

**PORT ST. LUCIE CITY COUNCIL  
AGENDA ITEM REQUEST**

COUNCIL ITEM 13D  
DATE 9/10/12

Meeting Date: September 10, 2012

Public Hearing  Ordinance  Resolution  Motion

Item: #20120035, Rehabilitation of manholes, lift stations & wet wells

**Recommended Action:**

- 1) Approval to enter into a Fixed Unit Price Contract with Rowland Inc. for the prices submitted on their Bid Reply Sheet; plus an Indemnification Fee of \$10.00 for the rehabilitation of manholes, lift stations and wet wells. Purchase Orders will be issued as needs are determined. Contract Period will be October 1, 2012 through September 30, 2014, with an option to renew for another 2 years.

Exhibits: Department memo attached [  ] yes [  ] no

Copies of the Bid tabulation Report, Specifications, and the submitted Bid Reply Sheet.

NOTE: Offers from vendors listed herein are the only offers received timely as of the above opening date and time. All other offers submitted in response to this solicitation, if any, are hereby rejected as late.

Summary Explanation/Background Information: The purpose of this bid is to provide the City with a contract for rehabilitation work on an-as-needed basis. The City issued a bid on June 13, 2012 to 1,101 suppliers. There were 58 planholders with 8 submitting bids on July 2, 2012 at 3:00 P.M. EST. After detailed review of the bid, references and proposed materials, staff recommends the award to Rowland Inc.

The need for the above is:

Purchase is not a replacement

Purchase is budgeted for the 2012-2013 year..

Department requests expenditure from the following:

Fund	438	Ren & Rep
Cost Center	3370, 3380	Inflow, Lift station
Object Code	534000	Other Contractual
Project		

Director of OMB concurs with award:   *cl*  

City Manager concurs with award:   *[Signature]*  

Department requests        minutes to make a presentation.

Submitted by: *Jesus Merejo*

Title: Utility Systems Director

**RECEIVED**

Date Submitted: 9 SEP 20 4 2012

City Manager's Office

---

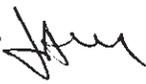
---

## INTEROFFICE MEMORANDUM

---

---

TO: Robyn Holder, Contract Specialist, Office of Management & Budget

FROM: Jesus Merejo, Utility Systems Director 

SUBJECT: Manhole and Lift Station Wet Well Rehabilitation – Contract Award

DATE: August 13, 2012

---

**Background:** The City's wastewater collection system includes numerous manholes and lift stations that are located throughout the Utility Service Area. Hydrogen sulfide gases that are present in a wastewater system can have a corrosive effect on the interior walls of manholes and lift station wet wells. The corrosive nature of these gases can be severe enough to cause some manholes and lift station wet wells to require rehabilitation in order to remain in service.

**Project Description:** The purpose of this work is to provide the City with a contract for manhole rehabilitation work, to be performed on an as-needed basis. This work is of significant value to the City for the continued reliable and safe operation of its wastewater collection system.

**Base Bid:** Bids are based on a scenario of a four foot diameter manhole, approximately 12 feet deep, with moderate to severe degradation. This scenario was developed for the purposes of securing a fair and competitive bid from each contractor. Actual manholes and lift stations found throughout the City's service area vary in diameter, depth and structural condition and overall rehabilitation needs. All unit costs and total bid amounts are detailed in the bid tabulation attached at the end of this memo.

**Recommendation:** After detailed review of the bids, the Utility Systems Department recommends awarding a contract to Rowland Inc. Please note, that the recommendation is based on the scenario outlined above. The actual cost per manhole or lift station will be determined by a facility's diameter, depth and condition.

Rowland's proposed materials meet the requirements of the technical specifications. Their proposed materials include: Sewper Coat PG for liner; Strong QSR (Quick Set Repair) by Strong Seal, Inc. for patches; Strong-Plug by Strong Seal, Inc. for a plug material; and their proposed epoxy liner is Raven 405 by RLS Solutions, Inc.

It is requested that this proposal be presented to the City Council for approval at the next available City Council Meeting. Funds to cover these services are included

Robyn Holder  
August 13, 2012

in the Utility's FY 2012-13 budget in 438-3370 (manholes) and 438-3380 (lift stations).

Attachment: Manhole and Lift Station Wet Well Rehabilitation Bid Tabulation

c: Brad Macek, Assitant Director  
Laney Southerly, P.E., Engineering Manager  
Danny Segui, Deputy Director  
Jeffery Labigang, Distribution & Collections Manager  
Jeanette Thompson, Manager of Budget and Procurement  
Mike Jolly, Wastewater Collection Systems Supervisor  
File: 22.0001 Manhole and Lift Station Wet Well Rehabilitation



Item	QT	Unit	Description	Hinterland		Intercounty		Morris		Paints		Rowland		Select		TV Div		VacVision		
				Unit	Amount	Unit														
1	1	LS	Mobilization	\$ 1.00	\$ 1.00	\$ 1,200.00	\$ 1,200.00	\$ 650.00	\$ 650.00	\$ 1.00	\$ 1.00	\$ 100.00	\$ 100.00	\$ 500.00	\$ 500.00	\$ 1,900.00	\$ 1,900.00	\$ 1,000.00	\$ 1,000.00	
<b>Manhole &amp; Lift Station surface Prep</b>																				
2	150	SF	Dry abrasive blasting and removal of existing coating material	\$ 3.00	\$ 450.00	\$ 3.50	\$ 525.00	\$ 5.50	\$ 825.00	\$ 9.95	\$ 1,492.50	\$ 4.00	\$ 600.00	\$ 3.00	\$ 450.00	\$ 0.50	\$ 75.00	\$ 10.00	\$ 1,500.00	\$ 1,500.00
3	150	SF	Demolition and removal of preexisting mechanically fastened or embedded liner materials	\$ 3.00	\$ 450.00	\$ 5.00	\$ 750.00	\$ 6.00	\$ 900.00	\$ 9.95	\$ 1,492.50	\$ 5.00	\$ 750.00	\$ 10.00	\$ 1,500.00	\$ 3.00	\$ 450.00	\$ 10.00	\$ 1,500.00	\$ 1,500.00
4	150	SF	High pressure water blasting (minimum 3500 to 5000 psi) of existing substrate	\$ 5.00	\$ 750.00	\$ 2.00	\$ 300.00	\$ 4.00	\$ 600.00	\$ 0.10	\$ 15.00	\$ 0.20	\$ 30.00	\$ 1.50	\$ 225.00	\$ 1.00	\$ 150.00	\$ 6.00	\$ 900.00	\$ 900.00
<b>Liner Application(As directed by City UD)</b>																				
5	1	SF	Condition I - Epoxy Only	\$ 8.00	\$ 8.00	\$ 20.00	\$ 20.00	\$ 12.75	\$ 12.75	\$ 9.95	\$ 9.95	\$ 35.00	\$ 35.00	\$ 13.00	\$ 13.00	\$ 10.00	\$ 10.00	\$ 16.00	\$ 16.00	
6	150	SF	Condition II - Calcium Aluminate	\$ 12.00	\$ 1,800.00	\$ 12.00	\$ 1,800.00	\$ 18.50	\$ 2,775.00	\$ 9.95	\$ 1,492.50	\$ 17.00	\$ 2,550.00	\$ 14.50	\$ 2,175.00	\$ 27.00	\$ 4,050.00	\$ 8.00	\$ 1,200.00	\$ 1,200.00
7	1	SF	Condition III - Composite Level 1	\$ 25.00	\$ 25.00	\$ 14.00	\$ 14.00	\$ 27.50	\$ 27.50	\$ 9.95	\$ 9.95	\$ 40.00	\$ 40.00	\$ 18.00	\$ 18.00	\$ 50.00	\$ 50.00	\$ 25.00	\$ 25.00	
8	1	SF	Condition IV - Composite Level 2	\$ 28.00	\$ 28.00	\$ 16.00	\$ 16.00	\$ 36.50	\$ 36.50	\$ 9.95	\$ 9.95	\$ 45.00	\$ 45.00	\$ 30.00	\$ 30.00	\$ 60.00	\$ 60.00	\$ 35.00	\$ 35.00	
9	150	SF	Supplemental 0.5 inch thick layer(s) of cementitious build-back added to Conditions II, III and IV	\$ 6.50	\$ 975.00	\$ 6.00	\$ 900.00	\$ 7.50	\$ 1,125.00	\$ 9.00	\$ 1,350.00	\$ 1.00	\$ 150.00	\$ 4.00	\$ 600.00	\$ 10.00	\$ 1,500.00	\$ 8.00	\$ 1,200.00	\$ 1,200.00
10	150	SF	Supplemental 50 mil thick layer(s) of epoxy top coated added to Conditions I, III & IV	\$ 3.00	\$ 450.00	\$ 16.00	\$ 2,400.00	\$ 8.00	\$ 1,200.00	\$ 9.00	\$ 1,350.00	\$ 1.00	\$ 150.00	\$ 5.00	\$ 750.00	\$ 5.00	\$ 750.00	\$ 9.00	\$ 1,350.00	\$ 1,350.00
<b>Additional Pricing Information</b>																				
11	1	PD	Manhole Bypass Pumping - 6-inch Quiet Flow (500 gpm)	\$ 40.00	\$ 40.00	\$ 600.00	\$ 600.00	\$ 825.00	\$ 825.00	\$ 495.00	\$ 495.00	\$ 120.00	\$ 120.00	\$ 1,200.00	\$ 1,200.00	\$ 300.00	\$ 300.00	\$ 50.00	\$ 50.00	
12	1	PD	Manhole Bypass Pumping - 8-inch Quiet Flow	\$ 40.00	\$ 40.00	\$ 600.00	\$ 600.00	\$ 885.00	\$ 885.00	\$ 499.00	\$ 499.00	\$ 120.00	\$ 120.00	\$ 1,500.00	\$ 1,500.00	\$ 350.00	\$ 350.00	\$ 50.00	\$ 50.00	
13	1	PD	Manhole Bypass Pumping - 10-inch Quiet Flow (500 gpm)	\$ 60.00	\$ 60.00	\$ 880.00	\$ 880.00	\$ 1,200.00	\$ 1,200.00	\$ 900.00	\$ 900.00	\$ 600.00	\$ 600.00	\$ 1,600.00	\$ 1,600.00	\$ 600.00	\$ 600.00	\$ 50.00	\$ 50.00	
14	1	PD	Lift Station Bypass Pumping (3000 gpm)	\$ 495.00	\$ 495.00	\$ 1,825.00	\$ 1,825.00	\$ 1,425.00	\$ 1,425.00	\$ 1,500.00	\$ 1,500.00	\$ 1,200.00	\$ 1,200.00	\$ 2,000.00	\$ 2,000.00	\$ 600.00	\$ 600.00	\$ 2,500.00	\$ 2,500.00	
15	1	Each	Resetting of existing manhole cover frame assembly	\$ 200.00	\$ 200.00	\$ 778.00	\$ 778.00	\$ 475.00	\$ 475.00	\$ 499.00	\$ 499.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 400.00	\$ 400.00	\$ 750.00	\$ 750.00	
16	1	Each	Installation of new manhole cover frame	\$ 600.00	\$ 600.00	\$ 996.00	\$ 996.00	\$ 685.00	\$ 685.00	\$ 999.00	\$ 999.00	\$ 500.00	\$ 500.00	\$ 850.00	\$ 850.00	\$ 1,100.00	\$ 1,100.00	\$ 1,250.00	\$ 1,250.00	
17	1	Each	Rebuild existing manhole bench & invert	\$ 200.00	\$ 200.00	\$ 888.00	\$ 888.00	\$ 375.00	\$ 375.00	\$ 499.00	\$ 499.00	\$ 390.00	\$ 390.00	\$ 300.00	\$ 300.00	\$ 200.00	\$ 200.00	\$ 375.00	\$ 375.00	
18	1	Each	Rebuild existing manhole bench & invert	\$ 220.00	\$ 220.00	\$ 958.00	\$ 958.00	\$ 425.00	\$ 425.00	\$ 699.00	\$ 699.00	\$ 450.00	\$ 450.00	\$ 400.00	\$ 400.00	\$ 600.00	\$ 600.00	\$ 375.00	\$ 375.00	
19	1	Each	Rebuild existing manhole bench & invert	\$ 250.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00	\$ 475.00	\$ 475.00	\$ 899.00	\$ 899.00	\$ 500.00	\$ 500.00	\$ 600.00	\$ 600.00	\$ 700.00	\$ 700.00	\$ 375.00	\$ 375.00	
20	1	Each	Removal of existing manhole steps	\$ 15.00	\$ 15.00	\$ 336.00	\$ 336.00	\$ 10.00	\$ 10.00	\$ 499.00	\$ 499.00	\$ 30.00	\$ 30.00	\$ 2.00	\$ 2.00	\$ 1,000.00	\$ 1,000.00	\$ 10.00	\$ 10.00	
21	1	PD	Chemical grouting of manholes	\$ 60.00	\$ 60.00	\$ 456.00	\$ 456.00	\$ 75.00	\$ 75.00	\$ 110.00	\$ 110.00	\$ 65.00	\$ 65.00	\$ 175.00	\$ 175.00	\$ 150.00	\$ 150.00	\$ 50.00	\$ 50.00	
22	1	PD	Chemical grouting of lift stations	\$ 60.00	\$ 60.00	\$ 456.00	\$ 456.00	\$ 75.00	\$ 75.00	\$ 110.00	\$ 110.00	\$ 65.00	\$ 65.00	\$ 175.00	\$ 175.00	\$ 150.00	\$ 150.00	\$ 50.00	\$ 50.00	
23	1	PD	Traffic Control (Residential Street)	\$ 10.00	\$ 10.00	\$ 60.00	\$ 60.00	\$ 15.00	\$ 15.00	\$ 499.00	\$ 499.00	\$ 50.00	\$ 50.00	\$ 25.00	\$ 25.00	\$ 500.00	\$ 500.00	\$ 5.00	\$ 5.00	
24	1	PD	Traffic Control (County or State Road)	\$ 100.00	\$ 100.00	\$ 90.00	\$ 90.00	\$ 75.00	\$ 75.00	\$ 999.00	\$ 999.00	\$ 290.00	\$ 290.00	\$ 150.00	\$ 150.00	\$ 1,000.00	\$ 1,000.00	\$ 300.00	\$ 300.00	
25	50	SY	Sodding	\$ 1.00	\$ 50.00	\$ 3.60	\$ 180.00	\$ 3.03	\$ 151.50	\$ 5.00	\$ 250.00	\$ 2.50	\$ 125.00	\$ 4.00	\$ 200.00	\$ 6.00	\$ 300.00	\$ 5.00	\$ 250.00	
Note: Total cost of Base Bid is the sum of items #1,2,3,4,6,9,10,12,17 and #25. Unit Cost must be provided for ALL items.				\$ 5,166.00		\$ 9,543.00		\$ 9,486.50		\$ 8,441.50		\$ 4,965.00		\$ 8,200.00		\$ 9,725.00		\$ 9,325.00		



**BID OPENING ATTENDANCE**  
**SEALED BID-20120035**  
 Complete Rehabilitation of City Manholes  
 July 24, 2012 @ 3 P.M.

	Name (Please PRINT legibly)	Agency	E-Mail Address	Telephone # & FAX #
1.	Ryan Schaeferborn	CITY OF PSL USD	vschaeferborn@cityofpsl.com	T 875-6435 F
2.	[Signature]			T F
3.				T F
4.				T F
5.				T F
6.				T F
7.				T F

Bid Reply Sheet  
Bid #S-20120035

COMPLETE REHABILITATION OF CITY MANHOLES AND LIFT STATION  
WET WELLS AND LIFT STATION WET WELLS

1. **COMPANY NAME:** Rowland Inc.  
DIVISION OF: \_\_\_\_\_  
PHYSICAL ADDRESS: 6855 102nd Ave. North  
MAILING ADDRESS: \_\_\_\_\_  
CITY, STATE, ZIP CODE: Pinellas Park, FL, 33782  
TELEPHONE NUMBER: (727) 545-3815 FAX NO. (727) 546-8464  
CONTACT PERSON: Kevin Rowland E-MAIL: Kevin@rowland-inc.com

2. **ORGANIZATIONAL PROFILE:** (complete all appropriate information)

Is the firm incorporated?  Yes - No If yes, in what state? Florida

Kevin Rowland  
President

Ken Rowland  
Vice President

Carolyn J. Hamm  
Secretary

RICK MANSFIELD  
Treasurer

How long in present business: 64 yrs How long at present location: 50 yrs

Is firm a minority business: Yes -  No Does firm have a drug-free workplace program?  Yes - No  
If no, is your company planning to implement such a program? \_\_\_\_\_

3. **ADDENDUM ACKNOWLEDGMENT** - Bidder acknowledges that the following addenda have been received and are included in his/her proposal/bid:

Addendum Number	Date Issued
1	7/2/2012
2	7/2/2012
3	7/10/2012
4	7/10/2012
5	7/10/2012
6	7/16/2012



Complete Rehabilitation of City Manholes, lift stations wet wells

Sealed Bid #20120035

Item	Quan.	Unit	Description	Unit Price	Amount	Base Bid Amount
<b>BIDDER'S COMPANY NAME:</b>						
1	1	LS	Mobilization	100.00	\$ 100.00	\$ 100.00
<b>Manhole and Lift Station Surface Preparation</b>						
2	150	SF	Dry abrasive blasting and removal of existing coating material	4.00	\$ 600.00	\$ 600.00
3	150	SF	Demolition and removal of preexisting mechanically fastened or embedded liner materials	5.00	\$ 750.00	\$ 750.00
4	150	SF	High pressure water blasting (minimum 3500 to 5000 psi) of existing substrate materials	0.20	\$ 30.00	\$ 30.00
<b>Liner Application (As directed by City USD)</b>						
5	1	SF	Condition I - Epoxy Only	35.00	\$ 35.00	
6	150	SF	Condition II - Calcium Aluminate	17.00	\$ 2550.00	\$ 2550.00
7	1	SF	Condition III - Composite Level 1	40.00	\$ 40.00	
8	1	SF	Condition IV - Composite Level 2	45.00	\$ 45.00	
9	150	SF	Supplemental 0.5 inch thick layer(s) of cementitious build-back added to Conditions II, III and IV	1.00	\$ 150.00	\$ 150.00
10	150	SF	Supplemental 50 mil thick layer(s) of epoxy top coated added to Conditions I, III & IV	1.00	\$ 150.00	\$ 150.00
<b>Additional Pricing Information</b>						
11	1	Per Day	Manhole Bypass Pumping - 6-inch Quiet Flow (500 gpm)	120.00	\$ 120.00	\$ 120.00
12	1	Per Day	Manhole Bypass Pumping - 8-inch Quiet Flow (500 gpm)	120.00	\$ 120.00	\$ 120.00
13	1	Per Day	Manhole Bypass Pumping - 10-inch Quiet Flow (500 gpm)	600.00	\$ 600.00	
14	1	Per Day	Lift Station Bypass Pumping (3000 gpm)	1200.00	\$ 1200.00	
15	1	Each	Resetting of existing manhole cover frame assembly	500	\$ 500.00	
16	1	Each	Installation of new manhole cover frame assembly	500	\$ 500.00	
17	1	Each	Rebuild existing manhole bench & invert channel (4-foot diameter manhole)	390.00	\$ 390.00	\$ 390.00
18	1	Each	Rebuild existing manhole bench & invert channel (5-foot diameter manhole)	450.00	\$ 450.00	
19	1	Each	Rebuild existing manhole bench & invert channel (6-foot diameter manhole)	500.00	\$ 500.00	
20	1	Each	Removal of existing manhole steps	30.00	\$ 30.00	
21	1	Per Gal	Chemical grouting of manholes	65.00	\$ 65.00	
22	1	Per Gal	Chemical grouting of lift stations	65.00	\$ 65.00	
23	1	Per Day	Traffic Control (Residential street)	50.00	\$ 50.00	
24	1	Per Day	Traffic Control (County or State Road)	290.00	\$ 290.00	
25	50	SY	Sodding	2.50	\$ 125.00	\$ 125.00
<b>Note: Total cost of Base Bid is the sum of items #1,2,3,4,6,9,10,12,17 and #25. Unit Cost must be provided for ALL items.</b>						<b>TOTAL BASE BID AMOUNT&gt;&gt;&gt;</b>
						<b>\$ 4965.00</b>

ROWLAND INC'S MANHOLE PROJECTS

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
North Pinellas County Service Area Annual Rehabilitation, Sewer & Effluent Systems Extensions Contract  Project 93-14	Pinellas County Sewer Dept. 315 Court St. Clearwater, Fl 34616 Mr. Don Hammond 813/464-4721		780,051*  r/s 85,535  w/s 694,516	6/93
Manhole Rehabilitation  Project 94-33	City of Clearwater P.O. Box 4748 Clearwater, Fl 34618-4748 Mr. Claude Howell 813/462-6042		25,317*  w/s 25,317	5/94
Annual Rehabilitation/ Various Locations Manhole Repairs  Project 94-24  GC: Kaminga & Roodvoets P.O. Box 310396 Tampa, Fl 33680 Mr. Darl Funkhouser 813/623-3031	Pinellas County 315 Court St. Clearwater, Fl 34616 Mr. Carlos Soles 813/464-3588		782,284*  w/s 782,284	9/94
Annual Rehabilitation/ Various Locations Manhole Repairs Project 95-39  GC: Kaminga & Roodvoets, P.O. Box 310396 Tampa, Fl 33680 Mr. Darl Funkhouser 813/623-3031	Pinellas County Sewer Department 315 Court St. Clearwater, Fl 34616  Mr. Carlos Soles 813/464-3588		887,211*  w/s 887,211	4/95

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C.D o a m t p e l e t I o n
Sanitary Sewer Manhole Rehabilitation, Manhole coating portion of Pinellas County Contract No. 734- 930014-0740 through 0743  Project 96-52	City of Largo P.O. Box 296 Largo, FL 34649 Mr. Rick Daquanna, P.E. 813-587-6765.		198,643*  w/s 198,643	4/96
Work Order Construction Services Manhole Rehabilitation Hillsborough County  Project 96-49  GC: Kimmons Contracting 1501 2 <sup>nd</sup> Avenue Tampa, FL 33605 Mr. Barry Johnson 813-248-3878	Hillsborough County Public Utilities Department 1626 Natures Way Blvd. Valrico, FL 33594  Mr. Bobby Levens 813-744-5600		38,123*  w/s (Manholes) 38,123	5/96
Sanitary Sewer and Effluent Rehabilitation (Manholes)  Project 97-56	City of Largo P.O. Box 296 Largo, FL 34649-0296  Mr. Rick Daquanna 813-587-6713		99,822*  w/s (Manholes) 99,822	9/96
Manhole Rehabilitation Project 97-60	City of Treasure Island 120 108 <sup>th</sup> Avenue Treasure Island, FL 33706 Mr. Andy Neff 813/360-0811		208,996*  w/s 132,734 manholes 76,262	7/97

