

DEPARTMENT INPUT
CONSTRUCTION CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Check applicable Ordinance(s): ☒ 90-143 Responsible Wage and Benefits ☐ 03-237 (formerly 03-1) Community Workforce Program

PROJECT INFORMATION See attachment ☒

Contract/Project/*Work Order No.: S-895

*Reference corresponding project number when submitting a work order

Contract/Project Title: CD 3.06 NORTH DISTRICT WASTEWATER TREATMENT PLANT PRIMARY CLARIFIERS AND ODOR CONTROL UPGRADES, Contract No S-895

Description/Scope of Work: See Attached

Estimated Cost: 50886473 Funding Source: Other (specify)

Location of Project (street address or beginning and ending points) i.e. 12345 NE 23rd Ct or Starts at 135 St. ends at 145 St.
North District Wastewater Treatment Plant (NDWWTP) disinfection facility improvements located in the city of North Miami at 2575 NE 156 Street

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CWP) See attachment ☐

Engineer/Department or Agency's estimated required workforce for Project ☐ Work Order ☐:

Trade/Skills Required	Est. # of workforce required per trade	Est. # of total days to complete job
N/A		
N/A		
N/A		

Comments:Specialized mechanical work involving sophisticated variable Frequency Drive units and controls. The project is required under the USEPA Consent Decree and must be in service by May 8, 2018.

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CSBE) See attachment ☒

Sub-Trade	Est. Cost	% of Item to Base Bid	Availability
Construction	\$4,917,483.71	10.63%	
G & S	\$453,352.21	0.98%	
	\$	0%	

RECOMMENDATION

Set-Aside: Level 1 ☐ Level 2 ☐ Level 3 ☐ Trade Set-Aside ☐ Sub-Contractor Goal ☒ Workforce Goal ☐ No Measure ☐

Basis for Recommendation: This project involves the construction of large expensive mechanical process equipment necessary for the construction of new primary clarifiers and odor control upgrades at the plant. In addition, it also involves rehabilitation of large diameter reinforced concrete pipe (48-inch through 90-inch diameter) via cured-in-place pipe lining or fiber wrap rehabilitation trenchless pipe technologies.

Date submitted to DBD: 12/6/17

Contact Person: Isaac Smith

Telephone No.: (786)552-8989

DEPARTMENTAL INPUT
CONTRACT MEASURE ANALYSIS AND RECOMMENDATION

To: Gary T. Hartfield, Division Director
Internal Services Department
Small Business Development Division

From: Isaac Smith, Manager
Construction Contracts Section

Department: Miami-Dade Water and Sewer Department

Contract Title: CD 3.02(2) NORTH DISTRICT WASTEWATER TREATMENT PLANT
PRIMARY CLARIFIERS AND ODOR CONTROL UPGRADES

Contract No.: S-895

Estimate Amount: \$50,886,473 [\$46,260,430 Construction + \$4,626,043 Contingency]

Funding Source: EW 660, Revenue Bonds Sold & Future WASD Revenue Bonds

Small Business Enterprise – Construction – 10.63% Analysis for Recommendation (Attached)

Department Head or Authorized Agent

DESCRIPTION OF PROJECT:

This project is one in a series of projects that are being processed under Section 2-8.1.12 of the Code, entitled Miami-Dade Water and Sewer Department Consent Decree and Capital Improvement Programs Accelerate Ordinance.

The project the project consists of furnishing all materials, labor, and equipment necessary the rehabilitation of the Primary Clarifiers (PC) including skimmers and new flat panel aluminum covers, odor control, Primary Sludge Pump Stations, and associated yard piping at the North District Wastewater Treatment Plant owned by the Miami Dade Water and Sewer Department (WASD) located at 2575 NE 156 Street, North Miami, FL 33160.

The scope of work includes, but is not limited to, the following:

1. Civil-

Surface, paving and grading restoration. Primary Influent and Effluent Piping: Inspect, rehabilitate using cure-in-place pipe method or carbon fiber wrap method for primary clarifier influent and effluent pipelines. The reinforced concrete pipe (RCP) is approximately broken down as 575 LF of 48-inch, 970 LF of 60-inch, 580 LF of 72-inch, and 140 LF of 90-inch. Installation of 3-inch potable water line.

2. Instrumentation and Control

Sludge blanket analyzers, limit switches, internal mechanism drives, control panels, instrumentation to Primary Sludge Pump Stations (PSPS) 1 and 2, control wires for odor control system, H₂S and LEL gas monitoring systems, control wires, feed systems, control panels, and instrumentation for NAOCl storage and feed system, and monitoring signals for the Scum Pump Station.

