diameter, Pipe Depth thru 8'	\$_248.00/ LF	\$
49.	100 LF	#913 77 008 1307 54" Diameter, Pipe Depth >8' to/including 12'	\$_248.00 /LF	\$ 24,800.00
50.	100 LF	#913 77 008 1323 60" Diameter, Pipe Depth thru 8'	\$_275.00 / LF	\$ 27,500.00
NAME O	F COMPANY:	Lanzo Lining Services, Inc.		

BID SHEET (Continued)

CURED-IN-PLACE PIPE REHABILITATION SERVICES

GROUP 1

(ITEMS 1 THRU 53) (Continued)

ITEM NO.	ESTIMATED ANNUAL QUANTITY	COMMODITY CODE DESCRIPTION	UNITS OF MEASURE	TOTAL PRICE
51.	100 LF	#913 77 008 1323 60" Diameter, Pipe Depth thru 8' thru 12'	\$_ ^{275.00} /LF	\$ 27,500.00
52.	100 LF	#913 77 008 1341 66" Diameter, Pipe Depth thru 8'	\$ 295.00 /LF	\$29,500.00
53.	300 LF	#913 77 008 1343 66" Diameter, Pipe Depth >8' thru 12'	\$	\$ 88,500.00
54.	300 LF	#913 77 008 1358 72" Diameter, Pipe Depth thru 8'	\$	\$ _117,000.00
55.	300 LF	#913 77 008 1360 72" Diameter, Pipe Depth >8' thru 12'	\$ <u>390.00</u> /LF	\$ 117,000.00
56.	1 Lot	#913 77 008 1025 Related Rehabilitation Repair Services, Pass-Through*	\$ <u>30,000.00</u> /Lot	\$30,000.00
		*Refer to Sections 9.2 and 9.3, At		÷00,000.00
DELIVER	RY REQUIREMENT	TOTAL GROUP 1 (ITEMS 1 THRU		\$ 711,500.00

DELIVERY REQUIREMENTS:

- Job completion time will be negotiated and specified on the Purchase Order for each individual
- Contractor will respond to Notice to Investigate jobsite within twenty-four (24) hours of receipt of 2.
- 3. Contractor will start mobilization within twenty-four (24) hours of Notice to Proceed.

NAME OF COMPANY:

Lanzo Lining Services, Inc.

AUTHORIZED SIGNATURE:

By signing this bid sheet your firm is agreeing to the terms and conditions of the invitation for Bid.

ATTACHMENT "A"

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

SCOPE OF SERVICE

I. INTENT:

It is the intent of this specification to provide for the reconstruction of existing storm drainage pipes by the installation of cured-in-place pipe (CIPP). A CIPP is formed by the insertion of a resin-impregnated flexible felt tube into the existing pipe. The tube is expanded with an inversion process or other equally effective method to fit against the original conduit, and then heated to cure the resin. Slip lining methods will not be acceptable. The finished product is a jointless, structural pipe that is formed to the existing pipe. Pipe sizes 72" or greater are NOT included in the cleaning portion of this contract.

To be considered qualified to bid on this Solicitation, a vendor must meet the following criteria:

1.1 Installed at least 50,000 linear feet (If) of cured-in-place pipe in a storm drainage application that meets the performance specifications in Attachment "A", Section 3.3, page 21 of 40.

II. REFERENCED DOCUMENTS:

This specification references American Society for Testing and Materials (ASTM) and National Association of Sewer Service Companies (NASSCO) standards which are made part hereof by such reference, and shall be the latest edition and revision thereof. If there is a conflict between these standards and this specification, this specification will govern.

III. MATERIALS:

- The tube construction shall consist of one or more layers of absorbent fabric capable of carrying resin, and capable of withstanding installation pressures and curing temperatures. The tube shall be compatible with the resin system used. The tube material shall be able to stretch to fit plastic coated with a material that is compatible with the resin system used, and an integral part of the felt fabric tube. The tube will be fabricated to size that, when installed, will fit the internal circumference and the length of the existing pipe. Allowances shall be made for circumferential stretch during installation. The outside of the tube shall be marked along its full length at regular intervals not to exceed five (5) feet.
- The resin used shall be a thermoset resin system that is compatible with the cured-in-place pipe installation. The resin shall be able to cure in the presence of water and the initiation temperature for cure shall be less than 180 F and shall have quick cure characteristics in order to facilitate multiple daily installations per crew.