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
Annual Sanitary Sewer Repair & Rehabilitation  Project No. 97-59	City of Largo P.O. Box 296 Largo, FL 34649-0296  Mr. Rick DuQuanna 813/587-6713		318,401*  w/s  318,401	9/97
Annual Sewer Project FY 95/96  Project 96-51	Pinellas County Water System 14 S. Fort Harrison Ave. Clearwater, FL 34616  Mr. Carlos Soles 813/464-3588		2,836,247*  w/s  1,421,869  manholes  1,416,378	10/97
Southwest Collection System-Phase I Project Project 98-69  GC: Philip Utilities/Madsen- Barr 14413 62 <sup>nd</sup> Street N. Clearwater, FL 33760 Mr. Michael Cannon 727/530-7577 727/530-7790 fax	City of Sarasota 1565 First Street Sarasota, FL 34236		171,202*  Manholes  171,202	2/98
Sanitary Sewer Repair and Rehabilitation  Project No. 98-70	City of Treasure Island 120 108 <sup>th</sup> Avenue Treasure Island, FL 33706  Mr. Andrew Neff 727/547-4575 727/547-4587 fax	Tampa Bay Engineering, Inc. 18167 U.S. 19 N., Suite 550 Clearwater, FL 33764 Mr. Don McCullers 727/531-3505 727/539-1294 fax	231,249*  Manholes  231,249	6/98

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
Annual Sanitary Sewer Repairs & Rehabilitation  Project No. 98/72	City of Largo P.O. Box 296 Largo, FL 34649-0296  Mr. Rick DaQuanna 813/587-6713 813/586-7413 fax		153,700* Manholes 153,700	10/98
Conserv I/Sewpercoat Project No. 98-74  GC: Martin K. Eby Construction Co. P.O. Box 300639 Fern Park, FL 32730  Mr. Leon Umberger 407/331-3100 407/331-3614 fax	City of Orlando  Orlando, FL 32801		54,840*  Pump stations 49,840  Manholes 5,000	11/98
Manhole Rehabilitation  Project No. 98-65	Manatee County BOCC 1112 Manatee Ave. W. Bradenton, FL 34205 Mr. R.B. Shore 941/749-1800 941/741-4082 fax		105,958* Manholes 105,958	12/98
Manhole Rehabilitation  Project No. 99-85	City of Largo P.O. Box 296 Largo, FL 33779  Mr. Rick DuQuanna 727/587-6713 727/586-7413 fax		258,248* manholes 258,248	11/99
Manhole Rehabilitation  Project No. 00-96	City of Clearwater P.O. Box 4748 Clearwater, FL 33758  Ms. Eisa Murrin 727/562-4750 727/562-4755 fax		497,535* manholes 497,535	5/00

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t I o n
Manhole Rehabilitation  Project No. 99-88	Manatee County BOCC 1112 Manatee Ave. W. Bradenton, FL 34205 Mr. R.B. Shore 941/749-1800 941/741-4082 fax		92,276* manholes 92,276	6/00
Manholes  Project 00-99	City of Largo P.O. Box 296 Largo, FL 33779 Mr. Rick DuQuanna 727/587-6713 727/586-7413 fax		387,215  manholes  387,125	9/00
Pinellas County Annual 99/00 Manholes  Project No. 00-98	Pinellas County Utilities 14 South Ft. Harrison Clearwater, FL 33756 Mr. Wayne Koch P.E. 727/464-3588 727/464-3595 fax		580,125  manholes  580,125	02/01
Miscellaneous MH Projects  Project No. 01-01	Various		214,328 manholes 214,328	06/01
Fishhawk Ranch Phase II Manholes Project 02/23 GC: Dallas 1 Construction & Development Inc. P.O. Box 290068 Temple Terrace, FL 33687 Mr. Ben Larsen 813/986-1922 813/986-4250 fax	Fishhawk Community Development 3550 Bushwood Park Dr. Suite # 135 Tampa, FL 33618		59,328  manholes  59,328	11/01

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
Annual Sanitary Sewer Manhole Rehabilitation 2000/2001  Project 01-18	Pinellas County Utilities 14 South Ft. Harrison Clearwater, FL 33756 Mr. Wayne Koch P.E. 727/464-3588 727/464-3595 fax		616,115 manholes  616,115	02/02
Sanitary Sewer Manhole Rehabilitation  Project 01-17	City of Clearwater P.O. Box 4748 Clearwater, FL 33758 Ms. Lisa Murrin 727/562-4750 727/562-4755 fax		431,647  manholes  431,647	06/02
Miscellaneous MH Projects  Project 02-01	Various		105,367 manholes	06/02
Sanitary Sewer Manhole Repair & Rehabilitation  Project 01-12	City of Largo P.O. Box 296 Largo, FL 33779 Mr. Rick DuQuanna 727/587-6713 727/586-7413 fax		479,203  manholes 479,203	10/02
Sanitary Sewer Manhole Rehabilitation at Various Locations  Project 03-27	City of Clearwater P.O. Box 4748 Clearwater, FL 33758 Ms. Lisa Murrin 727/562-4750 727/562-4755 fax		95,604  manholes 95,604	10/02

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
Sanitary Manhole Rehabilitation (WORCS-7) Project 02-25 GC: Kimmins Contracting 1502 2 <sup>nd</sup> Avenue Tampa, FL 33605 813/248-3878	Hillsborough County Public Utilities Department 1626 Natures Way Blvd. Valrico, FL 33594 Mr. Bobby Levens 813-744-5600		561,591  manholes  561,591	2/03
Manatee Cnty Manhole Rehab Project 03-32 GC: Woodruff & Sons 6450 31 <sup>st</sup> St. E. Bradenton, FL 34282 941/756-1871	Manatee County BOCC 1112 Manatee Ave. W. Bradenton, FL 34205 Mr. R.B. Shore 941/749-1800 941/741-4082 fax	PBS&J 2803 Fruitville Road. Suite 130 Sarasota, FL 34237 941/ 954-4036 941/ 951-1477 Fax:	87,575  manholes  87,575	5/03
Miscellaneous MH Projects  Project 03-01	Various		135,181  manholes 135,181	6/03
City of Clearwater Manhole Rehab at Various Locations  Project 04-42	City of Clearwater P.O. Box 4748 Clearwater, FL 33758 Ms. Lisa Murrin 727/562-4750 727/562-4755 fax		165,809 w/s 165,809	04/04

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t I o n.
City of Largo Interceptor Inversion Lining GC: Lanzo Lining Service 1900 N.W. 44 <sup>th</sup> Street Pompano Bch, FL 33064 954/979-0802 Project 03-33	City of Largo P.O. Box 296 Largo, FL 33779 Mr. Rick DaQuanna 727/587-6713 727/586-7413 fax		45,666  m/h  45,666	05/04
Sanitary Manhole Rehab Services Agreement MH Surfacing Spraywall  Project 01-06	Manatee Cnty BOCC 1112 Manatee Ave. W. Suite # 803 Bradenton, FL 34205  Frank Lambertson 941/749-3014		37,492  m/h  37,492	06/04
City of Sarasota  City-Wide Sewer Rehab. Project 2002 Part III - Manhole Rehabilitation  Project 03-29	City of Sarasota 1761 12 <sup>th</sup> Street Sarasota, FL 34236  Dan Castorani 941/955-2325 941/365-4840 fax		208,309  m/h  208,309	6/04
Hillsborough Cnty MH Rehab  Project 03-36	Hillsborough County Public Utilities Department 1626 Natures Way Blvd. Valrico, FL 33594 Mr. Bobby Levens 813-744-5600		927,116 m/h 631,747 w/s 295,369	06/04

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t I o n
Miscellaneous MH Projects  Project 04-01	Various		117,353 m/h 117,353	6/04
St. Petersburg Manholes GC: Lanzo Lining Services 1900 N.W. 44 <sup>th</sup> Street Pompano Bch, FL 33064  Project 04-47	City of St. Petersburg Engineering & Strmwatr Municipal Services Center One 4 <sup>th</sup> Street N. 7 <sup>th</sup> FL St. Petersburg, FL 33701 Mr. Michael Connors PE, 727/893-7171 727/892-5476 fax		228,986 m/h 228,986	11/04
Miscellaneous MH Projects  Project 04-11	Various		27,588 m/h 27,588	12/04
City of Largo MH Rehab  Project 03-34	City of Largo P.O. Box 296 Largo, FL 33779 Mr. Rick DuQuanna 727/587-6713 727/586-7413 fax		355,155 MH	09/05
Sarasota Manhole Rehab.  Project 04-51	City of Sarasota 1761 12 <sup>th</sup> Street Sarasota, FL 34236 Dan Castorani 941/955-2325 941/365-4840 fax		468,611 m/h	12/05

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
Miscellaneous MH Projects  Project 05-01	Various		170,467	12/05
Manhole Rehab-St. Pete.  AUI, LLC 222 West Spring St. Cookeville, TN 38501 931/372-8500 Project No. 05-63	City of St. Petersburg Engineering & Stmwa Municipal Services Center One 4 <sup>th</sup> Street N. 7 <sup>th</sup> FL St. Petersburg, FL 33701 Michael Connors P.E. 727/893-7171 727/892-5476 fax		46,804  m/h	02/06
Hillsborough County Manhole Rehabilitation  Project 04-49	Hillsborough County Public Utilities Dept. 1626 Natures Way Blvd. Valrico, Fl. 33594  Mr. Wm. L. Bozeman P.M. 813-272-5977 X43331 813/272-6254 fax <a href="mailto:bozeman@hillsboroughcounty.org">bozeman@hillsboroughcounty.org</a>		1,130,000  m/h	7/06
City of Largo Manhole Rehabilitation  Project 05-59	City of Largo P.O. Box 296 Largo, FL 33779 Mr. Rick DaQuanna 727/587-6713 727/586-7413 fax <a href="mailto:rdaquan@largo.com">rdaquan@largo.com</a>		262,922  m/h	8/06

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
Miscellaneous MH Projects  Project 06-01	Various		209,825	12/06
Manatee County MH GC: Westra Const. Corp. P.O. Box 114 Palmetto, FL 34220  J.A. McWhorter 941/723-1611 941/722-7049 fax <a href="mailto:ben@westraconst.com">ben@westraconst.com</a> Project 04-46	Manatee County BOCC 1112 Manatee Ave. W. Bradenton, FL 34205  Mr. R.B. Shore 941/749-1800 941/741-4082 fax <a href="mailto:chips.shore@manateeclerk.com">chips.shore@manateeclerk.com</a>	Wade-Trim 4919 Memorial Hwy. #200 Tampa, FL 33634 Michael Kellogg P E 813/882-8366 813/884-5990 fax <a href="mailto:jluck@wadetrim.com">jluck@wadetrim.com</a>	45,140  m/h	2/07
City of St. Petersburg  Sanitary Sewer Manhole Coating FY 2003  Project No. 04-40	City of St. Petersburg Engineering & Stmwatr Municipal Services Center One 4 <sup>th</sup> Street N. 7 <sup>th</sup> FL St. Petersburg, FL 33701 Tony Seufert 727/893-7171 727/892-5476 fax <a href="mailto:louis.seufert@stpete.org">louis.seufert@stpete.org</a>		2,250,000  m/h	11/07
Miscellaneous MH Projects  Project 07-01	Various		192,009	12/07

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t I o n
22nd Street, Fletcher to Bearss, MH's Phase I  G.C: R.E. Purcell 1550 Starkey Rd. Largo, FL 33771  Project 08-90	Hillsborough County Public Utilities Dept. 1626 Natures Way Blvd. Valrico, FL 33594  Mr. Wm. L. Bozeman P.M. 813-272-5977 X43331 813/272-6254 fax <a href="mailto:bozeman@hillsboroughcounty.org">bozeman@hillsboroughcount y.org</a>		86,670  m/h	08/09
City of Sarasota Manhole Rehabilitation  Project No. 06-65	City of Sarasota 111 S. Orange Ave. #202 Sarasota, FL 34236 Dan Castorani 941/951-3625 941/365-4840 fax <a href="mailto:dan.castorani@sarasotagov.com">dan.castorani@sarasotagov. com</a>		967,352  m/h	9/09
Miscellaneous MH Projects  Project 09-01	Various		84,161	12/09
Largo Manhole Rehab  Project 09-99	City of Largo P.O. Box 296 Largo, FL 33779 Mr. Rick DaQuanna 727/587-6713 727/586-7413 fax <a href="mailto:rdaquan@largo.com">rdaquan@largo.com</a>		59,226  mh	8/10

Project Name/ Description	Owner/Address & Contact	Engineer Address & Contact	Contract Amount	C D o a m t p e l e t i o n
City of St. Petersburg Manhole Rehabilitation  Project No. 06-64	City of St. Petersburg Engineering & Stormwater Municipal Services Center One 4 <sup>th</sup> Street N. 7 <sup>th</sup> FL St. Petersburg, FL 33701 Michael L. Ryle P.E. 727/893-7171 727/892-5476 fax <a href="mailto:mike.ryle@stpete.org">mike.ryle@stpete.org</a>		2,162,706  m/h	10/10
Pinellas Cnty Sanitary Sewer Manhole Rehab  Project 11-21	Pinellas County Utilities 14 South Ft. Harrison Clearwater, FL 33756 Mr. Jim Schafer, Proj Mgr 727/453-3343 727/464-3595 fax <a href="mailto:jschafer@pinellascountry.org">jschafer@pinellascountry.org</a>		1,117,182  m/h	1/13

Item	Quan.	Unit	Description	Unit Price	Amount	Base Bid Amount
<b>BIDDER'S COMPANY NAME: Rowland Inc</b>						
1	1	LS	Mobilization	\$ 100.00	\$ 100.00	\$ 100.00
<b>Manhole and Lift Station Surface Preparation</b>						
2	150	SF	Dry abrasive blasting and removal of existing coating material	\$ 4.00	\$ 600.00	\$ 600.00
3	150	SF	Demolition and removal of preexisting mechanically fastened or embedded liner materials	\$ 5.00	\$ 750.00	\$ 750.00
4	150	SF	High-pressure water blasting (minimum 3500 to 5000 psi) of existing substrate	\$ 0.20	\$ 30.00	\$ 30.00
<b>Liner Application (As directed by City USD)</b>						
5	1	SF	Condition I - Epoxy Only	\$ 35.00	\$ 35.00	
6	150	SF	Condition II - Calcium Aluminate	\$ 17.00	\$ 2,550.00	\$ 2,550.00
7	1	SF	Condition III - Composite Level 1	\$ 40.00	\$ 40.00	
8	1	SF	Condition IV - Composite Level 2	\$ 45.00	\$ 45.00	
9	150	SF	Supplemental 0.5 inch thick layer(s) of cementitious build-back added to Conditions II, III and IV	\$ 1.00	\$ 150.00	\$ 150.00
10	150	SF	Supplemental 50 mil thick layer(s) of epoxy top coated added to Conditions I, III & IV	\$ 1.00	\$ 150.00	\$ 150.00
<b>Additional Pricing Information</b>						
11	1	Per Day	Manhole Bypass Pumping - 6-inch Quiet Flow (500 gpm)	\$ 120.00	\$ 120.00	
12	1	Per Day	Manhole Bypass Pumping - 8-inch Quiet Flow (500 gpm)	\$ 120.00	\$ 120.00	\$ 120.00
13	1	Per Day	Manhole Bypass Pumping - 10-inch Quiet Flow (500 gpm)	\$ 600.00	\$ 600.00	
14	1	Per Day	Lift Station Bypass Pumping (3000 gpm)	\$ 1,200.00	\$ 1,200.00	
15	1	Each	Resetting of existing manhole cover frame assembly	\$ 500.00	\$ 500.00	
16	1	Each	Installation of new manhole cover frame assembly	\$ 500.00	\$ 500.00	
17	1	Each	Rebuild existing manhole bench & invert channel (4-foot diameter manhole)	\$ 390.00	\$ 390.00	\$ 390.00
18	1	Each	Rebuild existing manhole bench & invert channel (5-foot diameter manhole)	\$ 450.00	\$ 450.00	
19	1	Each	Rebuild existing manhole bench & invert channel (6-foot diameter manhole)	\$ 500.00	\$ 500.00	
20	1	Each	Removal of existing manhole steps	\$ 30.00	\$ 30.00	
21	1	Per Gal	Chemical grouting of manholes	\$ 65.00	\$ 65.00	
22	1	Per Gal	Chemical grouting of lift stations	\$ 65.00	\$ 65.00	
23	1	Per Day	Traffic Control (Residential street)	\$ 50.00	\$ 50.00	
24	1	Per Day	Traffic Control (County or State Road)	\$ 290.00	\$ 290.00	
25	50	SY	Sodding	\$ 2.50	\$ 125.00	\$ 125.00
<b>Note: Total cost of Base Bid is the sum of items #1,2,3,4,6,9,10,12,17 and #25. Unit Cost must be provided for ALL items.</b>					<b>TOTAL BASE BID AMOUNT&gt;&gt;&gt;</b>	<b>\$ 4,965.00</b>

# Product data sheet

Reference PDS-US-PG-05/09

# SEWPERCOAT PG

Updated 05/15/2009

## 1 General Characteristics

Composed entirely of calcium aluminates, SEWPERCOAT® PG is a pre-packaged ready to use, fiber reinforced, high strength wet shotcrete material.

SEWPERCOAT® PG is a mortar that is designed to coat both new and existing municipal wastewater structures including manholes, lift stations, wet wells, etc. It is designed specifically to provide an abrasion and corrosion-resistant, protective lining that can withstand severe biogenic corrosion caused by the hydrogen sulfide (H<sub>2</sub>S) found in wastewater environments.

The unique properties of SEWPERCOAT® result from the chemical and mineral phases formed during the hydration process. SewperCoat is unique when compared to other materials such as ordinary Portland cement (OPC) concrete, epoxies, poly-vinyl chloride (PVC) or polyethylene, because of its capacity to inhibit bacterial activity by effectively

neutralizing sulfuric acid production.

SEWPERCOAT® is an adhesive mortar that possesses thin section toughness as well as high compressive and flexural strengths. Additional features include high early strength, freeze-thaw resistance as well as high temperature resistance (1,800°F/1,000°C). SEWPERCOAT® is also resistant to many other types of corrosion including sulfates, seawater, oils, gases, and dilute acids (pH range 3.5 - 11).

SEWPERCOAT® enhances the structural integrity of existing systems and reduces infiltration due to its high-density and low-porosity characteristics.

SEWPERCOAT® PG does not release calcium hydroxide as a hydration product. This imparts good chemical resistance and eliminates the major cause of efflorescence.

SEWPERCOAT® PG is a very dark gray color. SEWPERCOAT® PG does not contain crystalline silica.

TYPICAL* MATERIAL PROPERTIES (PERFORMED BY AN INDEPENDENT TESTING LABORATORY)				
SEWPERCOAT®		24 HRS	7 DAYS	28 DAYS
ASTM C 109	Compressive Strength, psi	>5,500	>7,000	>8,000
ASTM C 293	Flexural Strength, psi	>1,300	>1,400	>1,600
ASTM C 596	Shrinkage at 90% Humidity, %	< 0.04	< 0.06	< 0.08
ASTM C 666	Freeze-Thaw After 300 Cycles	No Damage		
ASTM C 496	Splitting Tensile Strength	> 900 psi		
ASTM C 882	Bond Strength by Slant Shear	> 2,300 psi at 28 days		
ASTM C 457	Air Void Content (7 Days)	2-4%		
ASTM C 642	Specific Gravity/Absorption Test (7 Days)	3-5%		
	Static Modulus of Elasticity (24 hrs)	7.1 x 10 <sup>6</sup> psi		

\*The test results above were obtained under standard laboratory conditions and are presented as typical material properties only. Those properties presented above are not warranted or guaranteed by Kerneos. Properties obtained from field cast specimens may result in values lower than those listed above. The warranted material properties are presented in section two of this Product Data Sheet.

Kerneos Inc.  
1316 Priority Lane Chesapeake, VA 23324  
Phone: (757) 284-3200 - FAX: (757) 284-3300



# SEWPERCOAT<sup>®</sup>

## PG

Updated 05/15/2009

### 2 Specifications

SEWPERCOAT<sup>®</sup> PG sold and distributed by Kerneos Inc. adheres to the following specifications:

#### Sieve Analysis:

	Min (%)	Max (%)
# 8 (2.36 mm)	0	0
# 16 (1.18 mm)	1.5	9.5
# 30 (600 µm)	22	32
# 50 (300 µm)	38	52
# 100 (150 µm)	48	62
# 200 (75 µm)	52	68
Pan	32	48

#### Mortar Properties (using 14.5% water)

- Vibration flow
  - 0 min. 120 - 160 %
  - 30 min. 110 - 160 %
- Penetrometer Final Set
  - 4 - 10 hours
- Compressive Strength @ 24 hours
  - 5500 - 11000 psi

For detailed test procedures, please contact a Kerneos Technical or Quality Manager.

### 3 Technical properties

**Biogenic Corrosion Resistance:** SEWPERCOAT<sup>®</sup> withstands corrosive environments containing H<sub>2</sub>S gas, which show strong Thiobacillus bacterial activity. Due to its high neutralization capacity, SEWPERCOAT<sup>®</sup> has been shown to locally raise the surface pH found on the surface of wastewater structures and prevents the

successful colonization of the most aggressive strains of bacteria.

**Abrasion Resistance:** U.S. Army Corps of Engineers test CRD-C-63-80, Test Method for Abrasion-Erosion Resistance of Concrete, resulted in 0.5% weight loss after 12 hours of testing and 2.0% weight loss after 72 hours of testing. Typical 5,000-psi high-performance OPC concrete experienced a 3.6% weight loss after only 12 hours of testing. SEWPERCOAT<sup>®</sup> is approximately seven times more resistant to this type of abrasion than high-performance OPC concrete.

**Aggregate Size:** #14 mesh and finer (0 - 1.4mm)

**Working Time at 68°F:** 2 hours

**Wet Density at 68°F:** 148-155 lb./ft.<sup>3</sup> (2.4 - 2.5 g/cc)

**Coefficient of Thermal Expansion:** 5 x 10<sup>-6</sup> in/in/°F (68°F to 1832°F)

### 4 Chemical Composition

SEWPERCOAT<sup>®</sup> contains no calcium sulfate, calcium chloride, tricalcium aluminate, lime hydrates or aggressive agents that attack reinforcing steel. The high-performance properties of SEWPERCOAT<sup>®</sup> are achieved through a blend of mineral elements.

Chemical analysis main constituents			
Al <sub>2</sub> O <sub>3</sub>	CaO	FeO+Fe <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>
41% - 46%	33% - 36%	8% - 13%	4% - 9%

### 5 Installation

Clean, potable water should be used for mixing. The water requirement is provided on each individual bag and is critical to obtain the specified performance properties. Always stay within the recommended specifications for mixing water.

# SEWPERCOAT<sup>®</sup>

## PG

Updated 05/15/2009

SEWPERCOAT<sup>®</sup> products are not designed to be hand-applied. SEWPERCOAT<sup>®</sup> PG is designed to be applied with low-pressure, wet-spray equipment.