3. Architectural

Replace exterior doors, louvers, skylights, and roofing at PSPS 1 and 2. Install new roof penetrations for exhaust fans and repair any structural cracks.

4. Structural

Install new extruded flat panel aluminum cover with exposed trusses and concrete columns at weir windows, patch and structurally repair launder stormwater drain voids, and odor control ductwork penetrations, repair any structural cracks at the interior walls and floors, install new guardrails around the perimeter of each tank, provide new concrete steps leading from the existing slab down to the new flat cover elevation, and install new handrails on both sides of the new steps and at the existing stairs at each Primary Clarifier. Construct a new NaOH Storage and Feed facility. Repair concrete and recoat interior surfaces at oxygenation tank influent control chambers. Replace grating and coat interior surfaces at primary Scum Pump Station.

5. Process Mechanical

Installation of skimmer and scum collection mechanisms, pinon drive and motor, single stage odor control systems, chemical diaphragm metering pump skids, and replace two submersible chopper pumps.

6. HVAC

Installation of two inline supply fans and two inline exhaust fans and associated FRP ductwork servicing lower level of the PSPS. Installation of new intake louver and exhaust louver. Installation of two wall mounted supply fans, weather hood and louver servicing upper level. Installation of two roof mounted exhaust fans, roof curb and inlet duct servicing the upper level. Installation of new air conditioning units.

7. Electrical

Installation of new convenience receptacles, welding receptacles, and lighting systems at each primary clarifier. Installation of a ground-bonding system for the new trusses at each clarifier cover. Installation of dual drive mechanism motors and associated disconnect switches, clarifier local control panel, sludge blanket analyzer, scum beach level switches, and scum spray solenoid at each primary clarifier. Installation of new wiring and raceway system, as required for the electrical interconnection of the equipment, and as required for a complete and fully functional primary clarification system. Electrical improvements associated with installation of 5 new scrubbers including new scrubber control panels, new chemical recirculation pumps, new blowers, and new instrumentation. Installation of new starters in the existing motor control centers for new scrubber blowers, recirculation pumps, exhaust fans, and supply fans. Installation of a new 480V panelboard in the electrical room at each PSPS to subfeed existing 480V panelboard. Installation of six new Variable Frequency Drives (VFD's), one for each clarifier, in the VFD room at the corresponding primary sludge pump stations. Installation of new feeder breakers in the motor control centers, at the corresponding primary sludge pump station electrical rooms, for supplying the new VFD's.

QUALIFICATIONS OF BIDDERS:

Bidders shall submit proof that his/her firm has at least the minimum successful contract experience as requested below:

- a. The Bidder or Bidder's Subcontractor shall be experienced in wastewater treatment facility construction, including installation of process equipment, construction of chemical storage and feed facilities, underground utilities, installation of HVAC equipment, low voltage electrical power systems and instrumentation and controls including SCADA. The experience may be demonstrated by the general contractor or a specialty subcontractor for their discipline. The Bidder shall be experienced in performing work while maintaining operations of a wastewater facility.
- b. The Bidder must have successfully completed the construction and/or rehabilitation of a minimum of three (3) 10 MGD wastewater facilities with secondary treatment process within the last fifteen (15) years.

- c. The Bidder must have successfully completed the construction and/or rehabilitation of a minimum of three chemical feed and storage systems within the last fifteen (15) years. Facilities shall include chemical storage tanks and feed pumps.
- d. The Bidder or Bidder's Electrical Subcontractor shall have successfully completed a minimum of three (3) projects demonstrating experience with medium and low voltage power supply.

LICENSES: The types of licenses required are: State General Contractor, General Engineering Contractor and/or other categories as applicable by Chapter 489 of the Florida Statutes or Chapter 10 of Miami-Dade County Code.

COMMUNITY WORKFORCE PROGRAM

CWP PARTICIPATION: Not Applicable, project is not located in a DTA.