<u>ATTACHMENT "A"</u> (Continued)

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

III. MATERIALS: (Continued)

The CIPP system shall have the minimum structural properties given below:

CIPP STRUCTURAL PROPERTIES

Fie	OPERTY	ASTM TEST METHOD	MIN. VALUE
	xural Strength	D790	5000 psi
	xural Modulus	D790	300,000 psi
OID	D = 1		, po.

- CIPP Field Samples To verify physical properties, the manufacturer shall submit a minimum of 3.4 15 test results from previous field installations of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 3.3 have been achieved in previous field applications. The tests must have been performed by an independent third party certified to perform such testing.
- The wall color of the interior pipe surface of the CIPP after installation shall not be of a dark or 3.5 nonreflective nature that could inhibit proper closed circuit television inspection.
- The bond between all CIPP layers shall be strong and uniform. All layers, before cure, shall be 3.6

IV. **DESIGN PARAMETERS:**

The required structural CIPP wall thickness shall be based on the minimum physical properties in Section 3.3 and in accordance with the guidelines in the appendix of ASTM F1216, with the

Design Safety Factor		
(Typically 1.5 to 2.0) Reduction Factor for Long-Term Effects	=	2.0
(Applied to flexural Modulus) Ovality	=	50% minimum
Enhancement Factor, K	=	_0%
Internal Vacuum (if applicable)	=	7
Groundwater Depth (above invert)	=	N/A psi
Soil Depth (above crown)	=	Two feet below grade ft
Soil Modulus	=	Actual ft
Soil Density	=	700 psi
Live Load "	=	110 pcf
Design Condition (partially or	=	N/A
fully deteriorated)	=	Actual conditions

Denotes information which can be provided here or in construction plans.

Multiple line segments may require a table of values.

- Denotes information required only for fully deteriorated design conditions.
- Based on review of video logs, the existing host pipe(s) can be classified as fully deteriorated.
- Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe 4.2 shall not be included in the structural CIPP wall thickness.

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

V. INSTALLATION:

5.1 Cleaning and Inspection

- 5.1.1 All internal debris must be removed from the original pipe. Pipes shall be cleaned with hydraulically powered equipment, or high-velocity jet cleaners, or mechanically powered equipment. By-Pass pumping, plug if necessary, will be viewed as part of cleaning and inspection and will not be billed separately.
- 5.1.2 Inspection of pipelines must be performed by experienced personnel trained in locating breaks, obstacles, and service connections by closed-circuit television or man entry. The interior of the pipeline must be carefully inspected to determine the location of any conditions that may prevent proper installation of the impregnated tube, such as protruding service taps, collapsed or crushed pipe, and reductions in the cross-sectional area of more than 25%. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, then a point repair excavation shall be made to uncover and remove or repair the obstruction.
- 5.1.3 The contractor may <u>not</u> dewater a Broward County-owned drainage system for cleaning purposes without the written approval of Broward County.
- 5.1.4 The contractor may <u>not</u> install a plug in a Broward County-owned drainage system without the written approval of Broward County. The installation of a plug will be considered a part of cleaning the pipe and will not be billed separately.

5.2 Resin Impregnation

- 5.2.1 The tube must be vacuum-impregnated with resin (wet-out) under controlled conditions. The volume of resin used shall be sufficient to fill all voids in the tube material at nominal thickness and diameter. The volume must be adjusted by adding excess resin for the change in resin volume due to polymerization and to allow for any migration of resin into the cracks and joints in the original pipe. A roller system shall be used to uniformly distribute the resin throughout the tube.
- 5.2.2 The Installer shall designate a location where the CIPP will be vacuum impregnated prior to installation. Vacuum impregnation shall be utilized for maximum saturation. The Installer shall allow the owner's representative to inspect the materials and procedures used to vacuum impregnate the tube.

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

V. <u>INSTALLATION</u>: (Continued)

5.3 <u>Installation of CIPP</u>

- 5.3.1 The installation and curing of the liner must be done as per the instructions of the manufacturer of the liner material.
- 5.3.2 Before the installation begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the existing conduit, and the maximum allowable pressure so as not to damage the tube. Once the installation has started, the pressure shall be maintained between the minimum and maximum pressures until the installation has been completed.
- 5.3.2 If running sand is evident in the pre-video inspection, then the installation shall be performed simultaneous within one video and cleaning to prevent trapping sand between the tube and the existing pipe.
- The use of a lubricant during inversion is required to reduce friction. This lubricant shall be poured into the water in the downtube or applied directly to the tube or inflation bladder. The lubricant used must be a nontoxic, oil-based product that has no detrimental effects on the tube or boiler and pump system, will not support the growth of bacteria, and will not adversely affect the fluid to be transported. Lubricant shall not be used in processes with permeable coatings.