Preparation of the surface to be coated should be performed in accordance with applicable industry standards and specific project specification requirements. Sandblasting and/or hydro-demolition with high-pressure water may be used to remove existing deterioration and debris. The immediate bonding surface should be rough, damp and free of any existing coatings, sewer residue and running water. The structure itself should be fully saturated prior to a SEWPERCOAT<sup>®</sup> installation. Please see our suggested SEWPERCOAT<sup>®</sup> specification language for detailed surface preparation recommendations.

SEWPERCOAT<sup>®</sup> products are to be used as packaged. Under no circumstances should any substance other than water be added to SEWPERCOAT<sup>®</sup> products.

SEWPERCOAT<sup>®</sup> should not be used as a "build-out" mix or underlayment for any other product. SEWPERCOAT<sup>®</sup> should not be used in conjunction with or adjacent to any inert or organic coatings, including but not limited to epoxy, polyurethane, polyurea, and fiberglass. Curing should be implemented as soon as the surface begins to harden and dry (as early as one hour after application). Several layers of ASTM C309 liquid membrane curing compound or a 100%-humid moisture cure may be used.

Equipment used must always be clean and free of portland cement build-up to avoid accelerated set.

Generally accepted concreting practices (water ratio per bag, compaction, curing, etc.) should be employed to obtain the best quality installation with respect to mechanical strength and corrosion resistance.

## 6 Availability

SEWPERCOAT<sup>®</sup> is available in North America directly through Kerneos Inc. main office and warehouses.

SEWPERCOAT<sup>®</sup> is packaged in various bag sizes depending upon application and installation methods. SEWPERCOAT<sup>®</sup> PG is typically supplied palletized in 65-lb bags.

For more information about SEWPERCOAT<sup>®</sup>, including a list of installers, please contact Kerneos Inc. at 1-800-524-8463.

## 7 Technical Assistance

A licensed Professional Engineer is responsible for the determination of suitability, overall design, specifications and follow up for each project.

Kerneos Inc. has a technical assistance department with on-site laboratory facilities available to provide customer support.

Kerneos assistance in technical planning and installation of a project does not warrant the success of any application and is not a substitute for professional engineering judgment.

## 8 Packaging & Shelf Life

SEWPERCOAT<sup>®</sup> PG is available palletized in 65-lb bags. SEWPERCOAT<sup>®</sup> PG packaging is designed to protect it from humidity. However, as with all prepackaged concretes, SEWPERCOAT<sup>®</sup> PG should not be placed outdoors or in direct contact with the ground. When correctly stored in dry conditions, the properties of SEWPERCOAT<sup>®</sup> PG should remain within specification limit for at least 6 months. In most cases, its properties will be retained for over a year.

Kerneos Inc.  
1316 Priority Lane Chesapeake, VA 23324  
Phone: (757) 284-3200 - FAX: (757) 284-3300

 **kerneos**  
ALUMINATE TECHNOLOGIES



# SEWPERCOAT<sup>®</sup>

## PG

Reference PDS:US-PG-05/09

Updated 05/15/2009

### SEWPERCOAT<sup>®</sup> 10 YEAR LIMITED WARRANTY (OWNER)

This warranty extends to the OWNER of the structure to which SewperCoat<sup>®</sup> is applied, effective as of the OWNER's acceptance of the work. Kerneos warrants to the OWNER that SewperCoat<sup>®</sup> PG, when installed in compliance with the recommended installation guidelines published by Kerneos, will protect sanitary wastewater structures from biogenic corrosion caused by exposure to sanitary sewerage environment. To be honored, claims must be filed by the OWNER within 10 years of acceptance of the work by OWNER. Kerneos' obligations hereunder extend only to providing labor and material to replace the defective material.

This warranty excludes consequential and incidental damages (including, without limitation, damage to equipment and peripheral facilities, service interruption, and loss of use). This warranty applies to sanitary sewage exposure only. Exposure to effluent, chemicals, or contaminants from industrial discharge will void this limited warranty.

### SEWPERCOAT<sup>®</sup> LIMITED WARRANTY (BUYER)

Kerneos warrants to the BUYER of this product that, at the time of shipment, the product conforms to the Specifications set forth in Section 2 of the applicable Product Data Sheet. To be honored, claims under this warranty must be filed by the BUYER within 30 days of use of the product or 6 months of delivery to its BUYER, whichever comes first. Kerneos' sole obligation and the sole and exclusive remedy of BUYER under this warranty shall be the replacement of any nonconforming product or, at Kerneos' option, the refund of the purchase price paid by its BUYER.

### DISCLAIMER OF OTHER WARRANTIES

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, TO OWNER OR BUYER EXCEPT AS PROVIDED IN THIS LIMITED WARRANTY. ALL OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. NO WARRANTY IS GIVEN FOR, OR MAY BE IMPLIED FROM, ANY TECHNICAL ADVICE OR RECOMMENDATIONS PROVIDED BY KERNEOS.

### WARRANTY CLAIM PROCEDURE

Kerneos reserves the right to inspect and determine whether any claim is the result of a breach of a warranty set forth herein or is related to another cause (all other causes are expressly excluded from coverage by the warranties contained herein).

Any claim under this limited warranty requiring an investigation by Kerneos may require extensive laboratory testing. It is the responsibility of any party making a claim to make any product or structure requiring testing accessible and available to Kerneos within a reasonable period of time after a claim arises. Inspection, including thickness verification and the gathering of specimens for testing may require the removal of a portion of the SewperCoat<sup>®</sup> lining in question or, if a structure requiring investigation cannot be made readily accessible, the removal of any frames, covers, or obstructions. At Kerneos' option, technical investigations and testing may be performed by either Kerneos internal facilities or by an independent agency.

It is the responsibility of the customer to maintain and document product installation and job acceptance reports in accordance with all applicable instructions including, without limitation, the location and date, the quantities installed, the mixing methods, surface preparation procedures used, installation personnel, and existing conditions of the structure including H<sub>2</sub>S concentrations and initial surface pH. Kerneos will provide installation report forms upon request.

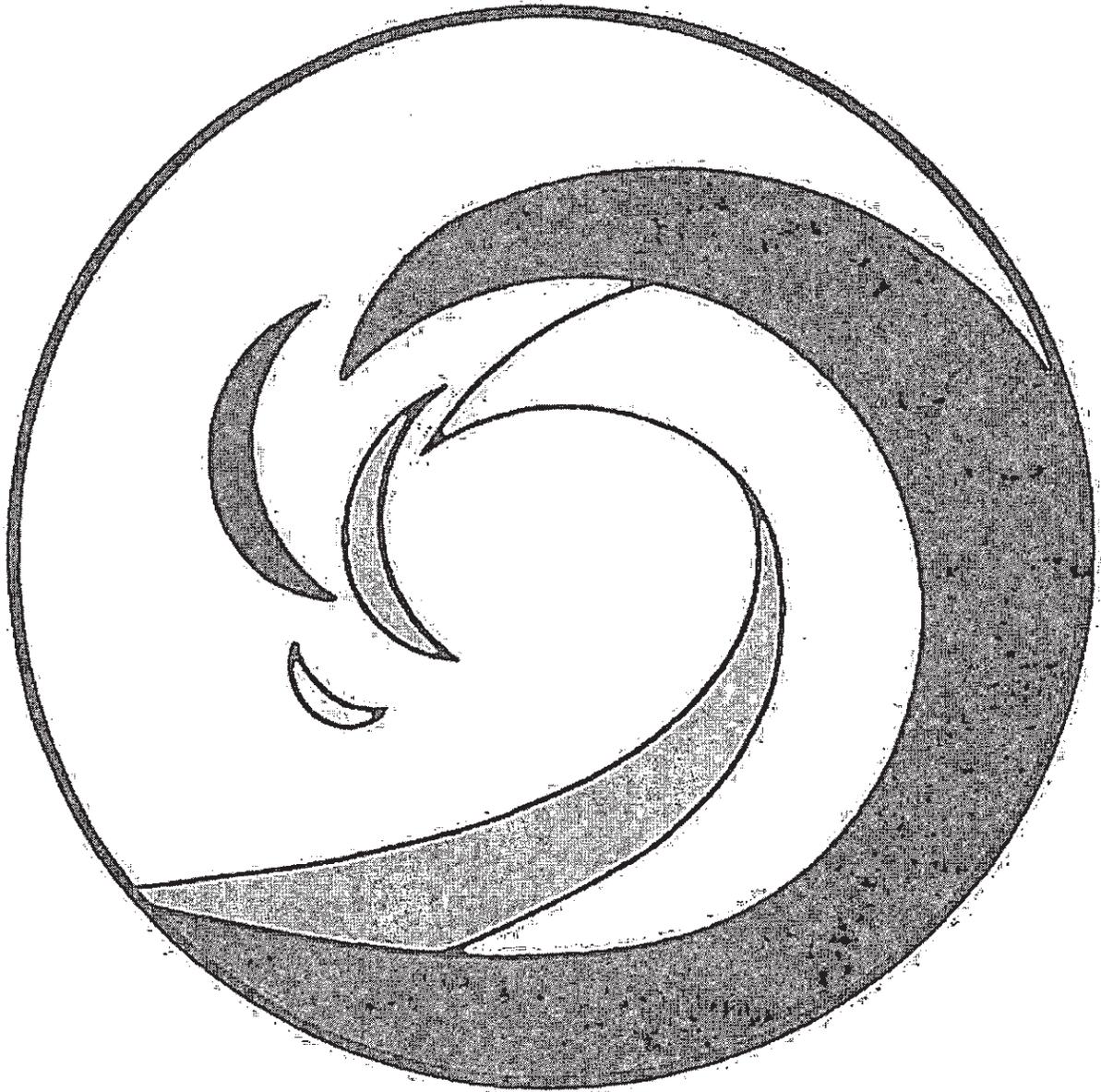
Kerneos Inc.  
1316 Priority Lane, Chesapeake, VA 23324  
Phone: (757) 284-3200 - FAX: (757) 284-3300

 **kerneos**  
ALUMINATE TECHNOLOGIES



**AVANTI  
INTERNATIONAL**

---



**TECHNICAL MANUAL**

---

**AV-100 Chemical Grout**

---

## Product Descriptions

### AV-100 Chemical Grout

AV-100 Chemical Grout is a mixture of three or more water-soluble chemicals which produce stiff gels from properly catalyzed solutions. AV-100 is also the name of the base chemical in the mixture.

### AV-101 Catalyst T+

AV-101 Catalyst T+ acts as a buffer and sometimes appears to act as a catalyst in the AV-100 gel mix. Triethanolamine (TEA) is the primary ingredient in AV-101 Catalyst T+. The proprietary blend of other additives with the TEA makes up a liquid which actually functions as an activator for the reaction. These other ingredients allow field use of AV-101 in cold weather without the annoying occurrence of crystallization or "freezing" to which normal TEA is subject.

### AV-102 Catalyst AP

AV-102 Catalyst AP (ammonium persulfate) is a granular material and a strong oxidizing agent. It is the initiator that triggers the reaction. The gel time begins with its addition. Generally, AP is dissolved in water and added as a 1 to 3 percent solution to the AV-100 Chemical Grout solution through a separate pump.

## Special Additives

### AV-105 Ethylene Glycol

AV-105 Ethylene Glycol is a clear liquid which is added to the AV-100 mix when protection against freezing temperatures or dehydrating conditions is required for the gel.

### AV-257 Icosec

AV-257 Icosec is a white milky liquid which can be added to the AV-100 Chemical Grout mix to achieve increases in compressive and tensile strength as well as superior elongative potential in the gel. Do not add to AP Tank.

### Potassium Ferricyanide (KFe)

Potassium Ferricyanide (KFe) is a reddish granular material used to extend the gel time. It behaves as an inhibitor in very small quantities and must be used cautiously. KFe does not affect the strength of the final gel when used in the recommended concentrations.

## Buffers

Buffers are chemicals used to control pH in AV-100 solutions. In a few rare cases, acidic water needs buffers to bring the pH to 8. AV-100 solutions can be gelled at high temperatures with ammonium persulfate alone and in this case buffers will almost always be required. Disodium phosphate heptahydrate (DSP) is recommended, although sodium carbonate may be used in soft water.

## Root Inhibitors

### NOROSAC 50W

The AVANTI dichlobenil product is NOROSAC 50W, a powder containing 50% active dichlobenil and 50% inert filler to keep the dichlobenil in suspension. NOROSAC 50W should be used in the 400 ppm range. It is available in four-pound packages, packed six bags per case.

Do not add solutions containing metam sodium to any grout solution.

### Using NOROSAC 50W with AV-100 Chemical Grout

The manufacturer recommends incorporation of 0.04%

NOROSAC 50W in the grout mixture. To do this in a sewer grouting rig using two 30-gallon grout tanks, add 0.2 pounds (3.2 oz.) of NOROSAC 50W to about one gallon of water in a small container. Stir completely, and pour this mixed concentrate into the AV-100 tank. This mixture gives a concentration of about 400 ppm in a 60-gallon batch of AV-100 Chemical Grout.

## Chemical Reactions

### Catalyst Concentration

Changes in concentration of one or all of the catalysts of the mixture have a very significant effect on gel times. Too much KFe or too little AP or Catalyst T+ will produce weak gels or no gel at all. Excess AP may reduce pH to the point where a gel will not form. The recommended lower limits are 0.25% for AV-101 Catalyst T+ and 0.2% for AV-102 Catalyst AP. The upper limit for KFe is 0.035%.

### Temperature

Unless otherwise noted in this manual, temperature always refers to the temperature of the AV-100 Chemical Grout solution. If the formation temperature or the temperature of the area through which grout hoses pass is very different from the solution temperature, adjustments in gel time estimates may be necessary.

Gel times increase when temperature falls and decrease when temperature rises. As a rough rule of thumb, the gel time is reduced by half if the temperature goes up 10 degrees Fahrenheit. When short gel times at low temperatures are needed, warming the grout solution may be more economical than large amounts of catalyst, but the solutions must be stirred while the heaters are in use.

### pH

The solution pH may affect the gel time. Up to about a one-hour gel time, the pH should be in the range of 7 to 11. Except under very unusual conditions (presence of large amounts of acid), AV-101 Catalyst T+ maintains the pH between 8 and 9. Gel times become long and indefinite below a solution pH of 6.5.

When very long gel times are needed, especially in acid groundwater conditions, pH is maintained above 7 by a buffer such as disodium phosphate heptahydrate (DSP). Acid water usually leaches out minerals. These minerals may compensate for the low pH and in some cases cause faster than normal gel times.

The pH of AV-100 is 4.5 to 5.0 (uncatalyzed).

### Air

AV-100 solutions should be mixed gently because air entrained by vigorous mixing will lengthen gel times. Bubbler mixers should not be used.

### Metals

Certain metals such as iron, copper, and copper alloys accelerate gel times. If iron mixing tanks must be used, they should be coated to prevent rust.

### Mix Water

Either groundwater or local drinking water may be used for mixing a solution, depending on which is most suitable. Because many of the variables which influence gel time are related to the characteristics of the mix water, gel times should be verified by tests with the water which will be used in a particular application.

### Sunlight

The ultraviolet rays in direct sunlight can cause gelation of AV-

100 solutions. To avoid this, cover the tanks:

### Hydrogen Sulfide

Hydrogen Sulfide has a very complicated effect on AV-100 Chemical Grout. In general, it acts as an accelerator under ordinary working conditions.

### Salts

Salts, such as sodium chloride, calcium chloride, sulfates, and phosphates, have an accelerating effect. The amount of acceleration depends on salt concentration and should be measured by a field test. Salts may also increase gel strength.

Certain salts, such as calcium chloride, decrease the water loss rate from gels under dehydrating conditions. Salts may also change the pH of the solution and will affect the gel time.

### Freezing

Freezing of AV-100 solutions has little effect on their activity after thawing. To avoid freezing during application, salt or AV-105 Shrink Control Agent may be added. The effect that these additives have on the gel time must be checked.

Tests indicate that repeated freeze-thaw and complete wet-dry cycles will cause eventual deterioration of stabilized soil masses due to the rupture of gel-soil bonds. The effects of partial wet-dry cycles are less severe, and the effects of normal ambient temperature variations above freezing are negligible.

Beware of attempts to inject AV-100 solutions into frozen formations. Any water already in the zone to be grouted will be solid ice into which the liquid solution will probably not penetrate. This may be very important when grouting shallow sewers during the winter.

### Particulate Materials

Most insoluble materials, such as clay, bentonite, and diatomaceous earth slow down gelation. If such fillers are used, the concentration of AV-101 Catalyst T+ must be increased.

### Properties of AV-100 Chemical Grout

Understanding the properties of AV-100 Chemical Grout in its various forms from initial chemical components that make up the product to the in-place final gel is important. An awareness of the inherent hazards of handling any chemical component can minimize potential dangers to workers and the environment by assuring proper application of a product. Strict adherence to the SAFE OPERATING PRACTICES PROGRAM is critical and will assure safe and successful application programs.

### Handling of Solid AV-100 Chemical Grout

Skin which comes in contact with solid AV-100 should be washed immediately in running water, and dust inhalation should be avoided. Use the same protective measures as described below under "Handling of AV-100 Solutions." Avoid rough handling of AV-100 containers to prevent spilling.

Solid AV-100 is shipped in disposable containers and should be stored in the original containers until used. Empty containers should be buried in an approved landfill and not used for any other purpose.

### Corrosiveness

AV-100 solutions containing AV-101 Catalyst T+ are non-corrosive to common steels, aluminum, brass and rubber.

To protect against skin irritation from AV-101 Catalyst T+, operators should wear glasses and rubber gloves. Spills on

the skin should be washed off with water. In case of contact with eyes, wash the eyes immediately for at least 15 minutes with plenty of water and then seek proper medical attention.

AV-102 Catalyst AP is a strong oxidizing agent and should always be handled with glasses and rubber gloves. Skin areas which have come in contact with AP should be washed with water. If spilled on clothing, AP will discolor or make holes in some fabrics.

### Solubility

At normal temperatures, AV-100 solutions up to 40% are easy to prepare. Catalyst and inhibitors also dissolve easily at concentrations which are much higher than those normally used. Sodium carbonate will dissolve easily in sufficient amounts to bring the solution pH up to 10. Disodium phosphate requires vigorous mixing.

### Stability

AV-100 powder will retain its properties for years at temperatures below 70°F (21°C) if stored dry in the original containers. Storage at higher temperatures will cause small insolubles to form and may cause small changes in gel time. After filtering, AV-100 solutions which contained insolubles are acceptable for use.

AV-102 Catalyst AP and AV-101 Catalyst T+ may be stored in their original unopened containers for a year or more. AV-102 deteriorates (weakens) upon repeated exposure to air.

### Toxicity

AV-100 in its powder form (uncatalyzed) is a neurotoxin with LD<sub>50</sub> approximately 250 mg/kg of body weight (rat). It can enter the body through the nose, mouth or skin. Contact by those means should be avoided, and clean-up promptly achieved in case of an accident.

Standard protective clothing should be worn when working with AV-100, including:

1. Waterproof coat and pants.
2. Rubber gloves.
3. Rubber boots or rubber overshoes.
4. Eye protection (either glasses or goggles).
5. Respirators approved by the U.S. Bureau of Mines for protection against toxic dusts and vapors in confined or poorly ventilated places.

Long-sleeved coveralls or long-sleeved shirts may be worn instead of waterproof clothing if contaminated clothing is removed promptly and washed before re-use.

Use care in handling of solutions to prevent liquid from coming in contact with skin or clothing. If solutions are splashed on skin or clothing, the clothing should be removed promptly and the part of the body coming in contact with the solution washed with water. Change to clean clothing.

If contact is only on clothing that is not worn next to the skin, changing is not required, although it should not be worn again without laundering. If waterproof clothing is worn, it may not need to be changed if splashed, but the splash should be washed off with water.

Wash hands with soap and water before eating or smoking, and take a shower at the end of the work day. Work clothing should not be worn home.

Areas where spills have occurred should be washed down with water. If the gel reaction is completed, ground contamination

should not occur.

See the SAFE OPERATING PRACTICES PROGRAM booklet for additional information.

### Properties of AV-100 Solutions

#### Density

The density of a 10% solution (catalyst at 68°F) of AV-100 is 1.04 grams per cubic centimeter.

#### Viscosity

The viscosity of a 10% solution (catalyst at 68°F) of AV-100 is 1.2 centipoise (water = 1 centipoise).

#### Penetrability

AV-100 solutions can generally be pumped anywhere water will flow at the same flow-rate-pressure relationship required for water.

#### Stability

A 10 to 30 percent solution (uncatalyzed 68 to 122°F [20 to 50°C]) will usually be stable for at least four months. Keep solutions from contact with brass, copper or iron. Solutions should be kept out of direct sunlight.

### Properties of AV-100 Gel

#### Density

The density of AV-100 gel is essentially the same as a solution, 1.04 grams per cubic centimeter or slightly above that of water.

#### Shrinkage

When shrinkage in soil does occur, it produces tensile forces which increase apparent unconfined compression strength. However, these forces will never exist below the water table. If drying is severe, rupture of the bond between gel and soil grains will occur. This may appear as a visible shrinkage crack.

When rewetted, the gel will swell to its initial volume and again fill the voids. Ruptures will not heal, however, and the stabil-

ized mass may not have quite the strength it first had. The degree of permeability of dried stabilized sand that is re-wetted has been measured at  $10^{-4}$  to  $10^{-6}$  cm/sec.

Loose soils will show shrinkage when gel dries since tensile forces move the soil grains closer together. Job excavations indicate that under moist conditions gels are unchanged for at least 25 years.

Shrinkage due to drying does not occur below the water table. Field experience also indicates that drying is usually not significant in soils that are six to seven feet below ground surface (even if above the water table) as long as the soil humidity level exceeds 80% to 90%. Shrinkage due to drying is a problem only when the stabilized soil is close to an underground heat source or is very close to the ground surface. AV-100 gels shrink if heated under low humidity, but when heated in water are stable to at least 150°F (77°C).

#### Syneresis

Syneresis is a process whereby water is squeezed out of a gel under gravitational forces due to the weight of the gel. AV-100 gels are not subject to syneresis.

#### Permeability

AV-100 gels are substantially impermeable ( $k = 10^{-10}$  cm/sec), except that gels containing less than eight to ten percent AV-100 will swell slightly when immersed. The gels are impermeable to gases and to hydrocarbons such as kerosene. Ions will migrate through the gel.

#### Longevity

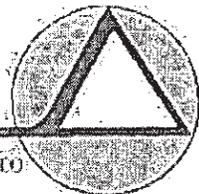
Chemical data and job histories from over 25 years lead to the conclusion that for all practical purposes, AV-100 gels may be considered permanent.