**DEPARTMENTAL INPUT
CONTRACT MEASURE ANALYSIS AND RECOMMENDATION**

To: Gary T. Hartfield, Division Director
Internal Services Department
Small Business Development Division

From: Isaac Smith, Manager
Construction Contracts Section

Department: Miami-Dade Water and Sewer Department

Contract Title: CD 3.02(2) NORTH DISTRICT WASTEWATER TREATMENT PLANT
PRIMARY CLARIFIERS AND ODOR CONTROL UPGRADES

Contract No.: S-895

Estimate Amount: \$50,886,473 [\$46,260,430 Construction + \$4,626,043 Contingency]

Funding Source: EW 660, Revenue Bonds Sold & Future WASD Revenue Bonds

Small Business Enterprise – Goods & Services – 0.98% Analysis for Recommendation (Attached)
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Department Head or Authorized Agent

DESCRIPTION OF PROJECT:

This project is one in a series of projects that are being processed under Section 2-8.2.12 of the Code, entitled Miami-Dade Water and Sewer Department Consent Decree and Capital Improvement Programs Accelerate Ordinance.

The project the project consists of furnishing all materials, labor, and equipment necessary the rehabilitation of the Primary Clarifiers (PC) including skimmers and new flat panel aluminum covers, odor control, Primary Sludge Pump Stations, and associated yard piping at the North District Wastewater Treatment Plant owned by the Miami Dade Water and Sewer Department (WASD) located at 2575 NE 156 Street, North Miami, FL 33160. The scope of work includes, but is not limited to, all items and work described in the Department Input for SBE Construction.

CONSIDERATIONS FOR ANALYSIS:

1. The main element of the project includes the construction of several primary clarifiers, complete with the very expensive and specialized process mechanisms.
2. The work shall be executed while the wastewater plant is in operation. The contractor's activities shall not adversely affect the operations or impact the treatment capacity of the plant.
3. This sub-system of the plant includes the chemical storage and metering of chemicals. This project involves specialized construction of bulk storage of sodium hypochlorite and feed systems.

4. The project includes specialized construction, i.e. cure-in-place pipe method or carbon fiber wrap method rehabilitation of primary clarifier influent and effluent large diameter pipelines.
5. The Department has evaluated the project for possible opportunities for participation in the area of SBE – Goods and Services. Based on the scope and nature of the work, we have concluded that there limited opportunities for participation on this project. The recommended areas of participation for SBE Goods & Services providers includes the possible areas:

Analysis for Small Business Enterprise – Goods and Services Recommendation				
Item	Goods & Services	Prime Contractor	Sub-Contractor	SBE Availability
1.	GOODS: Chemical Process Equipment Electrical Switchgear Instrumentation & Controls Piping, Valves & Fittings Mechanical Process Equipment Metering pumps Doors, windows, etc	X X X X X X	 X X X X	 X X X
2.	SERVICES Structural Electrical Instrumentation Systems Integration Roofing Hauling Air Conditioning Chemical Pumping & Metering Interior Cleaning of Sewers Paving Civil Site work Utility Piping Finishing Painting Plumbing	X X X X X	X X X X X X X X X X X X X X X	X X X X X X X X X

