

**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-943**

\*Reference corresponding project number when submitting a work order

**Contract/Project Title:**    **CD 2.01(7) ELECTRICAL IMPROVEMENTS - SUBSTATIONS 7A, 8A, 9A, 10A**

**Description/Scope of Work:**    **See Attached**

**Estimated Cost:** **10113569**                  **Funding Source:** **Federal funds**

**Location of Project** (street address or beginning and ending points) i.e. 12345 NE 23<sup>rd</sup> Ct or Starts at 135 St. ends at 145 St.  
**Central District Wastewater Treatment Plant, 3989 Rickenbacker Causeway in Virginia Key, Florida**

**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:..

**PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CSBE)**    See attachment

Sub-Trade	Est. Cost	% of Item to Base Bid	Availability
<b><u>SBE-Cons</u></b>	\$1,164,090	11.51%	
<b><u>SBE-G&amp;S</u></b>	\$3005,000	3.02%	
	\$	%	

**RECOMMENDATION**

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

**Basis for Recommendation:** **The project is has limited availability for SBE participation, as the majority of the cost is for expensive material in the electrical substations.**

**Date submitted to DBD:** **07/17/2019**

**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, Chief  
Construction Contracts Division

Department: Miami-Dade Water and Sewer Department

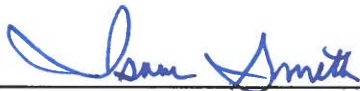
Contract Title: CD 2.01(7) ELECTRICAL IMPROVEMENTS - SUBSTATIONS 7A, 8A, 9A, 10A

Contract No.: S-943

Estimate Amount: \$10,113,569.40 [\$9,194,154.00 Construction + \$919,415.40 Contingency]

Funding Source: EW 660, Revenue Bonds Sold

**Small Business Enterprise – Construction – 11.51%  
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 2-8.2.12 of the Code, entitled Miami-Dade Water and Sewer Department Consent Decree and Capital Improvement Programs Accelerate Ordinance. In general, the project consists of furnishing materials, labor, and equipment necessary for a new electrical substation building for substations 7A, 8A, 9A and 10A located within the Central District Wastewater Treatment Plant (CDWWTP), which is owned and operated by the Miami-Dade Water and Sewer Department (OWNER), and located at 3989 Rickenbacker Causeway in Virginia Key, Florida.

The scope of work includes, but is not limited to, furnishing all materials, labor, and equipment necessary for new electrical substation building for Substations 7A, 8A, 9A and 10A. The substations provide power for the processes at the Oxygen Generation Plant 2 building. The electrical improvements consist of removing the existing substation transformers within the existing building and installing new transformers and electrical gear within a new Substation Building. General site civil work will include all grading, paving, drainage, utilities and pavement restoration. associated instrumentation and controls; and modifications to the existing substation buildings, including: replacement of existing built-up roofing, new interior and exterior lighting, power and lighting panels, new doors, louvers, equipment pads, exhaust fans, and air conditioning and filtration equipment; and new sidewalks, fencing, and site grading. Major portions of the work includes:

1. Installation of new 15 KV feeder cables from Main Switchgear Building to the new substation transformers T-7A, T-8A, T-9A and T-10A that will be located in the new Substation Building
2. Installation of two (2) new, less-flammable, liquid filled, indoor transformers for substation 7A and 8A each rated at 13.2KV-2400/4160V, 2000KVA to replace the existing transformers. The transformers will be anchored to the concrete pads.
3. Installation of new 15 KV primary fused switch units for each new substation transformer 7A and 8A
4. Installation of two (2) new 4160V solid state reduced voltage starters with required interlocks between each such that only one starter can be operational at given time.

5. Installation of a new 1750HP, 4160V compressor motor on Compressor No. 3. motor (to be Owner-furnished)..
6. Installation of two (2) new, less-flammable, liquid filled, indoor transformers for substation 9A and 10A each rated at 13.2KV-277/480V, 1500KVA to replace the existing substation transformers. The transformers will be anchored to concrete pads.
7. Installation of a new 15 KV primary fused switch units for each new substation transformer 9A and 10A.
8. Installation of a new arc-resistant, double-ended,480V draw-out switchgear lineups with Main-Tie-Tie-Main configurations for Substations 9A & 10A.
9. Installation of a new 480V feeder cables from the new switchgear to MCC-4 and MCC-6 using the combination of existing ductbank/conduits and required duct bank extensions.
10. Installation of a new arc-resistant, double-ended, low voltage (480V), motor control center with Main-Tie-Tie-Main configuration to feed the 480V HVAC motor loads.
11. Installation of a new power panels, lighting transformers and lighting panels in the Switchgear Room to support building auxiliary loads.
12. Installation of a new LED lighting fixtures inside and outside of the new Substation Building.
13. Installation of lightning protection system for the new substation building.
14. Installation of a new fire alarm system with Fire Alarm Control Panel.
15. In each transformer room and the switchgear room provide two water-cooled heat pump AC units.
16. .Construction of new building with CMU walls, cast-in-place walls, pre-cast concrete joist roof with SBS modified bituminous membrane
16. Painting interior and exterior of each substation building.