### WARRANTY STATEMENT

The data, information and statements contained herein are believed to be reliable, but are not construed as a warranty or representation for which AVANTI INTERNATIONAL assumes any legal responsibility. Since field conditions vary widely, users must undertake sufficient verification and testing to determine the suitability of any product or process mentioned in this or any other written material from AVANTI for their own particular use. **NO WARRANTY OF SUITABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE.** Nothing in this or any other document from AVANTI INTERNATIONAL is to be taken as permission, inducement or recommendation to practice any patented invention without a license.



**AVANTI  
INTERNATIONAL**



1822 Bay Star Blvd. • Webster, Texas 77598-1528 • (713) 486-5600 • 1-800-577-2570 • Fax (713) 486-7300

# THE AMERICAN INSTITUTE OF ARCHITECTS

## AIA Document A310 Bid Bond

KNOW ALL MEN BY THESE PRESENTS, THAT WE Rowland, Inc.  
6855 102nd Ave. N., Pinellas Park, FL 33782

as Principal, hereinafter called the Principal, and Travelers Casualty and Surety Company of America  
One Tower Square, Hartford, CT 06183

a corporation duly organized under the laws of the State of CT

as Surety, hereinafter called the Surety, are held and firmly bound unto City of Port St. Lucie

121 SW Port St. Lucie Boulevard, Port St. Lucie, FL 34984-5099

as Obligee, hereinafter called the Obligee, in the sum of Five Percent of Amount Bid

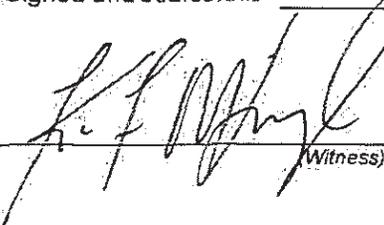
Dollars (\$ 5% ),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for Complete Rehabilitation of City Manholes, Lift Stations, and Wet Wells,  
Bid No. 20120035

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and materials furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

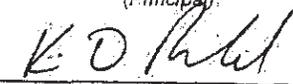
Signed and sealed this 19<sup>th</sup> day of July, 2012

  
(Witness)

Rowland, Inc.

(Principal)

(Seal)

By: 

**PRESIDENT**

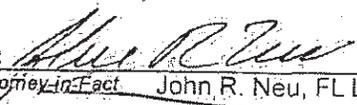
(Title)

  
Rita Lazarides  
(Witness)

Travelers Casualty and Surety Company of America

(Surety)

(Seal)

By: 

Attorney-in-Fact John R. Neu, FL Licensed Agent

(Title)



POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 223238

Certificate No. 004049830

KNOW ALL MEN BY THESE PRESENTS: That St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company and St. Paul Mercury Insurance Company are corporations duly organized under the laws of the State of Minnesota, that Farmington Casualty Company, Travelers Casualty and Surety Company, and Travelers Casualty and Surety Company of America are corporations duly organized under the laws of the State of Connecticut, that United States Fidelity and Guaranty Company is a corporation duly organized under the laws of the State of Maryland, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"); and that the Companies do hereby make, constitute and appoint

Kevin Wojtowicz, John R. Neu, SheriLynn M. Meyer, and Laura Mosholder

of the City of St. Petersburg, State of Florida, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 24th day of January, 2011

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company



State of Connecticut
City of Hartford ss.

By: [Signature]
George W. Thompson, Senior Vice President

On this the 24th day of January, 2011, before me personally appeared George W. Thompson, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal. My Commission expires the 30th day of June, 2011.



[Signature]
Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

**RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

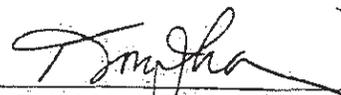
**FURTHER RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

**FURTHER RESOLVED**, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

**FURTHER RESOLVED**, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kori M. Johanson, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 19th day of July, 2012

  
Kori M. Johanson, Assistant Secretary



To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at [www.travelersbond.com](http://www.travelersbond.com). Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

7/20/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Lassiter-Ware Insurance of Tampa Bay 4401 West Kennedy Blvd Suite 200 Tampa FL 33609		<b>CONTACT NAME:</b> Barbara Benton <b>PHONE (A/C No. Ext.):</b> (800) 845-8437 <b>E-MAIL ADDRESS:</b> barbarab@lassiter-ware.com <b>FAX (A/C No.):</b> (888) 883-8680	
<b>INSURED</b> Rowland, Inc. 6855 102nd Avenue North Pinellas Park FL 33782		<b>INSURER(S) AFFORDING COVERAGE</b>	
		<b>INSURER A:</b> Amerisure Mutual Insurance Co.	<b>NAIC #</b> 23396
		<b>INSURER B:</b> Amerisure Insurance Companies	
		<b>INSURER C:</b> Endurance American Specialty	41718
		<b>INSURER D:</b>	
		<b>INSURER E:</b>	
		<b>INSURER F:</b>	

**COVERAGES**      **CERTIFICATE NUMBER:** 12-13 Master Cert      **RENEWAL NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY					
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY					EACH OCCURRENCE \$ 1,000,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR	X	CPP2062751	7/1/2012	7/1/2013	DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000
	<input checked="" type="checkbox"/> XCU Included					MED EXP (Any one person) \$ 10,000
	<input checked="" type="checkbox"/> Contractual Liability					PERSONAL & ADV INJURY \$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:					GENERAL AGGREGATE \$ 2,000,000
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					PRODUCTS - COMP/OP AGG \$ 2,000,000
B	AUTOMOBILE LIABILITY					
	<input checked="" type="checkbox"/> ANY AUTO					COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS	X	CA2062748	7/1/2012	7/1/2013	BODILY INJURY (Per person) \$
	<input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS					BODILY INJURY (Per accident) \$
	<input type="checkbox"/> PROPERTY DAMAGE (Per accident)					\$
	Medical payments					\$ 5,000
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR					EACH OCCURRENCE \$ 5,000,000
	<input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE					AGGREGATE \$ 5,000,000
	<input type="checkbox"/> DED <input type="checkbox"/> RETENTIONS	X	CA2062749	7/1/2012	7/1/2013	\$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY					
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)					WC STATUTORY LIMITS
	If yes, describe under DESCRIPTION OF OPERATIONS below					OTHER
	<input type="checkbox"/> Y/N					E.L. EACH ACCIDENT \$
	<input type="checkbox"/> E.L. DISEASE - EA EMPLOYEE \$					E.L. DISEASE - POLICY LIMIT \$
	<input type="checkbox"/> E.L. DISEASE - POLICY LIMIT \$					\$1,000,000 Each Occurrence
						\$2,000,000 General Aggregate

DESCRIPTION OF OPERATIONS / LOCATION / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER

CANCELLATION

FOR INFORMATION ONLY

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Dana Snyder/BARRAB

ACORD 25 (2010/05)

© 1988-2010 ACORD CORPORATION. All rights reserved.

INS025 (201005) 01

The ACORD name and logo are registered marks of ACORD.

## Request for Taxpayer Identification Number and Certification

Give form to the requester. Do not send to the IRS.

Print or type See Specific Instructions on page 2.	Name (as shown on your income tax return)	
	Business name, if different from above <b>ROWLAND INC.</b>	
	Check appropriate box: <input type="checkbox"/> Individual/Sole proprietor <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Limited liability company. Enter the tax classification (D=disregarded entity; C=corporation; P=partnership) ▶ ..... <input type="checkbox"/> Exempt payee <input type="checkbox"/> Other (see instructions) ▶	
	Address (number, street, and apt. or suite no.) <b>6855 102 ND Avenue North</b>	Requester's name and address (optional)
	City, state, and ZIP code <b>Pinellas Park, FL 33782</b>	
List account number(s) here (optional)		

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

**Note.** If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number
or
Employer identification number
<b>59                      0978899</b>

### Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

<b>Sign Here</b>	Signature of U.S. person ▶ <i>K O Rowland</i>	Date ▶ <i>1/24/2012</i>
------------------	---	-------------------------

### General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

#### Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

**Note.** If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,



STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

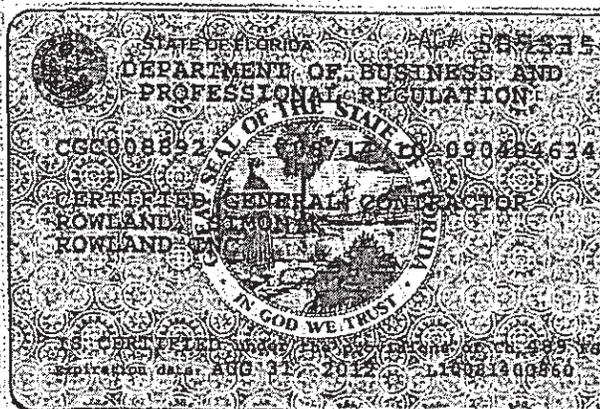
(850) 487-1395

ROWLAND, SIMON K
ROWLAND INC
6855 102ND AVENUE N
PINELLAS PARK FL 33782

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto www.myfloridalicense.com.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers.



DETACH HERE

License verification slip for Simon K. Rowland, General Contractor. Includes fields for Date, Batch Number, License Number, and Expiration Date. Also contains the signature of Charlie Crist, Governor, and Charlie Litem, Secretary.



STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD  
1940 NORTH MONROE STREET  
TALLAHASSEE FL 32399-0783

(850) 487-1395

ROWLAND, KENNETH DEAN  
ROWLAND INC  
6855 102ND AVE N  
PINELLAS PARK FL 33782

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto [www.myfloridalicense.com](http://www.myfloridalicense.com). There you can find more information about our divisions, and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We instantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!

STATE OF FLORIDA AC# 505047  
 DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION  
 CUC052617 07/23/10 108013704  
 CERT UNDERGROUND & EXCAV CNTR  
 ROWLAND, KENNETH DEAN  
 ROWLAND INC  
 IS CERTIFIED under the provisions of ch. 489 FS  
 Expiration date: AUG 31, 2012 L10072301054

DETACH HERE

AC# 5050477

STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION  
CONSTRUCTION INDUSTRY LICENSING BOARD

SEQ# L10072301054

DATE	BATCH NUMBER	LICENSE NBR
07/23/2010	108013704	CUC052617

The UNDERGROUND UTILITY & EXCAVATION CO  
Named below IS CERTIFIED  
Under the provisions of Chapter 489 FS.  
Expiration date: AUG 31, 2012

ROWLAND, KENNETH DEAN  
ROWLAND INC  
6855 102ND AVE N  
PINELLAS PARK FL 33782

CHARLIE CRIST  
GOVERNOR

CHARLIE LIEM  
INTERIM SECRETARY

DISPLAY AS REQUIRED BY LAW

**CHECKLIST**

Bid #20120035

Name of Bidder: Rowland Inc.

This checklist is provided to assist bidders in the preparation of their bid response. Included in this checklist are important requirements that are the responsibility of each Bidder to submit with their response in order to make their bid response fully compliant. This checklist is only a guideline -- it is the responsibility of each Bidder to read and comply with the Invitation to Bid in its entirety.

- E- Bid Reply Sheet with proper signature and notarized.
- Electronic Bid Reply Sheet
- Drug-Free Workplace Form
- All price extensions and totals have been thoroughly checked.
- Each Bid Addendum (when issued) is acknowledged.
- Copy of Insurance Certificate in accordance with Section 6 of Bid Reply.
- Have reviewed the Contract and accept all City Terms and Conditions
- Bid Bond as required in Section 7 of Bid Specifications.
- Have included all licensing and certification require

**\*THIS FORM MUST BE RETURNED WITH YOUR BID REPLY SHEET\***

# DRUG-FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

Rowland Inc.

does:

(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Kevin D. Rowland

Bidder's Signature

7/24/2012

Date

Kevin D. Rowland, President

**BID ADDENDUM # 6**

**BID # 20120035**

**Addendum Date: 7/16/12**

**Bid Name: Complete Rehabilitation of City Manholes, lift station and Wet wells**

1. Concerning Quadex: Based on the information that has been available so far, Quadex does not offer a cementitious liner product that is 100% pure fused calcium aluminate, and therefore has been dropped from the cementitious liner materials. However, Quadex products are still listed under "Infiltration Control Plug Materials" and "Invert Repair and Patching".
2. Concerning all "or equal" products: Bidder needs to submit specifications on any product that they are suggesting for use that is not named within Attachment A the technical specifications or bid documents. As per below;

**1.5 EQUIVALENT PRODUCTS AND MATERIALS**

The City reserves the right to be the sole judge as to whether or not such material or equipment is equal to that specified or required herein. A determination by the City of "Equal-To" of a substitute proposed by the Contractor, shall be considered final.

3. The award and issue of this solicitation does not commit the City or encumber funds for projects. The City reserves the right to utilize its contracts based on the priority of need and available funds.

Instructions to Bidder:

Each bidder must acknowledge receipt of any addenda on the Bid Reply Sheet in order to have his/her bid or proposal/bid to be accepted.

**BID ADDENDUM # 5**  
**BID # 20120035**  
**Addendum Date: 7/10/12**

**Bid Name: Complete Rehabilitation of City Manholes, lift station and Wet wells**

Please make the changes to Attachment A, Technical Specifications as follows:

**2.0 MODIFICATIONS TO TECHNICAL SPECIFICATIONS**

1. Section 3.2 Cementitious & Epoxy Coating Manufacturers, subsection A.  
DELETE: Quadex Inc.
2. Subsection 2.3 Conditioned Based Rehabilitation, item B, DELETE "...calcium aluminate cementitious liner material at a minimum thickness of **1-inch**." And INSERT "...calcium aluminate cementitious, 100% pure fused, liner material at a minimum thickness of **1-inch**."
3. Subsection 2.3 Conditioned Based Rehabilitation, item C, after "...prescribed composite liner system." ADD the following "Composite liner systems shall include a cementitious liner and shall be calcium aluminate, 100% pure fused, that shall have a minimum thickness of **1.5-inches**. Epoxy coatings shall have a minimum thickness of **125 mils**."
4. Subsection 2.3 Conditioned Based Rehabilitation, item D, after "...prescribed composite liner system." ADD the following "Composite liner systems shall include a cementitious liner and shall be calcium aluminate, 100% pure fused, that shall have a minimum thickness of **2-inches**. Epoxy coatings shall have a minimum thickness of **125 mils**."

Please submit the below additional material in one PDF file:

Bidder's shall include with bid submittals technical data sheets for all materials proposed for use in their manhole rehabilitation work, including but not necessarily limited to infiltration control materials, invert repair and patching materials, cementitious manhole liner materials, composite liner materials, epoxy liner materials, and any other material used in the formation of the Contractor's bid for this work.

Instructions to Bidder:

Each bidder must acknowledge receipt of any addenda on the Bid Reply Sheet in order to have his/her bid or proposal/bid to be accepted.

**BID ADDENDUM # 4**  
**BID # 20120035**  
**Addendum Date: 7/10/12**

**Bid Name: Complete Rehabilitation of City Manholes, lift station and Wet wells**

Item 1, Mobilization- this line item represents the unit price for the mobilization for each job that is requested for rehabilitation.

Instructions to Bidder:

Each bidder must acknowledge receipt of any addenda on the Bid Reply Sheet in order to have his/her bid or proposal/bid to be accepted.

**BID ADDENDUM # 3**  
**BID # 20120035**  
**Addendum Date: 7/10/12**

**Bid Name: Complete Rehabilitation of City Manholes, lift station and Wet wells**

The City will not enter into a contract or conduct business with any firm or any firm who has personnel that is listed on the Federal, State, or other local government agencies Excluded Parties List, Suspended List or Debarment List.

Instructions to Bidder:

Each bidder must acknowledge receipt of any addenda on the Bid Reply Sheet in order to have his/her bid or proposal/bid to be accepted.

**BID ADDENDUM # 2**

**BID # 20120035**

**Addendum Date: 7/2/12**

**Bid Name: Complete Rehabilitation of City Manholes, lift station and Wet wells**

**The Bid Opening date has been changed to July 24, 2012 at 3:00:00 PM. The location of the opening has not been changed.**

Instructions to Bidder:

Each bidder must acknowledge receipt of any addenda on the Bid Reply Sheet in order to have his/her bid or proposal/bid to be accepted.

**BID ADDENDUM # 1**

**BID # 20120035**

**Addendum Date: 7/2/12**

**Bid Name: Complete Rehabilitation of City Manholes, lift station and Wet wells**

Please make the following changes/modifications to the subject bid:

Disregard the following specifications within the bid docs:

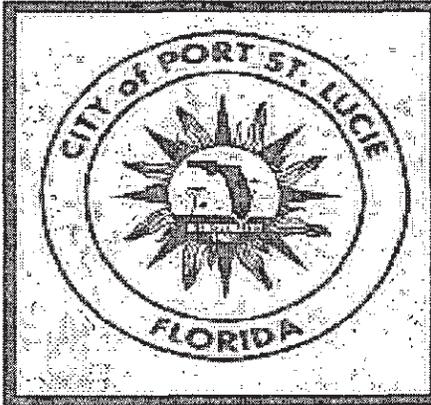
- 3.1.1
- 3.1.2
- 3.1.3
- 3.1.5
- 5.0
- 5.2
- 6.0
- 6.1
- 6.2

Please follow specifications as per Attachment A.

NOTE: The bid opening date is unchanged.

Instructions to Bidder:

Each bidder must acknowledge receipt of any addenda on the Bid Reply Sheet in order to have his/her bid or proposal/bid to be accepted.



**CITY OF PORT ST. LUCIE**

**SEALED ELECTRONIC BID #20120035**

**FOR**

**COMPLETE REHABILITATION OF CITY MANHOLES, LIFT STATIONS  
AND WET WELLS**

Prepared by:

Cheryl Shanaberger

City of Port St. Lucie

Office of Management & Budget

772-871-7390 772-871-7337 Fax

[cheryls@cityofpsl.com](mailto:cheryls@cityofpsl.com)

Mayor – JoAnn Faiella

District 4 - Councilman - Jack Kelly

District 1 – Vice Mayor -Linda Bartz

District 2 - Councilwoman - Michelle Berger

District 3 – Councilwoman – Shannon Martin

City Manager – Gregory J. Oravec

## INVITATION TO BID

Sealed Electronic Bid #20120035 for Complete Rehabilitation of City Manholes and Lift Station Wet Wells will be received by the Office of Management and Budget, City of Port St. Lucie no later than 3:00 P.M. on July 10, 2012. Specifications are attached.

All bids must be received by the date and time specified above, when they will be opened and publicly read aloud. The bid time must be and shall be scrupulously observed. Under no circumstances shall bids uploaded to Demandstar.com after the time specified will be accepted or considered. It is the sole responsibility of the Bidder to ensure that his or her bid is uploaded on or before the closing date and time. The City shall in no way be responsible for delays caused by any power outages or internet failures. No exceptions will be made.

Electronic replies will be the **only** method allowed for Bidders to respond to this solicitation. All submittals must be compatible with Microsoft Office 2003. E-Bidding will be done through a secure locked box. Bidders can only view/submit their E-Bid and will not have access to any other Bidder's submittals. The Bidder's E-Bid may be changed at the Bidder's discretion until the due date and time have been reached at which time the Bidder will no longer be able to change or have access to the electronic bid submittal. The City will then open the E-Bids. Bidders who are e-bidding for the first time are strongly encouraged to contact Demandstar at (800) 771-1712 or obtain assistance by e-mailing questions to [supplierservices@onvia.com](mailto:supplierservices@onvia.com)

Each Bidder(s) must deposit with his/her bid, a bid bond, or bid guaranty, in the amount of five percent (5%) of the bid total, made payable to the City of Port St. Lucie. This must be uploaded at time of submittal and then mailed to the City immediately after opening. Thus showing evidence that a bid bond was obtained. Contractors are to send the Bid Bond to the City via regular mail, express mail or hand delivered within three (3) business days after the opening date. This **MUST** be received within three (3) business days or your Bid may not be considered.

For the purpose of this bid, the term Bidder, E-Bidder and Contractor may be used interchangeably.

Documents required for this E-Bid:

- E-Bid Specifications, pages 1 -36
- Attachment A – Technical Specifications, pages 1 – 24
- Excel Bid Reply Sheet
- Bid Reply Sheet

All bids must be received by the date and time specified above. The bid date/time must be and shall be scrupulously observed. Under no circumstances shall bids delivered after the time specified be considered. It is the sole responsibility of the bidder to ensure that his or her bid reaches the E-bid system on or before the closing date and time. The City shall in no way be responsible for delays caused by any occurrence. No exceptions will be made.

The City reserves the rights to waive irregularities, reject and/or accept any and all bids, in whole or in part, or take other such action as serves the best interests of the City.

Cheryl Shanaberger, MPA, CPPO, Office of Management and Budget

## TABLE OF CONTENTS

<u>Description</u>	<u>Page</u>
Invitation To E-Bid	2
Overview	4
Intent	4
General Requirements	4
Special Requirements	10
Specific Requirements	11
Bid, Performance and Payment Bond Requirements	17
Insurance Requirements	18
Additional Information	20
E-Bid Reply Sheet #20120035	23
Sample Contract	25
Forms	
Checklist	34
Drug Free Workplace Form	35
Statement of No Bid	36
Attachments:	
Attachment A – Technical Specifications	Pg. 1 – 24
E-Bid Reply Excel Spreadsheet	Pg. 1

**SPECIFICATIONS**  
**SEALED BID #20120035**  
**Rehabilitation of City Manholes and Lift Station Wet Wells**

**OVERVIEW**

The City of Port St. Lucie desires to obtain quotations from qualified individuals, firms, contractors and legal entities relative to furnish all labor, materials, and equipment necessary to rehabilitate the interior surface areas of existing sewer manhole structures of various depths throughout the City in accordance with the Utility's attached technical specifications.

**INTENT**

It is the intent of the City to procure the services of a contractor to replace/rehabilitate sewer manholes of various depths throughout the City as the needs arise and budget allows. The term of the contract will be for two (2) years with the option of two (2) one-year renewals based on mutual agreement between the City and awarded Vendor.

**1. GENERAL REQUIREMENTS**

**1.1 Invitation to Bid** - All requirements contained in the Invitation to Bid are hereby incorporated in this specification.

**1.2 Cost of Preparation of Bid** - The City will not be responsible for any cost incurred by any Bidder in the preparation of his/her bid.

**1.3 Examination of Drawings and Contract Documents** - Bidders shall thoroughly examine this specification and all other drawings, documents or other materials referred to herein and conduct such investigations and visits as may be necessary to thoroughly inform themselves regarding existing plant, facility, personnel and other conditions relative to compliance with this specification. No plea of ignorance by the Bidder of conditions that exist or that may hereafter exist, as a result of failure or omission on the part of the Bidder to make said investigations and visits, and/or failure to fulfill in every detail the requirements of this specification and documents promulgated therein, will be accepted as a basis for varying the requirements of the City or the compensation of the Selected Bidder(s).

**1.4 Bid Price** - Bidders must agree to furnish any item(s) which are awarded to them as a result of their response to this specification at the price(s) indicated on their respective Bid Reply Sheet. Bidders shall guarantee that said price(s) will be firm, not subject to escalation, for the stated time period. Submittal of a bid shall be prima facie evidence of the Bidder's intent to comply with this requirement. Any bid submitted with escalation clauses shall be rejected.