5.5 Curing

- 5.5.1 After installation is completed, a suitable heat source and water recirculation equipment are required to circulate heated water throughout the pipe. The equipment must be capable of delivering hot water throughout the section to uniformly raise the water temperature above the temperature required to effect a cure of the resin. Water temperature in the line during the cure period must be as recommended by the resin manufacturer.
- 5.5.2 The heat source shall be fitted with suitable monitors to gage the temperature of the incoming and outgoing water supply. Another such gage must be placed between the impregnated tube and the pipe invert at the termination to determine the temperatures during cure.
- 5.5.3 Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appear to be hard and sound and the remote temperature sensor indicates that the temperature is of a magnitude to realize an exotherm or cure in the resin. After initial cure is reached, the temperature must be raised to the post-cure temperature recommended by the resin manufacturer. The post-cure temperature must be held for a period as recommended by the resin manufacturer, during which time the recirculation of the water and cycling of the boiler to maintain the temperature continues. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil).

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

V. <u>INSTALLATION</u>: (Continued)

5.6 Workmanship

- 5.6.1 The finished pipe must be continuous over the entire length of an installation run and be free of dry spots, lifts, and delaminations. If these conditions are present, remove and replace the CIPP in these areas.
- 5.6.2 If the CIPP does not fit tightly against the original pipe at its termination point(s), the space between the pipes must be sealed. Method of sealing shall be approved by the engineer.

5.7 Service Connections

After the new pipe has been cured in place, existing storm drainage connections shall be reconnected. This must be done without excavation, and in the case of non-man entry pipes, from the interior of the pipeline by means of a television camera and a remote-control cutting device. If excavations are required, these shall be at no additional cost to the owner.

VI. INSPECTION:

- 6.1 For each inversion length designated by the owner in the contract documents or purchase order, one CIPP sample shall be cut from a section of cured CIPP at an intermediate manhole or at the termination point that has been inverted through a like diameter pipe which has been held in place by a suitable heat sink, such as sandbags. (Note: In areas with limited space and larger diameter pipes, other sampling techniques may be required).
- The sample must be large enough to provide a minimum of three specimens and a recommended five specimens for flexural testing. The full CIPP sample wall thickness shall be tested, whenever possible. If the sample is irregular, distorted, or of such thickness that proper testing is inhibited, then the wall thickness shall be machined away from the inside pipe face of the sample only. Thus, the test specimen shall be cut from the outside pipe face of the CIPP sample. For specimens greater than ½ in (12.70 mm) in depth, the width-to-depth ratio of the specimen shall be increased to a minimum of 1:1 and shall not exceed 4:1.
- 6.3 Test specimens shall be oriented on the testing machine with the interior surface of the CIPP in tension. The following test procedure must be followed after the sample is cured and removed.
 - 6.3.1 Flexural (Bending) Properties The initial tangent flexural Modulus of elasticity and flexural stress must be measured for gravity applications in accordance with Test Method D 790, Test Method I -Procedure A, and must meet the requirements of Section 3.3.
- The installation shall be inspected visually if appropriate, or by closed-circuit television if visual inspection cannot be accomplished. Variations from true line and grade may be inherent because of the conditions of the original piping. No infiltration of groundwater must be observed.

 All service entrances must be accounted for and be unobstructed.
- 6.5 Inspections shall be performed after the complete removal of plugs.