**LICENSES:** The types of licenses required are: General Engineering, General Building 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: CWP is Applicable to this Project.**

### **QUALIFICATIONS OF BIDDERS:**

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

- a. Bidders shall be experienced in chemical storage and metering facilities, specifically for sodium hypochlorite applications..
- b. Bidders or Bidder's Electrical Subcontractor shall have successfully completed a minimum of three (3) projects demonstrating experience with installation of electrical equipment rated for 13.2KV and 480V power supply within the last 10 years

**DEPARTMENTAL INPUT  
CONTRACT MEASURE ANALYSIS AND RECOMMENDATION**

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

From: Isaac Smith, Chief  
Construction Contracts Division

Department: Miami-Dade Water and Sewer Department

Contract Title: CD 2.01(7) ELECTRICAL IMPROVEMENTS - SUBSTATIONS 7A, 8A, 9A, 10A

Contract No.: S-943

Estimate Amount: \$10,113,569.40 [\$9,194,154.00 Construction + \$919,415.40 Contingency]

Funding Source: EW 660, Revenue Bonds Sold

**Small Business Enterprise – Goods & Services – 3.02%**

**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 2-8.2.12 of the Code, entitled Miami-Dade Water and Sewer Department Consent Decree and Capital Improvement Programs Accelerate Ordinance. In general, the project consists of furnishing materials, labor, and equipment necessary for a new electrical substation building for substations 7A, 8A, 9A and 10A located within the Central District Wastewater Treatment Plant (CDWWTP), which is owned and operated by the Miami-Dade Water and Sewer Department (OWNER), and located at 3989 Rickenbacker Causeway in Virginia Key, Florida.

**CONSIDERATIONS FOR ANALYSIS:**

1. The project predominantly involves construction of several Electrical Substations at the site of an operating wastewater treatment plant.
2. This substation of the plant includes very large, expensive and specialized high voltage electrical equipment, which provide power for the large compressors within an oxygen generation facility.
3. The major portions of the work involves the furnishing and installation of switchgear, MCC, breakers and interior contents of the substation.
4. The project also includes construction of new roof, doors, louvers and other structural building components.
5. 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.

6. 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 are multiple opportunities for participation on this project. The recommended areas of participation for SBE Goods & Services providers includes the possible areas:

<b>Analysis for Small Business Enterprise – Goods and Services Recommendation</b>				
Item	Goods & Services	Prime Contractor	Sub-Contractor	SBE Availability
1.	<b>GOODS:</b> Liquid-filled Transformers Racking Mechanism Electrical Switchgear Motor Control Centers Instrumentation & Controls Doors, Louvers, etc Interior lighting Exterior LED Lighting Conduits and Cables Paint	X X X X X	     X X X X X	          X X X X X
2.	<b>SERVICES</b> Electrical Instrumentation Civil Site work Bituminous Roofing Systems Integration Hauling Painting Fire Alarm System Power Coordination Study	X X X       X	          X X X X X X X	          X X X X X X X

**ANALYSIS FOR SBE CONSTRUCTION AND G & S**  
**Contract No. S-943**

Item	Bid Item Description	Cost	% of Total	SBE	SBE	Description of SBE Construction work	SBE G&S -	SBE G&S -	Description of SBE G&S work
				Constr. Availability	Construct ion (%)		Availability (\$)	% of Total	
1	Mobilization & Demobilization	\$ 698,000.00	6.90%	\$ 0.00	0.00%		\$ 0.00	0.00%	
2	Geotechnical and Erosion Control	\$ 55,000.00	0.54%	\$ 55,000.00	0.54%	Erosion Control, Geotechnical and Site Survey	\$ 0.00	0.00%	
3	For all Site Civil demolition, removal and disposal	\$ 72,050.00	0.71%	\$ 72,050.00	0.71%	Demolition of existing site utilities	\$ 0.00	0.00%	
4	For demolition, removal and disposal of electrical components - Oxygen Generation Plant 2 Bldg.	\$ 58,420.00	0.58%	\$ 58,420.00	0.58%	Demolition of switchgear and transformers	\$ 0.00	0.00%	
5	For all Site Civil Work, including grading, compaction, pavement restoation and sidewalk construction,	\$ 77,060.00	0.76%	\$ 77,060.00	0.76%	Pavement restoration, sidewalk and site work	\$ 23,000.00	0.23%	Backfill amd material for paving and sidewalks
6	For all structural and architectural work for Substation Buildings	\$ 2,265,140.00	22.40%	\$ 350,000.00	3.46%	Doors, metals, specialties, masonry and roofing	\$ 135,000.00	1.33%	Materials for doors, metals and specialties
7	For furnishing and installing all building mechanical Work for Substations.	\$ 507,980.00	5.02%	\$ 105,000.00	1.04%	HVAC Installation & small diameter piping	\$ 52,000.00	0.51%	Fans, ducting, A/C unit
8	For furnishing and installing electrical sitework and components	\$ 878,700.00	8.69%	\$ 240,000.00	2.37%		\$ 70,000.00	0.69%	Exterior lighting, panels, conduits and cables
9	For furnishing and installing electrical components, transformers and switchgear in Substation	\$ 4,208,700.00	41.61%	\$ 0.00	0.00%		\$ 0.00	0.00%	
10	For all Instrumentation and Control W ork at Substations, including furnishing a Systems Integrator	\$ 5,200.00	0.05%	\$ 0.00	0.00%		\$ 0.00	0.00%	
11	For furnishing and installing all protective coating and coatings	\$ 195,760.00	1.94%	\$ 195,760.00	1.94%	Painting and coating	\$ 25,000.00	0.25%	Interior and exterior paint
12	For conducting startup and commissioning services for the new electrical distribution system	\$ 161,344.00	1.60%	\$ 0.00	0.00%		\$ 0.00	0.00%	
15	Final clean up	\$ 10,800.00	0.11%	\$ 10,800.00	0.11%		\$ 0.00	0.00%	
	<b>Subtotal</b>	<b>\$9,194,154.00</b>	<b>90.91%</b>	<b>\$ 1,164,090.00</b>	<b>11.51%</b>		<b>\$305,000.00</b>	<b>3.02%</b>	
	Contingency Account (10%)	\$919,415.40	9.09%						
	<b>SBE TOTAL BID</b>	<b>\$10,113,569.40</b>	<b>100.00%</b>						