**1.5 Qualifications** - Bidders shall have the necessary organization, experience, capital, and equipment to carry out the provisions of the contract to the satisfaction of the City. References from existing accounts, financial statements, list of projects recently completed and in process,

major equipment available for this project, and experience of the principal members of the Bidder's organization must be furnished within seven (7) days, if requested.

**1.6 Award of Contract** – The City shall take measures as deemed necessary to determine the ability of the Bidder to perform the obligations of the Contract. The City may reject any bid where an investigation of the available information indicates a Bidder is not the most qualified to perform the obligation of the Contract. The City may require a Bidder to furnish additional statements of qualifications. Some or all of the following criteria may be used to select the bid that will provide the best value to the City:

- ◆ Has sufficient financial resources to complete the order.
- ◆ Can meet quoted delivery considering all other business commitments.
- ◆ Has a satisfactory record of performance.
- ◆ Has adequate staffing to fulfill requirements.
- ◆ Has the necessary production, technical equipment and facilities (or ability to readily obtain them).
- ◆ Has necessary organization experience, operational controls, and technical skills (or ability to readily obtain them).
- ◆ Bidder is a manufacturer, supplier, authorized distributor or vendor for the requirement.
- ◆ The Bidder is qualified and eligible to receive an award under applicable laws and regulations.
- ◆ Has bid within a competitive price range in relation to the needed goods, services or construction.
- ◆ The skill and experience demonstrated by the bidder in performing contracts of a similar nature.
- ◆ The bidder's past performance with City.
- ◆ Has met all requirements of the solicitation (delivery, quality and price).
- ◆ Has met bounds of commonality. Absolute conformity is not required, just substantial or material compliance.
- ◆ Has met bid security requirements. Lack of security, where required, is a material nonconformity.
- ◆ Price: The element of price is but one of the criteria elements when considering a proposal. Evaluate the pricing offered by the bidder; consider lifecycle costing, depreciation, and service contracts will be considered.
- ◆ City's local preference ordinance.
- ◆ Determine what proposal provides the best value to the City.

The award date is the date that City Council executed the motion to award the bid regardless of the date bidder received the notification of award. Notification of the award may be given by e-mail, facsimile, U.S. mail system, courier or on the web site.

**1.7 Variances to Specifications** - Bidders must indicate any variances to the Specifications. Additionally, if bids are based on alternate products, Bidder must indicate the manufacturer's name and number of the alternate item(s) being offered and attach appropriate specifications. If variations and/or alternates are not stated in Bidder's reply, it shall be construed that the bid fully conforms to the specifications.

**1.8 OSHA Compliance** - Bidders must agree that the products furnished and application methods will comply with applicable provisions of the Williams-Steiger Occupational Safety and Health Act of 1970 and/or the Florida Division of Safety, whichever is applicable.

**Submittal of Bid** - Unless otherwise provided herein, all bids shall be submitted by completing and returning the E-Bid Reply Sheet and any other documentation that is required by this bid. The E-Bid Reply Sheet #20120035 should be typed or printed and signed in black/blue ink. The individual signing the bid must initial all changes. All submittals are required to be electronic. No hard copies will be accepted.

- A. Request Bid Specifications, #20120035 from Onvia, via phone 800-711-1712 or via internet [www.cityofpsl.com](http://www.cityofpsl.com)
- B. Download the E-Bid Reply Excel Spreadsheet and save to your hard drive, program is in Excel Office 2003 Professional. Enter unit prices on the E-Bid Reply Excel Spreadsheet and save. The form will automatically total the unit prices.
- C. Complete company information on E-Bid Reply Sheet #20120035.
- D. Enter total price on E-Bid Reply Sheet #20120035. Totals shall agree with the E-Bid Reply Excel Spreadsheet Line Item #14 that is to be uploaded at time of submittal. Discrepancies between the E-Bid Excel Spreadsheet uploaded on Demandstar, the dollar amount listed on the web page at time of submittal and the E-Bid Reply Sheet #20120035 uploaded on Demandstar will be resolved in favor of the E-Bid Excel Spreadsheet that is uploaded at time of submittal. Any discrepancy in the total will be resolved by the unit price listed on the E-Bid Reply Excel Spreadsheet.
- E. Electronically sign the E-Bid Reply Sheet #20120035 where indicated.
- F. Upload and submit the E-Bid Reply Sheet #20120035, E-Bid Reply Excel Spreadsheet, Contractor's Questionnaire, 5% Bid Bond (**MUST** be received within 3 days after the opening or your bid may not be considered), Insurance Certificate(s), Drug Free Workplace Form, W-9 Form and the Checklist onto Demandstar by the due date and time. Acknowledge all Addenda on the E-Bid Reply Sheet #20120035. **All required documents should be submitted in one electronic file.**
- G. Upload and submit a copy of your license for this type of work; or in compliance with Florida Statute Chapter 489, a copy of the certificate issued by the State of Florida authorizing the Bidder(s) to transact business within the state.

**\*\* Only electronic replies are required. All required documents should be submitted in one electronic file. No hard copies will be accepted.**

**1.9.1 Bid Documents for the project include the following:**

- Bid Specifications– Pages 1 – 36.
- Bid Reply Sheet #20120035.
- E-Bid Reply Excel Spreadsheet.

- Drug Free Workplace Form
- Check List
- Attachments:
  - Attachment A – Technical Specifications, pages 1 - 24.

## 1.9

**1.9.1 Right to Reject** -The City reserves the right to waive irregularities, reject and/or accept any and all bids, in whole or in part, to solicit and re-advertise for new bids, abandon the project in its entirety, or take other such action as serves the best interests of the City.

**1.9.2 Timeliness of Submittal** All bids must be uploaded by the date and time specified above, when they will be opened and publicly read aloud. The bid time must be and shall be scrupulously observed. Under no circumstances shall bids uploaded after the time specified be considered. It is the sole responsibility of the Bidder to ensure that his or her bid is uploaded to Demandstar.com on or before the closing date and time. The City shall in no way be responsible for delays caused by power outages or internet failures.

**1.9.3 Bid Opening Extension** – The City reserves the right to extend the bid opening date when no responses or only one (1) response is received. The City will return the received response unopened.

**1.9.4 Checklist** - Bidders are requested to return the attached Checklist that is contained in the bid package with the Bid Reply Sheet.

**1.10 Shipping Terms** - Bidders shall quote F.O.B. Destination.

**1.11 Payment Terms** - Invoices shall be submitted once a month, by the 10th of the month and payments shall be made within thirty (30) days unless contractor has chosen to use the Purchasing Card. Cash discounts for using the Purchasing Card will be considered when evaluating bids.

### **PLEASE NOTE**

The City has implemented a **Purchasing Card Program**. The Selected Bidder can take advantage of this program and in consideration receive payment within several days instead of the City's policy of Net 30 Days After Receipt of Invoice (ARI). Any percentage off the bid price for the acceptance of Visa payments will be considered in the bid award. If no such percentage is given, the City shall assume 0% discount applies.

Bidders are requested to state on the Bid Reply Sheet if they will honor the City's VISA Purchasing Card. In the event of failure on the part of the Bidder to make this statement the City shall assume the purchase or contract price shall be governed by the Net 30 ARI.

**1.12 Execution of Contract or Purchase Order**- Selected Bidder will be required to execute a Standard City Contract within ten (10) days after notification by the City that contract is

available and thereafter comply with the terms and conditions contained therein. No contract shall be considered binding upon the City until it has been properly executed.

**NOTE: The Selected Contractor will be required to accept the terms and conditions of the City's contract. If bidder cannot accept these terms and conditions, do not submit a proposal.**

**1.13 Failure to Execute Contract** - Failure on the part of the Selected Bidder to execute the Contract as required will be just cause for the annulment of the award.

**1.14 Subletting or Assigning of the Contract** - The Selected Bidder shall not sublet, sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of the work provided for therein, or of his right, title or interest therein, to any person, firm or corporation without the written consent of the City. Each Bidder shall list all subcontractors and the work provided by the suppliers in the area provided on the bid forms.

**1.15 Time of Award** - The City reserves the right to hold proposals and bid guarantees for a period not to exceed 90 days after the date of the bid opening stated in the Invitation to Bid before awarding the Contract.

**1.16 Public Entity Statement** - A person or affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Florida Statute, Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

**1.16.1 Discrimination** - An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

**1.17 City's Public Relations Image** - Selected Bidder's personnel shall at all times handle complaints and any public contact with due regard to the Municipality's relationship with the public. Any personnel in the employ of the Selected Bidder involved in the execution of work that is deemed to be conducting themselves in an unacceptable manner shall be removed from the project at the request of the City Manager, or his/her designee.

**1.18 Tie Bid Statement** - Identical tie bids, in accordance with Section 287.087, Florida Statutes, preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids that are equal with respect to price, quality, and service are received by the City for the procurement of commodities or contractual services, a bid received from a business that

certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Please submit the form that is enclosed with your bid response.

**1.19 Cooperative Purchasing Agreement** - This bid may be expanded to include other governmental agencies provided a cooperative Purchasing Agreement exists or an Inter-local Agreement for joint purchasing exists between the City of Port St. Lucie and other public agencies. Vendor may agree to allow other public agencies the same items at the same terms and conditions as this bid, during the period of time that this bid is in effect. Each political entity will be responsible for execution of its own requirements with the Selected Bidder.

**1.20 Material Safety Data Sheets** - The Selected Bidder is required to provide a copy of the Material Safety Data Sheet (MSDS) for all chemicals used in the execution of their work in compliance with Chapter 442, Florida Statutes. The MSDS must be maintained by the user agency.

**1.21 Permits** - The Selected Bidder shall be responsible for obtaining all permits, licenses, certifications, etc., required by Federal, State, County, and Municipal laws, regulations, codes, and ordinances for the performance of the work required in these specifications and to conform with the requirements of said legislation, including but not limited to the "right of way" and "noise" permits.

**1.21.1** The Selected Bidder will be required to file a W9 Taxpayer Identification Form with the City. This form must be submitted and received by the City's Finance Department before payment can be authorized.

**1.22 Familiarity with Laws** - The Selected Bidder is assumed to be familiar with all Federal, State and local laws, ordinances, rules and regulations that may affect the work. Ignorance on the part of the Bidder will in no way relieve him from responsibility.

**1.23 Damage to Property** - The Selected Bidder shall preserve from damage all property along the line of work, or which is in the vicinity of or is in any way affected by the work, the removal, or destruction of which is not called for by the plans. This applies to public and private property, public and private utilities, trees, shrubs, crops, signs, monuments, fences, guardrail, pipe and underground structures, public highways, etc. Whenever such property is damaged due to the activities of the Selected Bidder, it shall be immediately restored to a condition equal to or better than existing before such damage or injury was done by Selected Bidder, and at Selected Bidders expense. The Selected Bidder's special attention is directed to protection of any geodetic monument, horizontal, vertical or property corner, located within the limits of construction.

National Geodetic Vertical Datum 1929 (NGVD '29) or North American Vertical Datum 1988 (NAVD '88) monuments shall be protected. If in danger of damage, notify:

Geodetic Information Center  
6001 Executive Boulevard  
Rockville, MD 20852  
Attn: Mark Maintenance Center  
(301) 443-8319

City of Port St. Lucie vertical or horizontal datum shall be also protected. In case of damage or if relocation is needed, notify:

City of Port St. Lucie  
Engineering Department  
121 SW Port St. Lucie Boulevard  
Port St. Lucie, FL 34984-5099  
(561) 871-5175

## 2. SPECIAL REQUIREMENTS

**2.1 Implied Warranty of Merchantability** - It is understood that the implied warranty of merchantability and fitness for the specified purpose are not disclaimed notwithstanding any representation to the contrary.

**2.2 Warranty and Guarantee** - All products furnished by the Selected Bidder shall be supplied with all warranties and guarantees of the manufacturer. All products must also be warranted by the Selected Bidder to be free of defects in workmanship and material for a period of not less than 365 days; said period to commence upon the date products are installed, or accepted by City, whichever last occurs.

**2.2.1 Repair or Replacement** - Should any defect appear during this period, the Selected Bidder shall, at their expense, have repaired or replaced such item upon receipt of written notice from the City of said defect. Said repair or replacement must be accomplished within 14 days after receipt of notification from the City of the defect.

**2.3 Safety Precautions** - The Selected Bidder shall erect and maintain all necessary safeguards for the protection of the Selected Bidder's employees and subcontractors, city personnel, and the general public; including, but not limited to, posting danger signs, and other warnings against hazards as is prudent and/or required by law to protect the public interest. All damage, injury or loss to persons and/or property caused, directly or indirectly, in whole or in part, by the Selected Bidder's employees, or subcontractor(s), or anyone directly or indirectly employed by said parties shall be remedied by the Selected Bidder.

**2.4 Discrepancies** - If, in the course of performing work resulting from an award under this specification, the Selected Bidder finds any discrepancy between the area defined in these specifications and the actual area where work is being performed, the Selected Bidder shall discontinue work on the subject area and inform the Contract Supervisor of the discrepancy. The Selected Bidder shall thereafter proceed as authorized by the Contract Supervisor who will document any modification to these specifications that he authorized in writing within twenty-four (24) hours.

**2.5 Suspension of Work** - The City may at any time suspend work on the entire job or any part thereof by giving three (3) days written notice, signed by the Contract Supervisor, to the Selected Bidder. The Selected Bidder shall resume the work within three (3) days after a written notice to resume work, signed by the Contract Supervisor, is issued to the Selected Bidder.

**2.6 Emergencies** - In the event of emergencies affecting the safety of persons, the work, or property, at the site or adjacent thereto, the Selected Bidder, or his designee, without special instruction or authorization from the City, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. In the event such actions are taken, Selected Bidder shall promptly give to the Contract Supervisor written notice of any significant changes in work or deviations from the contract documents caused thereby, and if such action is deemed appropriate by the Contract Supervisor a written authorization signed by the Contract Supervisor covering the approved changes and deviations will be issued. Appropriate compensation adjustments will be approved, provided the cause of the emergency was beyond the control of the Selected Bidder.

**2.7 Deductions** - In the event the City deems it expedient to perform work which has not been done by the Selected Bidder as required by these Specifications, or to correct work which has been improperly and/or inadequately performed by the Selected Bidder as required in these Specifications, all expenses thus incurred by the City, at the City's option, will be invoiced to the Selected Bidder and/or deducted from payments due to the Selected Bidder. Deductions thus made will not excuse Selected Bidder from other penalties and conditions contained in the Contract.

### **3. SPECIFIC REQUIREMENTS**

#### **3.1 Scope of Services**

Location: Utility System Department wastewater manholes and lift stations across the City on an as-needed basis to be determined by the City of Port St. Lucie.

Scope of Work: All necessary labor, materials and equipment to install cementitious liners, epoxy liners, and composite liners at locations as approved or directed by the City's USD on an as-needed basis. Project work will consist of but not be limited to, engineering, mobilization, safety equipment, flow diversion, interior cleaning, interior repair, interior rebuild, liner installation, resetting or replacement of manhole frame and covers, chemical grouting, return of the manhole and/or lift station to service, traffic control, demobilization, site cleanup and all labor and materials necessary for a complete and operational liner rehabilitation system in complete accordance with all current City of Port St. Lucie Utility System Department construction standards. Technical specifications for the rehabilitation of the City's wastewater collection system manhole and lift station, for this project work, are included in Bid Attachment "A". Site visits will be necessary before submittal of proposed materials and equipment to verify compatibility and locations. For all project work, Contractor shall meet and coordinate with USD wastewater collection system operations personnel on-site to verify location, liner rehabilitation method, backup schemes, project approach, and all scheduling prior to commencement of work.

Contractor shall guarantee all work against failure, inadequate design, improper assembly, defective workmanship or materials for the period of one (1) year from date of work's final inspection and acceptance.

**3.2 General** – The Selected Bidder shall perform the work as outlined in the following:

**3.1.1 48" Diameter Manholes** - The contractor shall supply all the labor, equipment, and materials necessary to replace 48" diameter manholes of various depths throughout the City in accordance with the City of Port St. Lucie Utility Systems Department's Technical Specifications and Construction Standards (copy of which may be obtained at [www.cityofpsl.com/Utilities/Util-Engineering.htm](http://www.cityofpsl.com/Utilities/Util-Engineering.htm) and or directly from the Utility Systems Department by contacting at 772-873-6400 which shall consist of, but not be limited to the following:

- By-pass the existing manhole.
- Remove the existing manhole.
- Stabilize sub grade per specifications.
- Place the new manhole.
- Tie into existing gravity mains.
- Backfill and compact around the new manhole per specifications.
- Dispose of all construction debris.
- Restore the site to its original condition.

The Contractor shall submit an as-built survey of the manhole once replaced. Said survey shall be signed and sealed by a professional surveyor registered in the state of Florida.

**3.1.2 60" Diameter Manholes** - The contractor shall supply all the labor, equipment, and materials necessary to replace 60" diameter manholes of various depths throughout the City in accordance with the City of Port St. Lucie Utility Systems Department's Technical Specifications and Construction Standards (copy of which may be obtained at [www.cityofpsl.com/Utilities/Util-Engineering.htm](http://www.cityofpsl.com/Utilities/Util-Engineering.htm) or directly from the Utility Systems Department by contacting Gary Priest at 772-873-6400), which shall consist of, but not be limited to the following:

- By-pass the existing manhole.
- Remove the existing manhole.
- Stabilize sub grade per specifications.
- Place the new manhole.
- Tie into existing gravity mains.
- Backfill and compact around the new manhole per specifications.
- Dispose of all construction debris.
- Restore the site to its original condition.

The Contractor shall submit an as-built survey of the manhole once replaced. Said survey shall be signed and sealed by a professional surveyor registered in the state of Florida.

**3.1.3 Dewatering** - The contractor shall provide dewatering, should it be necessary, for the proper completion of work described under Sections 3.1.1 and 3.1.2. Dewatering shall conform to all rules and regulations set forth by any and all regulatory agencies having jurisdiction of such construction methods. The contractor shall supply all the labor, equipment, and materials necessary to complete the work involved. The Contractor will be responsible for noise-dampening apparatus, if needed, for any dewatering work performed at night in heavy residential neighborhoods.

**3.1.4 Notification of residents** – The notification of residents in work area(s) will be done by the Contractor through the “door hanger” program. The door hangers will be provided by the City. The Contractor will request needed door hangers not less than 48 hours prior to need date. These door hangers will be hung by the Contractor 24 hours in advance of work to be started. A detailed map/sketch of residences that may need door hangers will be available from the Utility department for the Contractor’s use.

**3.1.5** Items to be addressed on the Excel Bid Reply Sheet:

### **SANITARY SEWER MANHOLE REPLACEMENT**

#### **A 1 - 48” DIAMETER MANHOLES**

- A 1.1 48” Diameter Manholes (0’ - 6’ In Depth)
- A 1.2 48” Diameter Manholes (6.1’ - 8’ In Depth)
- A 1.3 48” Diameter Manholes (8.1’ - 12’ In Depth)
- A 1.4 48” Diameter Manholes (12.1’ - 16’ In Depth)

#### **A 1- 60” DIAMETER MANHOLES**

- A 1.1 60” Diameter Manholes (0’ - 6’ In Depth)
- A 1.2 60” Diameter Manholes (6.1’ - 8’ In Depth)
- A 1.3 60” Diameter Manholes (8.1’ - 12’ In Depth)
- A 1.4 60” Diameter Manholes (12.1’ - 16’ In Depth)

#### **A 2 DEWATERING**

- A 2.1 Manholes (0’ - 6’ In Depth)
- A 2.2 Manholes (6.1’ - 8’ In Depth)
- A 2.3 Manholes (8.1’ - 12’ In Depth)
- A 2.4 Manholes (12.1’ - 16’ In Depth)

#### **A 3 As-Built Survey**

- A 3.1 As-Built Survey

## **4. GENERAL INFORMATION**

**4.1 Section Description** - This section includes materials and installation standards and Contractor responsibilities associated with the furnishing of all labor, materials, equipment, and incidentals required to properly install a complete and operational gravity collection system and appurtenances as specified herein.

Materials shall include, but not limited to, the following: Gravity Wastewater Main, Wastewater Manholes, and Services

**4.2 Submittals** – All Bidder’s are required to submit the following:

- 4.2.1** Submit shop drawings of all materials for wastewater mains, manholes, and services to be installed, for approval, prior to ordering material.
- 4.2.2** Manufacturer and Fabricator Certification.

## 5. PRODUCTS

### 5.1 Gravity Wastewater Main –

- a) PVC pipe shall conform to ASTM D-3034, SDR 35, and meet requirements of ASTM D-3212 on joints for drain and sewer pipe using flexible elastomeric seals. Pipe shall be green or white in color with the words "Sanitary Sewer" written on the pipe at regular intervals of third points around the pipe.
- b) For excavations greater than 12 feet AWWA C-900 SDR 18 PVC pipe, with the same color designations as stated above, shall be used.
- c) Where DIP is used, DIP shall be minimum Class 51 conforming to AWWA C-151 and ANSI A21.51. DIP shall be coal tar epoxy lined. Lining shall be applied in accordance with the manufacturer's recommendations. DIP shall be required where the separation from finished grade to invert is less than 4 feet, sewer lines cross other pipeline with less than 18 inches separation, in accordance with FDEP specifications, and all other areas where the Utility requires.
- d) Fittings shall be of the same type of material used for the pipeline.

**5.2 Wastewater Manholes** - Manhole interior shall be fiberglass lined with G.U. Industries liner as detailed and specified by the manufacturer. The minimum inside diameter of manholes shall be 48 inches for wastewater main sizes up to 21 inches in diameter, with submittal of special designs for larger pipes. Non-penetrating lift pen inserts shall be installed by precast Fabricator. Precast reinforced manholes shall be in accordance with ASTM C478, Class II, made with Type II acid resistant cement, shall attain a minimum compressive strength of 4,000 psi in 28 days. The liner system shall be cast integrally into the manhole precast concrete surrounding it, with alignment/grade of channels/openings for connecting pipes matching drawing requirements. Liner integrally formed bell gaskets shall comply with ASTM F 477 Standard Specification for Elastomeric Seal(Gaskets) for Joining Plastic Pipe. Joint material for manhole sections shall be butyl rubber sealant. Installation of precast manholes shall comply with the details shown in the Construction Standards and in accordance with the manufacturer's recommendations.

- a) Manhole frames and covers shall be grey cast iron traffic rated heavy duty conforming to ASTM Designation A48, Class 30. Covers shall be marked with the word "SANITARY SEWER " in 2-inch raised letters. Frames and covers shall be set to the correct finish grade elevation, with adjustment precast concrete manhole rings placed below, as detailed, for precast manholes. Frames shall be suitable for the future addition of cast iron rings for upward adjustment of top elevation.
- b) The base slab and first ring of the precast manhole shall be cast monolithically.