B+A5:L26i d Item	Bid Item Description	OPCC	% of Construction	SBE Construction - Availability (\$)	SBE Construction - % of Total	Description of SBE Construction work	SBE G&S - Availability (\$)	SBE G&S - % of Total	Description of SBE G&S work
1	Preparatory Work								
1.1	For bonds, required insurance and other preconstruction expense	\$ 1,312,983	2.58%	\$ -	0.00%		\$ -	0.00%	
1.2	For preparatory work in mobilizing for beginning the work and demobilizing	\$ 298,326	0.59%	\$ 14,950.00	0.03%	Set up temporary facilities (i.e. survey field office, parking, office trailer), temporary utilities	\$ 32,375	0.07%	Office supplies/furniture and equipment
2.1	For Clarifier Equipment, Aluminum Covers, Scrubber System, Piping, Chemical Tanks, metering, Control Chambers and all other miscellaneous structural items and work (See below for breakdown)	\$ 23,895,082	46.96%	\$ 1,455,898	3.15%		\$ -	0.00%	
2.2	For performing all demolition, removal, and disposal work	\$ 1,572,984	3.09%	\$ 710,000	1.53%	Demolition work	\$ -	0.00%	
2.3	For all electrical and instrumentation equipment and work	\$ 1,723,966	3.39%	\$ 171,000	0.37%	Low voltage electrical (Lighting Work)	\$ -	0.00%	
2.4	Painting and Coating of all clarifier tanks	\$ 1,059,384	2.08%	\$ 788,600	1.70%	Painting and Coating	\$ 190,000	0.41%	painting supplies
3	For all other misc. work and costs req'd to complete the Project	\$ 5,067,223	9.96%	\$ 560,000	1.21%	small piping work	\$ 110,000	0.24%	hvac work, surveyor for clarifiers
4	Structural Repairs - in Primary Clarifiers 1, 2, 3 and 5; and Oxygenation Tank Influent Control Chambers 1 and 2.								
4.1	Concrete repair for slab or horizontal surface with spalled concrete	\$ 1,290,815	2.54%	\$ 322,700	0.70%	Concrete wall repairs	\$ -	0.00%	
4.2	Concrete repair for wall or vertical or ceiling surface with spalled concrete	\$ 2,769,455	5.44%	\$ 895,400	1.94%	Concrete wall repairs	\$ -	0.00%	
4.3	Epoxy Crack Injection - Pressure injection epoxy grout of cracks	\$ 18,171	0.04%	\$ -	0.00%			0.00%	
5	Reinforced Concrete Pipe Rehabilitation-								
5.1	CIPP Rehabilitation - 530 LF of 48-inch RCP.	\$ 897,697	1.76%	\$ -	0.00%		\$ 4,270	0.01%	Pipe cleaning
5.2	CIPP Rehabilitation - 870 LF of 60-inch RCP.	\$ 2,151,394	4.23%	\$ -	0.00%		\$ 15,000	0.03%	Pipe Cleaning
5.3	CIPP Rehabilitation - 490 LF of 72-inch RCP.	\$ 1,830,827	3.60%	\$ -	0.00%		\$ 20,000	0.04%	Pipe Cleaning
5.4	CIPP Rehabilitation - 140 LF of 90-inch RCP.	\$ 1,065,398	2.09%	\$ -	0.00%		\$ 46,000	0.10%	Pipe Cleaning
5.5	Carbon Fiber Rehabilitation - 45 LF of 48-inch RCP	\$ 272,157	0.53%	\$ -	0.00%		\$ 4,300	0.01%	Pipe Cleaning
5.6	Carbon Fiber Rehabilitation - 100 LF of 60-inch RCP	\$ 508,633	1.00%	\$ -	0.00%		\$ 14,500	0.03%	Pipe Cleaning
5.7	Carbon Fiber Rehabilitation - 90 LF of 72-inch RCP	\$ 495,935	0.97%	\$ -	0.00%		\$ 19,000	0.04%	
6	Extended Warranty (5 yrs) for Clarifier internal equipment: clarifier drive mechanisms, bearings, motors, gear reducers, etc.	\$ 30,000	0.06%						
7	SUBTOTAL - Sum of Bid Items 1 through 6	\$ 46,260,430	90.91%	\$4,918,548	10.63%		\$ 455,445	0.98%	
	Contingency Allowance (10%)	\$ 4,626,043	9.09%						
	SBE PROJECT TOTAL	\$ 50,886,473	100.00%						

2.1	Structural misc (con columns, stairs, handrails, misc concrete and concrete repairs, grating, walkway, roofing, openings, building specialties, concrete infill, new equipment pads, etc)	\$ 1,958,611.00
a)	Eyewash station	\$ 67,755.00
b)	Lighting and Grounding Protection	\$ 32,354.00
c)	Small Diameter Piping Work	\$ 101,522.00
d)	HVAC/Ventilation	\$ 1,175,806.00
e)	Indusco (Scrubber System) Budget Quote	\$ 2,075,821.00
f)	New Scrubber System, PSPS 1	\$ 26,787.00
g)	FRP Ductwork PSPS 1	\$ 115,789.00
h)	New Scrubber System, PSPS 2	\$ 21,188.00
i)	FRP Ductwork PSPS 2	\$ 69,954.00
j)	Slide Gates, Oxy Tank Influent Control Chamber No. 1	\$ 202,522.00
k)	Slide Gates, Oxy Tank Influent Control Chamber No. 2	\$ 100,300.00
a)	New 8" S (DI03)	\$ 8,634.00
l)	New Pump and Valves	\$ 46,994.00
m)	New Aluminum Covers	\$ 2,562.00
n)	Clarifier Equipment Purchase	\$ 8,309,888.00
o)	Extruded Flat Panel Aluminum Cover Subcontract	\$ 8,786,139.00
p)	Chemical Metering Pump Skid	\$ 634,082.00
q)	Chemical Piping	\$ 111,272.00
r)	Sump Pump	\$ 9,862.00
s)	NaOH Tanks	\$ 37,240.00
	TOTAL	\$ 23,895,082.00