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

VII. SITE CONDITIONS:

- 7.1 Upon acceptance of the installation, the Installer shall reinstate, to original conditions, the project area affected by the operations. The reinstatement of the site conditions will be subject to the approval of County as a condition of payment.
- 7.2 The contractor is responsible for the appropriate legal disposal of all waste associated with each project.
- 7.3 All work performed within Broward County rights-of-way must be performed by a firm or corporation certified by the **Broward County Central Examining Board for Engineered Construction Trades** (or by the **Florida Construction Licensing Board**) for the class of work performed and as per the requirements specified in the "Special Conditions."
- 7.4 The average length of the storm drains to be lined will be approximately 150 feet.
- 7.5 The Contractor is solely responsible for traffic control. All work performed within County jurisdiction rights-of-way, shall be performed in conformance with Broward County Engineering Division "Minimum Standards applicable to Public Rights-of-Way under Broward County Jurisdiction," latest edition.
- 7.6 The successful bidder will be required to be obtain an annual "Permit of Record" from Broward County Engineering Division to cover all work performed within County jurisdiction rights-of-way. No Permit fee and no additional security will be required by the Engineering Division.

VIII. SCHEDULE OF WORK:

The contractor shall complete the specified work within the time specified on those Purchase order. Any extension of time which may be required must be approved in writing by the Contract Administrator or Designee.

IX. PAYMENT:

- Payment for the work included in this section will be in accordance with the prices set forth in the proposal for the quantity of work performed. Progress payments will be made monthly, based on the work performed during that period. The Contractor will be required to submit a standard County form requesting payment for materials provided and work performed and accepted/approved.
- 9.2 Specialized rehabilitation services that cannot be provided by the contractor, may be provided by a sub-contractor under the direct supervision of the awarded contractor. These services must be associated with preparing the site for lining or repairing the areas damaged by the failure of a County-owned pipe. Such services will be billed and paid via the "pass through" method. The Contract Administrator or designee must approve any work to done under this Section prior to the work being started.

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

IX. PAYMENT: (Continued)

- 9.3 In order to ensure that the price of work done by a sub-contractor is fair and reasonable to the County, two (2) procedures must be followed by the Contractor:
 - 9.3.1 Upon determination that rehabilitation work outside the scope of the Contractor must be done, the Contractor will ascertain from the Project Manager whether the County has an existing Contract/Price Agreement in place for the specific work or for the type of work (e.g., plumbing) that is required. If there is a Contract/Price Agreement, the Contractor will be required to utilize that Contract for the necessary work;
 - 9.3.2 If there is no Contract/Price Agreement, the Contractor will be required to obtain three (3) written competitive quotes from appropriate sub-contractors (qualified and if necessary, licensed to do the work) and procure the work form the lowest priced responsive, responsible quoter. The Project Manager will have the prerogative to require the Contractor to submit the quotes received in order to determine that they are fair and reasonable, at any time prior to or after the Contractor is paid the pass-through amount of the work performed.

X. <u>EXPLANATION OF TERMS</u>:

10.1 <u>Definition of terms is as follows:</u>

10.1.1 Mobilization refers to the transports and setup of equipment, materials and personnel to or from the job site from the nearest base of operations. All mobilizations will be considered part of the job and will not be billed separately.

10.1.2 Clean/Tv:

Clean/TV refers to the removal of all foreign material from a pipe followed by the televised inspection of the pipe using remote controlled video equipment. A video cassettes of the inspection will be provided to the County at no extra charge.

10.1.3 Specialty Cleaning:

"Specialty Cleaning, such as the removal of masonry plugs, roots or the use of special equipment such as bucket machines will be priced in addition to CLEANING/TV. The minimum footage of billable specialty cleaning will be 10 feet. After the 10-foot minimum, Specialty Cleaning will only be charged for the footage which the service is required. Therefore, regardless of actual footage cleaned, minimum charge will be for ten feet (10') plus each foot thereafter, per cleaning. TV inspection after the cleaning is included in this item at no extra charge".

10.1.4 Pass-through refers to services provided by a sub-contractor to the contractor with the contract with the County. Such services will be performed under the supervision of the main Contractor and billed at cost through the main Contractor. All invoices from the sub-contractor will accompany the invoice from the Contractor.

SPECIFICATIONS

CURED-IN-PLACE PIPE REHABILITATION SERVICES

- X. **EXPLANATION OF TERMS**: (Continued)
 - 10.1 <u>Definition of terms is as follows</u>: (Continued)
 - 10.1.5 ByPass Pumping refers to the bypassing of the existing flows to facilitate lining or video taping. Mobilization is included with this item at no extra charge.
 - 10.1.6 A plug is a blockage installed in a pipe to prevent water inflow or outflow. Mobilization is included with this item at no extra charge.
 - 10.1.7 Reconnection of Laterals refers to the reopening of pipes overlayed by the lining process.