## 6. EXECUTION

### 6.1 Installation – Installation details as follows:

### **6.1.1 Manholes –**

- a) Manholes shall be set according to existing manhole construction and shall be precast in accordance with approved shop drawings, specifications, and Construction standards.
- b) Certification from manufacturer stating that manufacturer has provided factory training to the precast fabricator, and that the precast fabricator is approved by the liner manufacturer for incorporation of manufacturer's liner into fabricator's precast manhole product, shall be required.
- c) Fabricator shall provide a letter stating that fabricator will provide on site guidance during manhole pipe connection and joint sealant installation of first manhole. Upon completion of construction, Contractor shall provide certification from the fabricator stating that such field guidance was provided to the contractor.
- d) Manhole exterior shall receive two (2) application 16 mils each of a 100% solid coal-tar epoxy. Application shall be by an approved applicator.
- e) All manholes shall have sewer-rain guards installed. Rain guards shall be manufactured by Fosroc-Preco Industries or approved equal.
- f) All manholes shall require backfill compaction as specified in compaction specifications. Backfill shall be of suitable material, Debris or other unstable materials shall not be used.

### **6.1.2 Gravity Wastewater Main -**

- a) Gravity mains shall be laid accurately to both line and grade. Visible leakage, deflections, horizontal misalignment, significant bowing, non-constant slopes between manholes and sagging joints shall each be grounds for rejection of lines.
- b) Where navigable waterways are crossed, ductile iron pipe shall be installed across and to ten feet each side of the crossing. Approved utility crossing signs shall be placed on the pipe alignment at each side of the waterway.
- c) Special care shall be exercised in design and installation to provide adequate bedding for the type of pipe used, taking into consideration trench width and depth, superimposed loadings above grade, and the material below trench grade. Pipe loading capabilities shall be computed in accordance with established design criteria and special supporting bedding or facilities shall be provided as required by the Engineer. Trenches and excavations shall be kept dry while work is in progress. The Contractor shall be responsible to ensure that all safety requirements are met. The pipe barrel shall be uniformly supported along its entire length on undisturbed soil or bedding material.

- d) Extra protection shall be provided for underground ductile iron pipe and fittings within areas of severe corrosive conditions. Protection shall be accomplished by the installation of polyethylene encasement, through the area of concern.

**6.1.2 Connections** – Details as follows:

- a) Service Connections: The service pipe lateral and required fittings shall extend to the property line, perpendicular to said line, terminating with stoppered ends or fittings, as indicated. The minimum service pipe size shall be four inches in diameter for a single service and six inches for a double service. All commercial service shall be six inches. The exact location for each installed service shall be marked by permanent magnetic markers installed at the terminus location at each property line. Lateral magnetic markers shall be approved by the Utility with the same type used throughout the project.

**6.2 Field Quality Control** –

- a) The Contractor shall perform testing of all wastewater gravity mains, as set forth in the following, and shall conduct said tests in the presence of representative of Port St. Lucie Utility Systems Department. Testing shall not proceed until the facilities have been backfilled, the laying of roadway base is complete and Record Drawings are obtained.
- b) For sanitary lines 100' or less in uninterrupted length (services excluded), the following shall apply: Inspection lamping performed by the contractor shall be required. Lamping shall be performed in presence of a representative of Port St. Lucie Utility Systems Department. If deemed appropriate, the Utility may request T.V. and/or infiltration/exfiltration test, all testing performed shall be at the contractor's expense.
- c) For sanitary lines greater than 100' in uninterrupted length (services excluded), the following shall apply:
  - 1) The installed wastewater gravity main shall undergo television inspection performed by the contractor or representative of, prior to final acceptance by the Utility. Color videotapes and inspection logs shall be provided to the Utility for each inspection. At time of videotaping, the lines shall be clean with sufficient water having been introduced into each segment of the line to show any sags or dips present. The video camera shall have a depth gauge attached to the front of the camera that will show depth of water in the line dips. If inspection reveals cracked, broken, or defective pipe or pipe misalignment resulting in vertical sags in excess of 1/2 inch, the contractor shall be required to repair or replace the pipeline. Prior to repair or replacement of failed sewer pipe, the method of replacement shall be submitted to the Utility for approval. Pressure grouting shall not be considered as an acceptable method of repair. The results of all testing shall be provided to the Utility in legible form by the contractor.
  - 2) The gravity sewer shall be subjected to infiltration or exfiltration tests performed as follows:

- (a) When testing mains and laterals separate of the manholes and the groundwater is at least 2 feet above the highest invert, infiltration testing shall be performed.
  - (b) When testing mains and laterals separate of the manholes and the groundwater is less than 2 feet above the highest invert, exfiltration testing shall be performed.
  - (c) All manholes shall be subject to an exfiltration test and may be conducted in conjunction with the testing of the mains and laterals.
  - (d) The allowable leakage shall not exceed 50 gallons/day/inch of diameter/mile.
- 3) Should the test fail, the contractor shall accomplish necessary repairs and the test repeated until the results are within the established limits. The contractor shall furnish the necessary labor, water, and all other items required to conduct the required testing and shall perform the necessary system repairs required to comply with the specified test. All retesting shall be at the contractor's expense.

NOTE: The Utility Department is requiring that as-built surveys, signed and sealed by State certified Engineer, as well as shop drawings will be required from the Contractor for the work performed.

## **7. BID, PERFORMANCE AND PAYMENT BOND REQUIREMENTS**

**7.1 Proposal Guaranty (Bid Bond)** - A Bid Bond from a surety company, certified check, cashiers check, bank money order, bank draft of any national or state bank, or cash, in a sum of not less than 5% of the amount of the bid, made payable to the "City of Port St. Lucie", shall accompany each proposal as a guarantee that the Selected Bidder will execute the required contract and promptly deliver the required Insurance Certificates, and other documentation required by these Specifications. Bid Bonds must be executed by a fully authorized Surety licensed by the State of Florida. The failure on the part of the Bidder to comply with this requirement will be cause for the rejection of the bid. No company or personal checks will be accepted - only certified funds or surety company bond. The failure on the part of the Bidder to comply with this requirement and send the original Bid Bond in within three (3) business days after the opening may be cause for the rejection of the bid.

**7.2 Return of Proposal Guaranty** - After the bid prices have been compared, the Purchasing Agent may, at his/her discretion, return the guaranty deposit accompanying such proposals as in his/her judgment would not likely be considered in making the award. All other proposal guaranties will be held until the contract has been executed, and all required Performance and Payment Bonds provided, after which they will be returned to the respective Bidder's whose proposals they accompanied.

**7.3 Payment & Performance Bonds** - The selected Bidder shall furnish an acceptable Performance and Payment Bond complying with the statutory requirements set forth in Section 255.05, Florida Statutes, in the amount of 100% of the Contract price. The City will execute the Contract, however it is agreed and understood that the City will not be bound unless and until it has been duly authorized by the City Council and has been executed by the City Manager. A fully authorized Surety, licensed by the State of Florida shall execute the Performance and

Payment Bond. The Performance and Payment Bond shall remain in full force a minimum of one (1) year after the work required has been completed and final acceptance by the City.

Should the Surety become irresponsible during the time the Contract is in force, the City may require additional and sufficient sureties and the selected Bidder shall furnish same to the satisfaction of the City within ten (10) days after written notice to do so. In default thereof, the Contract may be suspended. The City, by and through its Risk Management Department, reserves the right, but not the obligation, to review and reject any insurer providing coverage.

**7. Execution of Contract** - After the recipient of an award has been determined and necessary approvals obtained, the City will prepare a formal Contract to be executed by the parties. The Contract will be in substance the same as the Contract given to the Bidder with these Specifications. The Selected Bidder shall execute the Contract, deliver the required Insurance Certificates and policies, and other documentation, and furnish an acceptable Performance and Payment Bond complying with the statutory requirements set forth in Chapter 255.05, Law of Florida, in the amount of 100% of the contract price. The City will execute the Contract, it being agreed and understood that the City will not be bound unless and until the Contract has been executed by its duly authorized and elected officers. A fully authorized Surety, licensed by the State of Florida shall execute the Performance and Payment Bond. The Performance and Payment Bond shall remain in effect until one (1) year after work required has been completed and accepted by the City.

**7.5 Failure to Execute** - The failure on the part of the Selected Bidder to execute the Contract and/or punctually deliver the required Insurance Certificates and other documentation will be cause for the annulment of the award. In the event of the annulment of the award, the amount of guaranty deposited with the proposal will be retained or be paid upon demand to the Municipality, not as a forfeiture, but rather as liquidated damages for the breach of the Contract, it being agreed to by each Bidder in advance that the Municipality will sustain certain damages by reason of the failure of the Bidder to sign the Contract and/or deliver the required Insurance Certificates and other documentation and that such damages equal the amount of the bid security, or exceed the same, and in no event shall the bidder thereafter be permitted to contest to the contrary and does waive such right upon submitting a bid.

**8. INSURANCE REQUIREMENTS** – Bidders are required to submit a copy of their current insurance certificates with their Bid Reply Sheet.

**8.1.1 Indemnification** - The Contractor agrees to indemnify, defend, and hold harmless the City, its officers and employees, from liabilities, damages, losses and costs, including but not limited to, reasonable attorney's fees, to the extent caused by the negligent act, recklessness, or intentional wrongful misconduct of the Contractor and persons employed or utilized by the Contractor in the performance of the construction contract. As consideration for this indemnity provision the Contractor shall be paid the sum of ten dollars (\$10.00), which will be added to the contract price, and paid prior to commencement of work.

The Contractor shall, on a primary basis and at its sole expense, agree to maintain in full force and effect at all times during the life of this Contract, insurance coverage, limits, including endorsements, as described herein. The requirements contained herein, as well as City's review or acceptance of insurance maintained by Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under the Contract.

The parties agree and recognize that it is not the intent of the City of Port St. Lucie that any insurance policy/coverage that it may obtain pursuant to any provision of this Contract will provide insurance coverage to any entity, corporation, business, person, or organization, other than the City of Port St. Lucie and the City shall not be obligated to provide any insurance coverage other than for the City of Port St. Lucie or extend its immunity pursuant to Section 768.28, Florida Statutes, under its self insured program. Any provision contained herein to the contrary shall be considered void and unenforceable by any party. This provision does not apply to any obligation imposed on any other party to obtain insurance coverage for this project, any obligation to name the City of Port St. Lucie as an additional insured under any other insurance policy, or otherwise protect the interests of the City of Port St. Lucie as specified in this Contract.

**8.2 Workers Compensation** The Contractor shall agree to maintain Workers' Compensation Insurance & Employers' Liability in accordance with Section 440, Florida Statutes. Employers' Liability must include limits of at least \$100,000 each accident, \$100,000 each disease/employee, \$500,000 each disease/maximum. A Waiver of Subrogation endorsement must be provided. Coverage should apply on a primary basis. Should scope of work performed by Contractor qualify its employee for benefits under Federal Workers' Compensation Statute (example, U.S. Longshore & Harbor Workers Act or Merchant Marine Act); proof of appropriate Federal Act coverage must be provided.

**8.3 Business Auto Policy** - The Contractor shall agree to maintain Business Automobile Liability at a limit of liability not less than \$500,000 each accident covering any auto, owned, non-owned and hired automobiles. In the event, the Contractor does not own any automobiles; the Business Auto Liability requirement shall be amended allowing Contractor to agree to maintain only Hired & Non-Owned Auto Liability. This amended requirement may be satisfied by way of endorsement to the Commercial General Liability, or separate Business Auto Coverage form. Certificate holder must be listed as additional insured. A waiver of subrogation must be provided. Coverage should apply on a primary basis.

**8.4 Commercial General Liability** - Commercial General Liability insurance issued under an Occurrence form basis, including Contractual liability, to cover the hold harmless agreement set forth herein, with limits of not less than:

Each occurrence	\$1,000,000
Personal/advertising injury	\$1,000,000
Products/completed operations aggregate	\$2,000,000
General aggregate	\$2,000,000
Fire damage	\$100,000 any 1 fire
Medical expense	\$10,000 any 1 person

An Additional Insured endorsement **must** be attached to the certificate of insurance and must include coverage for Completed Operations (should be ISO CG20101185 or CG20371001 & CG20100704) under the General Liability policy. Products & Completed Operations coverage to be provided for a minimum of 5 years from the date of possession by owner or completion of contract. Coverage is to be written on an occurrence form basis and shall apply as primary. A per project aggregate limit endorsement should be attached. Defense costs are to be in addition to the limit of liability. A waiver of subrogation is to be provided in favor of the CITY. Coverage for

the hazards of explosion, collapse and underground property damage (XCU) must also be included when applicable to the work performed. Coverage shall extend to independent contractors and fellow employees. Contractual Liability is to be included. Coverage is to include a cross liability or severability of interests provision as provided under the standard ISO form separation of insurers clause. There shall be no exclusion for Mold, Silica or Respirable Dust or Bodily Injury or Property Damage arising out of heat, smoke, fumes or ash from a hostile fire.

**8.6 Additional Insured Requirements** Except as to Workers' Compensation and Employers' Liability, said Certificate(s) and policies shall clearly state that coverage required by the Contract has been endorsed to include the City of Port St. Lucie, a political subdivision of the State of Florida, its officers, agents and employees as Additional Insured with a CG 2026-Designated Person or Organization endorsement, or similar endorsement, added to its Commercial General Liability policy and Business Auto policy. The name for the Additional Insured endorsement issued by the insurer shall read "**City of Port St. Lucie, political subdivision of the State of Florida, its officers, employees and agents, and Contract #20120035 for Manhole and Lift Station Repair and Rehabilitation**" shall be listed as additionally insured". The Certificate of Insurance and policy shall unequivocally provide thirty- (30) day written notice to the City prior to any adverse changes, cancellation, or non-renewal of coverage thereunder. Said liability insurance must be acceptable by and approved by the City as to form and types of coverage. In the event that the statutory liability of the City is amended during the term of this Contract to exceed the above limits, the Contractor shall be required, upon thirty - (30) days written notice by the City, to provide coverage at least equal to the amended statutory limit of liability of the City. Copies of the Additional Insured endorsements including Completed Operations coverage should be attached to the Certificate of Insurance. All independent contractors and subcontractors utilized in this project must furnish a Certificate of Insurance to the City in accordance with the same requirements set forth herein.

**8.7 Waiver of Subrogation** Selected bidder shall agree by entering into this Contract to a Waiver of Subrogation for each required policy. The Contractor shall agree by entering into this Contract to a Waiver of Subrogation for each required policy. When required by the insurer, or should a policy condition not permit an Insured to enter into a pre-loss Contract to waive subrogation without an endorsement then Contractor shall agree to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy where a condition to the policy specifically prohibits such an endorsement, or voids coverage should Contractor enter into such a Contract on a pre-loss basis.

**8.8 Subcontractors** - It shall be the responsibility of the Contractor to ensure that all subcontractors comply with the same insurance requirements referenced above.

**8.9 Deductible Amounts** - All deductible amounts shall be paid for and be the responsibility of the Contractor for any and all claims under this Contract.

**8.10 Certificate(s) of Insurance** - Immediately following notification of the award of this Agreement, Bidder shall agree to deliver to the City a Certificate(s) of Insurance and said policy evidencing that all types and amounts of insurance coverage required by this Bid have been obtained and are in full force and effect. Such Certificate(s) of Insurance and policy shall include a minimum thirty-(30) day notification due to cancellation or non-renewal or change of coverage.

In the "Description of Operations ..." Certificate and policy shall list Contract #20120035-BM, Manhole Replacements.

**8.11 Umbrella or Excess Liability** - The Contractor may satisfy the minimum limits required above for either Commercial General Liability, Business Auto Liability, and Employers' Liability coverage under Umbrella or Excess Liability. The Umbrella or Excess Liability shall have an Aggregate limit not less than the highest "Each Occurrence" limit for either Commercial General Liability, Business Auto Liability, or Employers' Liability. When required by the insurer, or when Umbrella or Excess Liability is written on Non-Follow Form," the City shall be endorsed as an "Additional Insured."

**8.12 Payment & Performance Bonds**- The Contractor shall furnish an acceptable Performance and Payment Bond complying with the statutory requirements set forth in Section 255.05, Florida Statutes, in the amount of 100% of the Contract price. The City will execute the Contract, it being agreed and understood that the City will not be bound unless and until it has been duly authorized by the City Council and has been executed by the City Manager. A fully authorized Surety, licensed by the State of Florida shall execute the Performance and Payment Bond. The Performance and Payment Bond shall remain in full force a minimum of one (1) year after the work required has been completed and final acceptance by the City.

The Payment and Performance Bonds may be an alternate security as per FS 255.05 (7). In lieu of the bond the City will accept cash, a money order, a certified check, a cashier's check, an irrevocable letter of credit, or a security of a type listed in part II of Chapter 625. The City will also accept an Irrevocable Letter of Credit backed by a Certificate of Deposit. The City will be made beneficiary of the Irrevocable Letter of Credit and it will remain in effect for the entire length of the contract.

Should the Surety become irresponsible during the time the Contract is in force, the City may require additional and sufficient sureties and the Contractor shall furnish same to the satisfaction of the City within ten (10) days after written notice to do so. In default thereof, the Contract may be suspended as herein provided.

**8.13 Right to Review** - The City by and through its Risk Management Department reserves the right, but not the obligation, to review and reject any insurer providing coverage.

## **9. ADDITIONAL INFORMATION**

**9.1 Brand Names** - The use of any manufacturer's name, trade name, brand name, or catalog number in this specification is for the sole purpose of describing and establishing the minimum requirements for levels of quality, standards of performance and design required, and is in no way intended to prohibit the bidding of any other manufacturer's items of equal quality. The Purchasing Agent or his/her designee shall be the sole judge of the equality of alternate products proposed and his/her decision shall be final.

**9.2 Collusion** - The City reserves the right to disqualify bids, upon evidence of collusion with intent to defraud or other illegal practices upon the part of the Bidder. More than one (1) bid from an individual, partnership, corporation, association, firm, or other legal entity under the same or different names will not be considered. Reasonable grounds for

believing that a Bidder is interested in more than one (1) proposal for the same work will be cause for rejection of all proposals in which such Bidders are believed to be interested. Any or all proposals will be rejected if there is any reason to believe that collusion exists among the Bidders.

**9.3 Withdrawal of Bids** - A Bidder may withdraw his bid without prejudice to himself no later than the day and hour set in the "Invitation to Bid" by communicating his purpose in writing to the City at the address given in the "Invitation for Bid". When received, it will be returned to him unopened.

**9.4 Bid Information** - For information concerning procedures for responding to this bid, contact Cheryl Shanaberger at (772) 871-7390. Such contact is to be for clarification purposes only. To ensure fair consideration for all bidders, it must be clearly understood that Barb Moquin is the only individual who is authorized to represent the City during the bidding process to assure that all Bidders are in receipt of the same information that will be posted on DemandStar as part of the bid specifications. Questions submitted to any other person in any other department will not be addressed. Additionally, the City prohibits communications initiated by a bidder to **any City Official or employee evaluating or considering the bids (up to and including the Mayor and City Council)**, prior to the time an award decision has been made.

It is the responsibility of the Bidder to receive any and all bid information and documents. Material changes, if any, to the scope of services, or bidding procedures will be transmitted only by addendum by DemandStar.com. The Bidder, in turn, shall acknowledge receipt of the addendum by marking the Bid Reply Sheet with the Addendum number and the date of issuance. The City will not be responsible for any interpretation, other than those transmitted by Addendum to the bid, made or given prior to the bid award. The Bidder is responsible for verifying they have received all Bid Addenda.

The City of Port St. Lucie shall not be responsible for providing said addenda to potential bidders who receive a bid package from other sources.

*(Balance of page intentionally left blank.)*

**Bid Reply Sheet**  
**Bid #S-20120035**

**COMPLETE REHABILITATION OF CITY MANHOLES AND LIFT STATION**  
**WET WELLS AND LIFT STATION WET WELLS**

1. **COMPANY NAME:** \_\_\_\_\_  
DIVISION OF: \_\_\_\_\_  
PHYSICAL ADDRESS: \_\_\_\_\_  
MAILING ADDRESS: \_\_\_\_\_  
CITY, STATE, ZIP CODE: \_\_\_\_\_  
TELEPHONE NUMBER: ( ) \_\_\_\_\_ FAX NO. ( ) \_\_\_\_\_  
CONTACT PERSON: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

2. **ORGANIZATIONAL PROFILE:** (complete all appropriate information)

Is the firm incorporated? Yes--No If yes, in what state? \_\_\_\_\_

\_\_\_\_\_  
President

\_\_\_\_\_  
Vice President

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Treasurer

How long in present business: \_\_\_\_\_ How long at present location: \_\_\_\_\_

Is firm a minority business: Yes--No; Does firm have a drug-free workplace program: Yes--No  
If no, is your company planning to implement such a program? \_\_\_\_\_

3. **ADDENDUM ACKNOWLEDGMENT** - Bidder acknowledges that the following addenda have been received and are included in his/her proposal/bid:

Addendum Number	Date Issued



**CITY OF PORT SAINT LUCIE  
CONTRACT #20120035**

This CONTRACT, executed this \_\_\_\_\_ day of \_\_\_\_\_, 2012, by and between the CITY OF PORT ST. LUCIE, FLORIDA, a municipality, duly organized under the laws of the State of Florida, hereinafter called "City" party of the first part, and *NAME OF CONTRACTOR, ADDRESS, TELEPHONE NUMBER, FAX NUMBER* , a -----corporation, hereinafter called "Contractor", party of the second part.

**RECITALS**

In consideration of the below agreements and covenants set forth herein, the parties agree as follows:

**NOTICES**

As used herein the contract supervisor shall mean Richard Schoenborn, P.E. at (772) 873-6400 or his designee.

Project Manager:  
Contract Administrator  
Contractor

**SECTION I  
DESCRIPTION OF SERVICES TO BE PROVIDED**

The specific work which the Contractor has agreed to perform pursuant to the Bid Specifications made a part of this Contract for Rehabilitation of City Manholes, wet wells and Lift stations in Bid #20120035 as referred to therein.

**SECTION II  
TIME OF PERFORMANCE**

Contract period shall be for two (2) years commencing on date of fully executed contract with the option of two (2) one-year renewal options. In the event all work required in the bid specifications has not been completed by the specified date, the Contractor agrees to provide work as authorized by the Contract Supervisor until all work specified in the bid specifications has been rendered.

**SECTION III  
COMPENSATION**

The amount to be paid by the City to the Contractor will be based on the attached Schedule of Fees as submitted by Contractor in the Bid Reply, plus a ten-dollar (\$10.00) payment for indemnification as provided in Section V herein. Payments will be disbursed in the following manner: Purchase orders will be issued as needs are determined and payment will be made upon completion of service provided Contract Supervisor approves invoice as provided in Section XII. Contractor shall invoice the City for the amount of the indemnification payment (\$10.00) and said invoice shall accompany the signed contracts.

The Contractor shall not be paid additional compensation for any and/or loss, or damage, arising out of the nature of the work, from the action of the elements, or from any delay or unforeseen obstruction or difficulties encountered in the performance of the work, or for any expenses incurred by or in consequence of the suspension or discontinuance of the work.

Invoices for services shall be submitted once a month, by the 10th of the month, and payments shall be made within thirty (30) days unless contractor has chosen to take advantage of the Purchasing Card Program, which guarantees payment within several days. Payments shall be made provided the submitted invoice is accompanied by adequate supporting documentation and approved by Contract Supervisor as provided in Section XII.

No payment for projects involving improvements to real property shall be due until Contractor delivers to City a complete release of all claims arising out of the contract or receipts in full in lieu thereof, and an affidavit on his personal knowledge that the releases and receipts include labor and materials for which a lien could be filed.

All invoices and correspondence relative to this contract must contain the Purchase Order number and contract number appearing herein.

#### **SECTION IV CONFORMANCE WITH BID**

It is understood that the materials and/or work required herein are in accordance with the bid made by the Contractor pursuant to the Invitation to Bid and Specifications on file in the Office of Management and Budget of the City. All documents submitted by the Contractor in relation to said bid, and all documents promulgated by the City for inviting bids are, by reference, made a part hereof as if set forth herein in full.

#### **SECTION V INDEMNIFICATION/INSURANCE**

The Contractor agrees to indemnify, defend, and hold harmless the City, its officers and employees, from liabilities, damages, losses and costs, including but not limited to, reasonable attorney's fees, to the extent caused by the negligent act, recklessness, or intentional wrongful misconduct of the Contractor and persons employed or utilized by the Contractor in the performance of the construction contract. As consideration for this indemnity provision the Contractor shall be paid the sum of ten dollars (\$10.00), which will be added to the contract price, and paid prior to commencement of work.

The Contractor shall, on a primary basis and at its sole expense, agree to maintain in full force and effect at all times during the life of this Contract, insurance coverage, limits, including endorsements, as described herein. The requirements contained herein, as well as City's review or acceptance of insurance maintained by Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under the Contract.

The parties agree and recognize that it is not the intent of the City of Port St. Lucie that any insurance policy/coverage that it may obtain pursuant to any provision of this Contract will provide insurance coverage to any entity, corporation, business, person, or organization, other than the City of

Port St. Lucie and the City shall not be obligated to provide any insurance coverage other than for the City of Port St. Lucie or extend its immunity pursuant to Section 768.28, Florida Statutes, under its self insured program. Any provision contained herein to the contrary shall be considered void and unenforceable by any party. This provision does not apply to any obligation imposed on any other party to obtain insurance coverage for this project, any obligation to name the City of Port St. Lucie as an additional insured under any other insurance policy, or otherwise protect the interests of the City of Port St. Lucie as specified in this Contract.

The Contractor shall agree to maintain Workers' Compensation Insurance & Employers' Liability in accordance with Section 440, Florida Statutes. Employers' Liability must include limits of at least \$100,000 each accident, \$100,000 each disease/employee, \$500,000 each disease/maximum. A Waiver of Subrogation endorsement must be provided. Coverage should apply on a primary basis. Should scope of work performed by Contractor qualify its employee for benefits under Federal Workers' Compensation Statute (example, U.S. Longshore & Harbor Workers Act or Merchant Marine Act), proof of appropriate Federal Act coverage must be provided.

Commercial General Liability insurance issued under an Occurrence form basis, including Contractual liability, to cover the hold harmless agreement set forth herein, with limits of not less than:

Each occurrence	\$1,000,000
Personal/advertising injury	\$1,000,000
Products/completed operations aggregate	\$2,000,000
General aggregate	\$2,000,000
Fire damage	\$100,000 any 1 fire
Medical expense	\$10,000 any 1 person

An Additional Insured endorsement **must** be attached to the certificate of insurance and must include coverage for Completed Operations (should be ISO CG20101185 or CG20371001 & CG20100704) under the General Liability policy. Products & Completed Operations coverage to be provided for a minimum of 5 years from the date of possession by owner or completion of contract. Coverage is to be written on an occurrence form basis and shall apply as primary. A per project aggregate limit endorsement should be attached. Defense costs are to be in addition to the limit of liability. A waiver of subrogation is to be provided in favor of the CITY. Coverage for the hazards of explosion, collapse and underground property damage (XCU) must also be included when applicable to the work performed. Coverage shall extend to independent contractors and fellow employees. Contractual Liability is to be included. Coverage is to include a cross liability or severability of interests provision as provided under the standard ISO form separation of insurers clause. There shall be no exclusion for Mold, Silica or Respirable Dust or Bodily Injury or Property Damage arising out of heat, smoke, fumes or ash from a hostile fire.

Except as to Workers' Compensation and Employers' Liability, said Certificate(s) and policies shall clearly state that coverage required by the Contract has been endorsed to include the City of Port St. Lucie, a political subdivision of the State of Florida, its officers, agents and employees as Additional Insured with a CG 2026-Designated Person or Organization endorsement, or similar endorsement, added to its Commercial General Liability policy and Business Auto policy. The name for the Additional Insured endorsement issued by the insurer shall read **"City of Port St. Lucie, political subdivision of the State of Florida, its officers, employees and agents, and Contract #20120035 for Manhole, Wet Wells and Lift Station Repair and Rehabilitation"** shall be listed as additionally insured". Said

liability insurance must be acceptable by and approved by the City, as to form and types of coverage. In the event that the statutory liability of the City is amended during the term of this Contract to exceed the above limits, the Contractor shall be required, upon thirty - (30) days written notice by the City, to provide coverage at least equal to the amended statutory limit of liability of the City. Copies of the Additional Insured endorsements including Completed Operations coverage should be attached to the Certificate of Insurance. All independent contractors and subcontractors utilized in this project must furnish a Certificate of Insurance to the City in accordance with the same requirements set forth herein.

The Contractor shall agree to maintain Business Automobile Liability at a limit of liability not less than \$500,000 each accident covering any auto, owned, non-owned and hired automobiles. In the event, the Contractor does not own any automobiles; the Business Auto Liability requirement shall be amended allowing Contractor to agree to maintain only Hired & Non-Owned Auto Liability. This amended requirement may be satisfied by way of endorsement to the Commercial General Liability, or separate Business Auto Coverage form. Certificate holder must be listed as additional insured. A waiver of subrogation must be provided. Coverage should apply on a primary basis.

The Contractor shall agree by entering into this Contract to a Waiver of Subrogation for each required policy. When required by the insurer, or should a policy condition not permit an Insured to enter into a pre-loss Contract to waive subrogation without an endorsement then Contractor shall agree to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy where a condition to the policy specifically prohibits such an endorsement, or voids coverage should Contractor enter into such a Contract on a pre-loss basis.

It shall be the responsibility of the Contractor to ensure that all subcontractors comply with the same insurance requirements referenced above.

All deductible amounts shall be paid for and be the responsibility of the Contractor for any and all claims under this Contract.

The Contractor may satisfy the minimum limits required above for either Commercial General Liability, Business Auto Liability, and Employers' Liability coverage under Umbrella or Excess Liability. The Umbrella or Excess Liability shall have an Aggregate limit not less than the highest "Each Occurrence" limit for either Commercial General Liability, Business Auto Liability, or Employers' Liability. When required by the insurer, or when Umbrella or Excess Liability is written on Non-Follow Form, the City shall be endorsed as an "Additional Insured."

All deductible amounts shall be paid for and be the responsibility of the CONTRACTOR and/or any subcontractor for any and all claims under this Contract.

**Payment & Performance Bonds:** The Contractor shall furnish an acceptable Performance and Payment Bond complying with the statutory requirements set forth in Section 255.05, Florida Statutes, in the amount of 100% of the Contract price. The City will execute the Contract, it being agreed and understood that the City will not be bound unless and until it has been duly authorized by the City Council and has been executed by the City Manager. A fully authorized Surety, licensed by the State of Florida shall execute the Performance and Payment Bond. The Performance and Payment Bond shall remain in full force a minimum of one (1) year after the work required has been completed and final acceptance by the City.

The Payment and Performance Bonds may be an alternate security as per FS 255.05 (7). In lieu of the bond the City will accept cash, a money order, a certified check, a cashier's check, an irrevocable letter of credit, or a security of a type listed in part II of Chapter 625. The City will also accept an Irrevocable Letter of Credit backed by a Certificate of Deposit. The City will be made beneficiary of the Irrevocable Letter of Credit and it will remain in effect for the entire length of the contract.

Should the Surety become irresponsible during the time the Contract is in force, the City may require additional and sufficient sureties and the Contractor shall furnish same to the satisfaction of the City within ten (10) days after written notice to do so. In default thereof, the Contract may be suspended as herein provided.

The City, by and through its Risk Management Department, reserves the right, but not the obligation, to review and reject any insurer providing coverage.

## **SECTION VI PROHIBITION AGAINST FILING OR MAINTAINING LIENS AND SUITS**

Subject to the laws of the State of Florida and of the United States, neither Contractor nor any subcontractor, supplier of materials, laborer or other person shall file or maintain any lien for labor or materials delivered in the performance of this contract against the City. The right to maintain such lien for any or all of the above parties is hereby expressly waived.

## **SECTION VII WORK CHANGES**

The City reserves the right to order work changes in the nature of additions, deletions or modifications without invalidating the Contract, and agrees to make corresponding adjustments in the contract price and time for completion. All changes will be authorized by a written change order signed by the Director of OMB or his designee as representing the City. Work shall be changed and the contract price and completion time shall be modified only as set out in the written change order. Any adjustment in the contract price resulting in a credit or a charge to the City shall be determined by mutual agreement of the parties.

## **SECTION VIII COMPLIANCE WITH LAWS**

The Contractor shall give all notices required by and shall otherwise comply with all applicable laws, ordinances and codes, and shall, at his own expense, secure and pay the fees and charges for all permits required for the performance of the contract. All materials furnished and work done are to comply with all local, state and federal laws and regulations.

## **SECTION IX CLEANING UP**

Contractor shall, during the performance of this contract, remove and properly dispose of resulting dirt and debris, and keep the work area reasonably clear. On completion of the work, Contractor shall remove all Contractors' equipment and all excess materials, and put the work area in a neat, clean and sanitary condition.

**SECTION X  
NOTICE OF PERFORMANCE**

When required materials have been delivered and required work performed Contractor shall submit a request for inspection in writing to the Contract Supervisor.

**SECTION XI  
DELIVERY DOCUMENTATION**

Delivery Documentation does not apply to this contract except in paragraphs were referenced.

**SECTION XII  
INSPECTION AND CORRECTION OF DEFECTS**

In order to determine whether the required material has been delivered or the required work performed in accordance with the terms and conditions of the contract documents, the Contract Supervisor shall make inspection as soon as practicable after receipt from the Contractor of a Notice of Performance or delivery ticket. If such inspection shows that the required material has been delivered and required work performed in accordance with terms and conditions of the contract documents and that the material and work is entirely satisfactory, the Contract Supervisor shall approve the invoice when it is received. Thereafter the Contractor shall be entitled to payment, as described in Section III. If, on such inspection the Contract Supervisor is not satisfied, he/she shall as promptly as practicable inform the parties hereto of the specific respects in which his findings are not favorable. Contractor shall then be afforded an opportunity if desired by him, to correct the deficiencies so pointed out at no additional charge to the City, and otherwise on terms and conditions specified by the Contract Supervisor. Such examination, inspection, or tests made by the Contract Supervisor, at any time, shall not relieve Contractor of his responsibility to remedy any deviation, deficiency, or defect.

**SECTION XIII  
ADDITIONAL REQUIREMENTS**

In the event of any conflict between the terms and conditions, appearing on any purchase order issued relative to this Contract, and those contained in this Contract and the Specifications herein referenced, the terms of this Contract and Specifications herein referenced shall apply.

**SECTION XIV  
LICENSING**

Contractor warrants that he possesses all licenses and certificates necessary to perform required work and is not in violation of any laws. Contractor warrants that his license and certificates are current and will be maintained throughout the duration of the contract.

**SECTION XV  
SAFETY PRECAUTIONS**

Precaution shall be exercised at all times for the protection of persons, including employees, and property. The safety provisions of all applicable laws and building and construction codes shall be observed.

**SECTION XVI  
ASSIGNMENT**

Contractor shall not delegate, sublet or subcontract any part of the work under this contract or assign any monies due him hereunder without first obtaining the written consent of the City.

**SECTION XVII  
TERMINATION, DELAYS AND LIQUIDATED DAMAGES**

A. Termination of Contract. If the Contractor refuses or fails to deliver material as required and/or prosecute the work with such diligence as will insure its completion within the time specified in this contract, or as modified as provided in this contract, the City by written notice to the Contractor, may terminate Contractor's rights to proceed. On such termination, the City may take over the work and prosecute the same to completion, by contract or otherwise, and the Contractor and his sureties shall be liable to the City for any additional cost incurred by it in its completion of the work. The City may also in event of termination obtain undelivered materials, by contract or otherwise, and the Contractor and his sureties shall be liable to the City for any additional cost incurred for such material. Contractor and his sureties shall also be liable to the City for liquidated damages for any delay in the completion of the work as provided below. If the Contractor's right to proceed is so terminated, the City may take possession of and utilize in completing the work such materials, tools, equipment and facilities as may be on the site of the work and necessary therefore.

B. Liquidated Damages for Delays. If material is not provided or work is not completed within the time stipulated in this contract, including any extensions of time for excusable delays as herein provided, (it being impossible to determine the actual damages occasioned by the delay) the Contractor shall provide to the City one hundred dollars (\$100.00) as fixed, agreed and liquidated damages for each calendar day of delay until the work is completed. The Contractor and his sureties shall be liable to the City for the amount thereof.

C. Excusable Delays. The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work or delivery of materials due to: (1) any acts of the Federal Government, including controls or restrictions or requisitioning of materials, equipment, tools or labor by reason of war, national defense or any other national emergency, (2) any adverse acts of the City, (3) causes not reasonably foreseeable by the parties at the time of the execution of the contract that are beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of another contractor in the performance of some other contract with the City, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes and weather of unusual severity such as hurricanes,

tornadoes, cyclones and other extreme weather conditions, and (4) any delay of any subcontractor occasioned by any of the above mentioned causes. However, the Contractor must promptly notify the City in writing within two (2) days of the cause of delay. If, on the basis of the facts and the terms of this contract, the delay is properly excusable the City shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

The City may terminate this agreement with or without cause by giving the contractor thirty (30) days notice in writing. Upon delivery of said notice the contractor shall discontinue all services in connection with the performance of this agreement and shall proceed to cancel promptly all existing contracts in so far as such contracts are chargeable to this agreement.

### **SECTION XVIII LAW AND VENUE**

This agreement is to be construed as though made in and to be performed in the State of Florida and is to be governed by the laws of Florida in all respects without reference to the laws of any other state or nation. The venue of any action taken pursuant to this contract shall be in St. Lucie County, Florida.

### **SECTION XIX REIMBURSEMENT FOR INSPECTION**

The Contractor agrees to reimburse the City for any expenditures incurred by the City in the process of testing materials supplied by the Contractor against the specifications under which said materials were procured, if said materials prove to be defective, improperly applied, and/or in other manners not in compliance with specifications. Expenditures as defined herein shall include, but not be limited to, the replacement value of materials destroyed in testing, the cost paid by the City to testing laboratories and other entities utilized to provide tests, and the value of labor and materials expended by the City in the process of conducting the testing. Reimbursement of charges as specified herein shall not relieve the Contractor from other remedies provided in the contract.

### **SECTION XX APPROPRIATION APPROVAL**

The Contractor acknowledges that this contract is subject to approval by City Council of budget appropriation. The Contractor agrees that, in the event such appropriation is not forthcoming, this contract may be terminated by the City and that no charges, penalties or other costs shall be assessed.

### **SECTION XXI RENEWAL OPTION**

In the event Contractor offers in writing, prior to the termination of this contract which is a two (2) year term, to provide the identical services required in this contract for an additional one (1) two (2) two-year renewal in the subsequent calendar periods and the City agrees that said services are required and that the cost is acceptable, then the City, without additional bidding or negotiation, may, with the mutual agreement of the Contractor, extend this contract for the additional term.

NOTE: Response to this option should be submitted three (3) months prior to the termination of the contract period.

SECTION XXII

The written terms and provisions of this contract shall supersede all prior verbal statements of any official or other representative of the City. Such statements shall not be effective or be construed as entering into, or forming a part of, or altering in any manner whatsoever, this contract or contract documents.

IN WITNESS WHEREOF, the parties have executed this contract at Port St. Lucie, Florida, the day and year written above.

CITY OF PORT ST. LUCIE FLORIDA

By: \_\_\_\_\_  
City Manager

ATTEST:

By: \_\_\_\_\_  
City Clerk

By: \_\_\_\_\_  
Authorized Representative of.

State of: \_\_\_\_\_

County of: \_\_\_\_\_

Before me personally appeared: \_\_\_\_\_  
(please print)

Please check one:

Personally known \_\_\_\_\_

Produced Identification/Type of Identification \_\_\_\_\_

Identification No. \_\_\_\_\_

and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that \_\_\_\_\_ executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this \_\_\_\_\_ day of \_\_\_\_\_, A.D. 2012.  
(he/she)

\_\_\_\_\_  
Notary Signature

Notary Public-State of \_\_\_\_\_ at Large.

My Commission Expire \_\_\_\_\_

(seal)

**CHECKLIST**  
Bid #20120035

Name of Bidder: \_\_\_\_\_

This checklist is provided to assist bidders in the preparation of their bid response. Included in this checklist are important requirements that are the responsibility of each Bidder to submit with their response in order to make their bid response fully compliant. This checklist is only a guideline -- it is the responsibility of each Bidder to read and comply with the Invitation to Bid in its entirety.

- \_\_\_\_ E- Bid Reply Sheet with proper signature and notarized.
- \_\_\_\_ Electronic Bid Reply Sheet
- \_\_\_\_ Drug-Free Workplace Form
- \_\_\_\_ All price extensions and totals have been thoroughly checked.
- \_\_\_\_ Each Bid Addendum (when issued) is acknowledged.
- \_\_\_\_ Copy of Insurance Certificate in accordance with Section 6 of Bid Reply.
- \_\_\_\_ Have reviewed the Contract and accept all City Terms and Conditions
- \_\_\_\_ Bid Bond as required in Section 7 of Bid Specifications.
- \_\_\_\_ Have included all licensing and certification require

**\*THIS FORM MUST BE RETURNED WITH YOUR BID REPLY SHEET\***

# DRUG-FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

\_\_\_\_\_ does:

(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

\_\_\_\_\_  
Bidder's Signature

\_\_\_\_\_  
Date

## STATEMENT OF NO BID

To: City of Port St. Lucie  
Office of Management & Budget  
121 S.W. Port St. Lucie Boulevard  
Port St. Lucie, FL 34984-5099

Bid # 20120035-BM

Bid Title: Manhole Replacements

We, the undersigned have declined to bid on the subject bid for the following reasons:

- Insufficient time to respond to the Invitation to Bid
- We do not offer this product or service.
- Our schedule would not permit us to perform.
- We are unable to meet specifications.
- We are unable to meet bond requirements.
- Specifications are unclear (Explain below).
- We are unable to meet insurance requirements.
- Other (Specify below).

Remarks: \_\_\_\_\_

\_\_\_\_\_

Company Name: \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_

Division: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**TECHNICAL SPECIFICATIONS  
MANHOLE AND LIFT STATION REPAIR AND REHABILITATION**

**Part 1 – GENERAL**

**1.1 SCOPE OF WORK**

The major elements of the proposed project work are summarized as follows: Furnish all labor, materials, and equipment necessary to rehabilitate the interior surface areas of existing sewer manhole structures and lift stations using either:

- (1) A stand-alone structural cementitious liner system,
- (2) A 100% solids epoxy lining system, or
- (3) A composite liner system utilizing both cementitious and epoxy systems.

The work for manholes and lift stations includes mobilization, bypass pumping (as Additional Pricing), cleaning and removal of any existing deteriorated coating, preparation and patching of structures to be lined, furnishing and applying the specified cementitious and epoxy coating materials to the interior surface areas of the manholes and testing, clean-up, restoration of site, and demobilization.

It is the intent of these specifications that the manhole(s), lift station wet well(s), or any other concrete or brick structure rehabilitated under this contract shall have infiltration and exfiltration eliminated, structural integrity restored, and the structure protected from future deterioration.

**1.2 APPLICABLE SPECIFICATIONS AND STANDARDS**

It is the intent of this contract that the applicable specifications and standards for all work and materials shall include the following:

1. The specifications contained herein
2. National Association of Sewer Service Companies (NASSCO) Manual of Practice for Rehabilitation of Wastewater Collection Systems
3. Contract documents including contraction plans and technical specifications specific to the project
4. The City of Port St. Lucie Utility Systems Department Technical Standards (Latest Edition).
5. Florida Department of Transportation (FDOT) Latest edition

**All labor and materials used for manhole and lift station rehabilitation projects shall conform with the applicable specifications and standards for this contract unless directed otherwise by the City.**

### **1.3 LOCATION OF THE PROJECT AND SITE ACCESS**

The potential project sites may be allocated at any of the existing sanitary Sewer manholes and lift stations that are a part of the City of Port St. Lucie's Utility Systems Department (PSLPSLUSD) collection and pumping system.

The accessibility to the work sites shall vary, as manholes may be located in streets, alleys, utility easements, residential backyards, and various other locations. Accessibility to all manholes and lift stations shall be the responsibility of the Contractor, and all expenses associated with work site bid pricing. Damage to existing pavement surfaces and base courses, and/or other surface improvements, as a result of the Contractor's activities, shall be restored to like-new condition by the Contractor at his sole expense. The Contractor shall implement all required measures to provide PSLUSD personnel and equipment with complete access to all work site areas during the entire course of performing this project.

### **1.4 INSPECTION OF THE WORK**

The PSLUSD shall provide construction observation services to monitor project quality and determine conformance of the work with the specifications. Each step of the work described herein is subject to inspection and approval by PSLUSD prior to proceeding with subsequent phases of the work. Contractor shall request an inspector at the conclusion of each step prior to commencement of the next.

### **1.5 MATERIALS AND EQUIPMENT**

All materials, equipment, and types of construction shall be in accordance with these Technical specifications and shall conform to the requirements of all applicable laws, ordinances, and codes.

All materials and equipment to be incorporated into the work shall be new, unused, and properly designed for the use intended. Materials and/or equipment which, in the opinion of PSLUSD, are inferior or of a lower grade than specified, or required, will not be accepted and shall be removed immediately from the project site at the expense of the Contractor.

### **1.5 EQUIVALENT PRODUCTS AND MATERIALS**

Products, material, or equipment may be submitted for consideration as "Or Equal" to that specified herein. It is the Contractor's responsibility to provide to the PSLUSD sufficient written information and technical data to demonstrate that the material or equipment conforms to the Contract Document requirements. The City reserves the right to be the sole judge as to whether or not such material or equipment is equal to that specified or required herein. A determination by the

## Attachment A

City of "Equal-To" of a substitute proposed by the Contractor, shall be considered final.

Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the Contract, the Contractor shall furnish the specified material or equipment at no additional cost to the PSLUSD.

Neither the approval by PSLUSD of alternate material or equipment as being equivalent to that specified, nor the furnishing of the material or equipment specified, shall in any way relieve the Contractor of responsibility for failure of the material or equipment, due to faulty design, material, or workmanship, to perform the functions required by the Contract Documents.

### **1.6 MATERIAL AND EQUIPMENT DELIVERY AND STORAGE**

It is the responsibility of the contractor to deliver and store materials in sufficient quantities to ensure the most timely and uninterrupted progress of the work.. All materials and equipment shall be stored in strict accordance with the manufacturer's recommendations. Products shall also be stored and handled according to their Material Safety Data Sheets (MSDS).

### **1.7 SPILL OR DISCHARGE OF WASTEWATER**

The discharge of wastewater into the environment is prohibited. All spills or discharges of wastewater shall be immediately reported to PSLUSD staff. Contacts at PSLUSD shall include Danny Sequi or Jeffrey Labigang at 772.873.6400.

It is the responsibility of the Contractor to immediately control, contain, and stop the spill or discharge and shall repair any damage at no additional cost to PSLUSD.

The Contractor is solely responsible for all fines and labor, materials, and equipment costs incurred by PSLUSD associated with wastewater spills or discharges to the environment resulting from the Contractor's actions or the Contractor's negligence.

### **1.8 PERMITS AND UTILITIES**

Permits: It is the responsibility of the Contractor to conform with all City, County, and State requirements and ordinances for noise, odor, and traffic control. It is the responsibility of the Contractor to obtain all permits for construction through the City's Building Department.

## Attachment A

Maintenance of Traffic: It is the responsibility of the Contractor to maintain traffic in the vicinity of the project site, including but not necessarily limited to roadways, alleys, driveways, parking lots in accordance with City standards and State requirements.

Utilities: It is the responsibility of the Contractor to provide for his own utilities including water, sewer and electric. Wherever City water utilities are used, the contractor shall obtain the necessary permit and meter through the Utility Systems Department. Wherever electrical outlets owned and operated by the City are used as an electrical power source, Contractor shall reimburse the City for all power used by him or his subcontractor's) for all project construction related activities.

### 1.9 EXISTING FACILITIES

It is the responsibility of the Contractor to locate and protect all existing structures, pavements, and utilities, above grade and below grade. Contractor shall restore all facilities to original condition, including driveways, roadways, vegetation, and unpaved areas damaged during construction and rehabilitation activities. Grass areas shall be restored by sod. Contractor shall water restored grass areas until growth is established.

### 1.10 REFERENCES

- A. NASSCO - National Association of Sewer Service Companies
- B. ASTM C109 – Compressive Strength of Hydraulic Cement Mortars
- C. ASTM C293 – Flexural Strength of Concrete
- D. ASTM C321 – Bond Strength of Chemical Resistant mortars
- E. ASTM C666 – Resistance of Concrete to Rapid Freezing / Thawing
- F. ASTM C596 – Drying Shrinkage of Mortar Containing Cement
- G. AASHTO – T277 – Rapid Chloride Permeability of Cement
- H. ASTM C1244 – Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test
- I. ASTM D638 – Tensile Properties of Plastics.
- J. ASTM D790 – Flexural Properties of Unreinforced and Reinforced

## Attachment A

### Plastics

- K. ASTM D695 – Compressive Properties of Rigid Plastics.
- L. ASTM D4541 – Pull-off Strength of Coatings Using a Portable Adhesion Tester
- M. ASTM D2584 – Volatile Matter Content
- N. ASTM D2240 – Durometer Hardness, Type D
- O. ASTM D543 – Resistance of Plastics to Chemical Reagents
- P. ACI 506.2-77 – Specifications for Materials, Proportioning, and Application of Shotcrete
- Q. ASTM C579 – Compressive Strength of Chemically Setting Silicate and Silica Chemical Resistant Mortars
- R. NACE 6/SSPC SP13 – Joint Surface Preparation Standard – Surface of concrete
- S. ASTM – The Published Standards of the American Society for Testing and Materials, West Conshohocken, PA
- T. NACE – The Published Standards of National Association of Corrosion Engineers (NACE International), Houston, TX
- U. SSPC – The Published Standards of the Society of Protective Coatings, Pittsburgh, PA
- V. Los Angeles County Sanitation District – Evaluation of Protective Coatings for Concrete

### 1.11 SUBMITTALS

At the time of the preconstruction conference, the Contractor shall submit four (4) copies of the following information (e-mailed copies will be accepted, but hard copies must follow within 5 working days):

- A. A list of emergency contact information including names, phone numbers, and e-mail addresses. All information shall be current for the duration of the project.
- B. Product Data:

## Attachment A

- (1) Technical data sheet on each product proposed to be furnished demonstrating compliance with these specifications including independent ASTM test results indicating the product conforms to the these technical specifications. Material shall be clearly identified for its purpose, including but not limited to:
  - Infiltration control plug material,
  - Hydraulic Cement material or mix design,
  - Invert repair and patching,
  - Cementitious Liner Material
  - Calcium Aluminate Liner Material
  - Epoxy Material
- (2) Material Safety Data Sheets (MSDS) for each product proposed to be furnished.
- (3) Manufacturer's certification that the contractor is licensed or certified by the product's manufacturer for handling the specific manhole or lift station rehabilitation product to be used by him on the project.
- (4) All products proposed for the rehabilitation construction for this project including but not limited to pipes, valves, manhole covers, precast concrete vaults, access hatches, pumps etc.

### C. Application Guidelines

- (1). Manufacturer's guidelines and recommendations for storage and application of the product.
- (2). Project specific guidelines and recommendations.
- (3). Proof of any required federal, state or local permits or licenses necessary for the project. All permits and certifications shall be current for the year of the project.
- (4). Design details for any ancillary systems and equipment to be used in site and surface preparation, application and testing.
- (5). Written Warranty.

### D. All permits

### E. Certifications:

Submit all Applicator Qualifications and Confined Space Entry certification(s).

## Attachment A

For a product to be considered “equal” the submitted product must receive written approval from the City. Only applicators that have been trained and certified by the approved coating system manufacturer are allowed to install the manhole restoration methods specified herein.

- F. By-Pass Pumping requirements for the project including pump size an arrangement, diesel generator equipment, and fuel storage equipment.

For all by-pass pumping operations, contractor shall submit a scaled “By-Pass-Pumping-Plan” drawing(s) clearly showing the location and sizes of all existing, proposed and temporary facilities including but not necessarily limited to, by-pass pumps, drive, fuel storage, suction hose and discharge hose, lift station(s) and manhole(s), right-of-ways, equipment storage, roadways and parking areas.

- G. The Contractor is responsible for development and submittal of a Maintenance of Traffic (MOT) plan for all roadways, right-of-way and parking areas for submittal to the City prior to the commencement of any construction activity.

### 1.12 QUALITY ASSURANCE

#### Applicator Qualifications:

- (1) Manufacturer certification that Applicator has been trained and approved in the handling, mixing and application of the products to be used.
- (2) Certification that the equipment to be used for applying the products has been manufactured or approved by the cement or epoxy coating manufacturer and Applicator personnel have been trained and certified for proper use of the equipment.
- (3) Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE and SSPC standards and the epoxy coating manufacturer’s recommendations.
- (4) The installer/applicator shall submit a list of at least five (5) project references including project name, location, work

## Attachment A

performed, contract amount, completion date, contact person and phone number, where similar work as specified herein has been performed.

### 1.13 WARRANTY

The Applicator shall warrant all work against defects in materials and workmanship for a period of one (1) year, unless otherwise noted, from the date of final acceptance of the project. Applicator shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during said one (1) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without additional cost to the PSLUSD.

## PART 2 – MAHOLE AND LIFT STATION CONDITION ASSESMENT

### 2.1 GENERAL

- A. The following Condition Assessment criteria shall be used to determine the appropriate and selected repair method for any specific manhole and lift station structure.
- B. Condition Assessment and determination of the appropriate and selected manhole and lift station repair/rehabilitation method shall be determined by the PSLUSD prior to commencement of work. The Contractor shall apply the repair/rehabilitation method as directed by the PSLUSD.

### 2.2 QUALIFICATION OF MANHOLE AND LIFT STATION STRUCTURAL CONDITION

#### A. Condition I Manholes and Lift Stations

The manhole or lift station is either a newly installed pre-cast or poured in place concrete structure. The structure shall have a smooth and uniform interior surface profile and shall exhibit no signs of active groundwater infiltration or corrosion mechanics.

#### B. Condition II Manholes & Lift Stations

The manhole or lift station is considered fundamentally sound with no indication of settlement, cracking, or other signs of structural fatigue. The structure may exhibit evidence of some minor

## Attachment A

corrosion in brick mortar joints and/or on pre-cast substrate areas. Rate of corrosion should be less than 0.25 in. for every 10 years of service life. The structure may also exhibit signs of infiltration or exfiltration through pre-cast joints, mortar joints, or around pipe connections. The existing manhole and lift station structure should be sufficient to sustain and support both soil and live loading.

### C. Condition III Manholes & Lift Stations

The manhole or lift station may exhibit any or all elements identified under condition II. Further, the Structure is exhibiting early signs of structural fatigue evidence by minor cracks, loss of mortar or brick, and evidence of moderate sulfide corrosion attack. Rate of corrosion should be greater than 0.25 in. for every 10 years of service life. The manhole or lift station may exhibit minor cross sectional distortion, however, the structure is still supporting the soil and live loads.

### D. Condition IV Manholes & Lift Stations

The manhole or lift station may exhibit any or all elements identified under Condition III. Further, the structure is exhibiting signs of severe structural fatigue and potential collapse and/or structural failure. Conditions indicating this degree of structural deterioration would be corrosive degradation greater than 1.0 inch in the mortar joints and precast surface areas. The structure may exhibit loose and/or missing brick, exposed rebar or wire mesh reinforcement, and/or distortion of the original manhole or lift station dimensions.

## 2.3 APPROPRIATE CONDITION BASED REPAIR METHODS

- A. All structures identified as **Condition I** shall receive a stand-alone application of the specified protective epoxy coating at a minimum thickness of **150 mils**.
- B. All structures identified as **Condition II** shall receive a stand-alone application of the specified calcium aluminate cementitious liner material at a minimum thickness of **1-inch**.
- C. All structures identified as **Condition III** shall receive a stand-alone application of the specified prescribed composite liner system.
- D. All structures identified as **Condition IV** shall receive a composite liner system.

## Attachment A

- E. Should some specific applications warrant the use of additional materials in excess of the aforementioned appropriate condition based repair methods, the desired thickness of either the cementitious and/or epoxy materials may be increased incrementally per the line item for supplemental materials in the contract unit price bid in the itemized Proposal for each square foot of cementitious and/or epoxy that is installed. Any use of supplemental materials must receive approval from PSLUSD prior to commencement of work.

### **PART 3 – PRODUCTS**

#### **3.1 EXISTING PRODUCTS**

- A. Standard Portland cement or new concrete (not quick setting high strength cement) must be well cured prior to application of the epoxy coating on Condition II manhole structures.
- B. Cementitious patching and repair materials shall not be used unless the epoxy-coating manufacturer approves proof of suitability and procedures for top coating with an epoxy coating in writing. Project specific submittals should be provided including application, cure time, and surface preparation procedures that permit optimum bond strength with the epoxy coating.
- C. Remove existing coatings prior to application of the new cementitious lining and/or epoxy coating. Applicator is to maintain strict adherence to all manufacturer's recommendations with regard to proper surface preparation and compatibility with existing coatings.

#### **3.2 CEMENTITIOUS & EPOXY COATING MANUFACTURERS**

Cementitious liner materials shall be manufactured by:

- A. Strong Seal High Performance by Strong Company, Inc. of Pine Bluff, AR; Sewper Coat by LaFarge Calcium Alumgrates, Inc., Chesapeake, VA; Quadex Inc., North Little Rock AR; Refratta Hac 100, by Global Materials Corp, Cocoa FL, Parson CA Liner, or equal.

##### **B.1 Infiltration Control Plug Materials**

Infiltration control materials furnished shall be fast setting type, designed to be applied in dry powder form, with no prior mixing of water, directly to active leaks under hydrostatic pressure in

## Attachment A

manholes or related structures. Materials shall consist of rapid setting cements, siliceous aggregates, and various accelerating agents. Material shall not contain chlorides, gypsum, or metallic particles. Approved infiltration control material shall be Permacast Plug, by Permaform Johnston IA, Quadex **Quad-Plug** as manufactured by Quadex, Inc., Little Rock, Arkansas, Strong-Plug by Strong Company, Inc., Pine Bluff, Arkansas, Parson Quick Plug, by Parson Environmental Products, Reading PA, or equal.

### B.2 Invert Repair and Patching

All material furnished shall be designed to fill voids and to repair or reconstruct where no hydrostatic pressure exists. Material shall consist of rapid setting cements, high-density non-absorptive aggregates, and various accelerating agents. Material shall not contain chlorides, gypsum, or metallic particles. Approved invert repair and patching material shall be Quadex **Hyperform** as manufactured by Quadex, Inc., Little Rock, Arkansas, Strong-Seal QSR by Strong Company, Inc., Pine Bluff, Arkansas, or equal.

### 3.3 CEMENTITIOUS LINER MATERIAL

Cementitious Manhole and Lift Station Liner: Cementitious manhole and lift station liner products shall be applied at manholes and lift stations identified as having a pH of greater than 1 or as directed by the PSLUSD. Cementitious manhole and lift station liner products shall be used to form a structural monolithic liner covering all interior substrate surfaces. Material shall be a fiber-reinforced pure-fused calcium aluminate cement and calcium aluminate aggregate and shall be wet mixed and applied in strict accordance with manufacturer's recommendations. The material shall be specially formulated to withstand hydrogen sulfide bacterial carriers and abrasion in wastewater environments with a pH of 1 or greater. The mix shall be low-pressure spray applied to a manhole and lift station walls to form the structural/structurally enhanced monolithic cementitious liner. The applied liner material shall cover all interior manhole and lift station surfaces. Liner material shall have the following Minimum requirements:

Property	Standard	Minimum Time	Limit
Comprehensive Strength	ADTM C109	1 day 28 days	>8000 psi >9000 psi
Tensile Strength	ASTM C496	28 days	>800 psi
Flexural Strength	ASTM C293	12 hr 28 days	>1000 psi >1200 psi
Shrinkage @ 90% R.H.	ASTM C490	28 days	0%
Bond	ASTM C882	28 days	>2000 psi
Density	When Applied	N/A	145 +/- 5 lbs/ft <sup>3</sup>
Freeze/Thaw	ASTM C666	N/A	100 cycles no visible damage

Cementitious liner materials shall be SewperCoat by LaFarge Company, Inc., Strong-Seal High Performance Mix by Strong Company, Inc., Quadex Aluminaliner by Quadex Inc., Refratta Hac 100, by Global Materials Corp, Pason CA Liner 100, or equal.

### 3.4 COMPOSITE LINER SYSTEM

Composite liner Systems for Manhole and Lift station Repair and Rehabilitation: Composite manhole and lift station identified as having a pH of 1 or less or at locations as directed by the PSLUSD. composite manhole and lift station liner products shall be used to form a structural liner covering all interior substrate surfaces. The system shall be used to construct and repair entire manholes and entire lift stations including voids, active leaks, bench and Inverts, walls and ceilings. Composite manhole and lift station liner systems shall include cementitious corrosion resistant patching material, grout material, calcium aluminate, cementitious liner material, epoxy based liner material. All components of composite liner systems shall be manufactured by companies regularly engaged in the fabrication and supply of materials for repair and rehabilitation of manholes and lift stations. All components shall be applied, prepared, and in strict accordance with the manufacturer's recommendations.

Patching material shall be a quick setting corrosion resistant cementitious material, shall be used as a patching material to fill voids and to repair inverts, is to be mixed and applied according to the manufacturer's recommendations, and shall have the following minimum requirements:

Attachment A

Property	Standard	Limit
Compressive Strength	ASTM C109	>800 psi, 1 hr >1800 psi, 24 hrs
Bond	ASTM C882	>1600 psi, 28 days
Calcium Aluminate Cement		Sulfate Resistant
Applied Density		105 pcf +/- 5 lbs
Skrinage	ASTM C596	0% @ 90% R.H.
Placement Time		5-10 Minutes
Set Time		15-30 Minutes

Plug material shall be rapid setting cementitious product specifically formulated for leak control, shall be used to stop minor water infiltration and shall be mixed and applied to manufacturer's recommendations and shall have the following minimum requirements:

Property	Standard	Limit
Compressive Strength	ASTM C109	>1000 psi, 1 hr >2500 psi, 24 hr
Sulfate Resistance	ASTM C267	No weight loss after 15 cycles @ 2000 ppm
Freeze/Thaw	ASTM C666 "Method A"	100 Cycles
Pull Out Strength	ASTM C234	14,000 pounds
Placement Time		<1.0 minute

Cementitious liner material shall be a calcium aluminate, acid resistant cementitious product to be used for building back deteriorated substrates to original dimensions, to restore structural integrity, enhance corrosion protection and provide a smooth surface for applying the epoxy material and shall have the following minimum requirements:

Property	Standard	Limit	Time
Compressive Strength	ASTM C109	>8000 psi	28 days
Tensile Strength	ASTM C496	>600 psi	28 days
Flexural Strength	ASTM C293	>900 psi	28 days
Shrinkage @ 90% R.H.	ASTM C490	0%	28 days
Bond	ASTM C882	>2000 psi	28 days
Density, when applied	N/A	135 +/- 5 lbs/ft3	28 days

Attachment A

Epoxy Liner System shall have the following minimum requirements:

Property	Standard	Limit
Compressive Strength	ASTM D695	>8800 psi
Tensile Strength	ASTM D638	>7700 psi
Flexural Strength	ASTM D790	>12,400 psi
Pull off Strength	ASTM D4541	>350 psi
VOC	ASTM D2584	0%
Durometer Hardness Type D	ASTM D2240	Shore D-70
Moisture Absorption	ASTM C413	.003%

Composite liner systems shall be Strong Seal Composite by Strong Company, Inc., of Pine Bluff, Arkansas, Parson Mortar/Epoxy Composite System by Parsons Environmental Products, Reading Pennsylvania, or equal.

As an alternative to the Composite liner system provided by a single manufacturer, listed above, composite liner systems may conform with these specifications as follows:

- Infiltration control plug materials shall conform with Subsection B.1 Infiltration Control Plug Materials of Section 3.2, or equal
- Cementitious Liner material shall conform with Section 3.3 Cementitious Liner Material, or equal.
- Epoxy Liner Material shall conform with Section 3.5 Epoxy Coating, or equal.

### 3.5 EPOXY COATING

Epoxy liner products shall be a solvent-free ultra high-build epoxy System meeting the following requirements:

Product Type	Standard	Amine cured epoxy
Color		Light blue
Solids Content (vol%)		100%
Compressive Strength	ASTM D695	>18000
Tensile Strength	ASTM D638	>7500
Tensile Elongation	ASTM D790	1.5
Flexural Modulus	ASTM D790	>6000,000
Flexural Modulus	ASTM D790	>13,000
Adhesion to Concrete	ASTM D4541	Substrate (concrete) Failure
Chemical Resistance	(ASTM D543/G20)	All types of service a. Municipal Sanitary sewer

Attachment A

		b. Sulfuric acid, 30% c. Sodium hydroxide, 5%
VOC Content	ASTM D2584	0%

It is the intent of these specifications that all epoxy liner systems proposed for use on any City project shall be specifically designed for use in manhole rehabilitation, lift station wet well rehabilitations, or any structural concrete rehabilitation project that involves the protection of a surface from high levels of hydrogen sulfide in a raw wastewater environment. Epoxy liners for manhole rehabilitation shall be Raven 405 epoxy coating system by Raven Liner Systems Solutions Inc., Broken Arrow Oklahoma, Parsonpoxy SEL-80, Parsonpoxy SEL-80HB, or equal.

**3.7 CEMENTITIOUS AND EPOXY LINER APPLICATION**

Contractor shall prepare, patch and plug all surfaces and apply cementitious and epoxy materials in strict accordance with the manufacturers' recommendations and the NASSCO Manual of Practices for Rehabilitation of Wastewater Collection Systems. The Contractor shall advise the City if suitable conditions do not exist for applying a specific coating or liner system.

**PART 4 – EXECUTION**

**4.1 APPLICATOR QUALIFICATIONS**

- A. Repair material applicators shall be trained to properly apply the cementitious mortar according to manufacturer's recommendations.
- B. All cementitious and epoxy materials must be applied by a certified Applicator of the product manufacturer and according to manufacturer specifications.

**4.2 SURFACE PREPARATION**

- A. Applicator shall inspect all specified surfaces prior to surface preparation. Applicator shall notify the City of any noticeable disparity in the surfaces that may interfere with the proper preparation or application of the specified repair materials.
- B. Applicator personnel shall directly perform all aspects of surface preparation and shall not subcontract any element of surface preparation.
- C. All contaminants including: oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants shall be removed. All concrete or mortar that is not

## Attachment A

sound or has been damaged by chemical exposure shall be removed to a sound concrete surface or replaced in accordance with section 3.2 of these specifications.

- D. Surface preparation method(s) should be based upon the conditions of the substrate, service environment and the requirements of the appropriate condition based repair method to be applied. Surfaces to receive repair materials shall be cleaned and abraded to produce a sound surface with adequate profile and porosity to provide a strong bond between the repair materials and the substrate.
- E. Infiltration shall be stopped by using a material that is compatible with the appropriate and selected condition based repair method and these specifications. All costs associated with minor infiltration control shall be considered inclusive with the cost of the application of the appropriate cement and/or epoxy application. Moderate to severe infiltration control may require the use of chemical injection grouting. If warranted, chemical injection grouting will involve a separate Payment item based on the contract unit price bid in the Itemized Proposal for each grouting application.
- F. All surfaces shall be examined by the inspector both during and after preparation and before the repair material is applied.

### **4.3 APPLICATION OF CEMENTITIOUS AND EPOXY LINER MATERIALS**

- A. Products shall be prepared per manufacturer's recommendations following mixing procedures noted on product container and using the approved equipment for mixing and material application. No materials will be added during the mixing process not in accordance with the manufacturer's written instructions or without prior written consent from the material manufacturer.
- B. The surface prior to application of the cementitious liner shall be clean and free of all foreign matter (ref. Section 4.2) and shall be without noticeable free water droplets or running water. No application shall be made to a surface that has not been cleaned and prepared in conformance with the manufacturer's recommendations.
- C. Contractor shall construct wooden covers and/or any other shielding mechanism over the manhole or lift station Invert channel prior to application in order to prevent extraneous materials from entering the sewer lines.