

**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-911**

\*Reference corresponding project number when submitting a work order

**Contract/Project Title: INSTALLATION OF 42-INCH DUCTILE IRON WATER MAIN BETWEEN THE INTERSECTION OF BISCAYNE BLVD. (SR-5/US-1) AND NW 5TH STREET TO PORT OF MIAMI**

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

**Estimated Cost: 16153918**      **Funding Source: Other (specify)**

**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.  
**Biscayne Blvd. & NW 5<sup>th</sup> 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: Highly specialized work involving the installation of large diameter pipeline by trenchless construction..

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

Sub-Trade	Est. Cost	% of Item to Base Bid	Availability
	\$	%	
	\$	%	
	\$	%	

**RECOMMENDATION**

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

**Basis for Recommendation: See analysis attached**

**Date submitted to DBD: 10/19/2017**

**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: INSTALLATION OF 42-INCH DUCTILE IRON WATER MAIN BETWEEN THE  
INTERSECTION OF BISCAYNE BLVD. (SR-5/US-1) AND NW 5<sup>TH</sup> STREET  
TO PORT OF MIAMI

Contract No.: S-911

Estimate Amount: \$16,153,918.00 [\$14,685,380.00 Construction + \$1,468,538.00 Contingency]

Funding Source: EW 221, Future WASD Revenue Bonds

<b>Small Business Enterprise – Construction – 8.26%</b> <b>Analysis for Recommendation (Attached)</b>
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Department Head or Authorized Agent

**DESCRIPTION OF PROJECT:**

The project, including mobilization and demobilization, consists of furnishing and installing a 42-inch water distribution main, 10-inch force main and upgrades to Sanitary Sewer Pump Station 9141 to serve Port of Miami, as described below:

42-Inch Water Main

This portion of the project consists of furnishing and installing approximately 9,740 linear feet of 42-inch ductile iron pipe, valves and fittings; venturi meter, complete including concrete support slab, valve and fittings; making connection to a proposed 36-inch water main at Biscayne Boulevard (by others) including 42"x36" reducer and a connection to an existing 20-inch water main at mechanical joint tapping valve restrained with glands and 20-inch mechanical joint resilient seated gate valve restrained with glands; approximately 260 linear feet of micro tunneling under existing FEC railroad right-of-way, with steel casing, drill shafts, and proposed area of construction; approximately 4,600 linear feet of twin 30-inch HDPE horizontal directional drilling subaqueous channel crossing along Biscayne Bay from Bayside to Port of Miami (approx. 2,000 linear feet HDPE/each); furnishing and constructing air release valve assemblies; suitable backfill; cleaning, testing and disinfecting the mains; removal of existing asphalt pavement and sod; traffic control; pavement markings and pavement damage by construction and all other appurtenant and miscellaneous items and work for a complete and fully functional installation.

10-inch Force Main

This portion of the project consists of furnishing and installing approximately 5,200 linear feet of 10-inch C900 PVC pipe and fittings; approximately 200 linear feet of Jack and Bore under FEC railroad right-of-way, including furnishing and installing an 18-inch diameter steel casing and 10-inch PVC pipe including

shafts; relocating approximately 700 linear feet of existing 8-inch force main at the port including furnishing and installing tapping sleeves and tapping valves; furnishing and constructing air release valve assemblies; making a connection to an existing 8-inch force main; sheeting and shoring ordered left in place by the Engineer; additional suitable backfill; furnish all materials, equipment and supplies necessary for cleaning, testing and disinfecting the mains; removal of existing asphalt pavement and sod; removal, transport and legal disposal of demotion material; traffic control; pavement markings and pavement damage by construction and all other appurtenant and miscellaneous items and work for a complete and fully functional installation.

#### Pump Station 9141 Upgrade

This portion of the project consists of replacement of the existing Sanitary Sewer Pump Station 9141. The upgrade consists of the construction of a new 30 horsepower submersible pump station to be located northeast of the existing PS 9141. The new pump station has been designed to support the future Port Miami development estimated sewage peak flow requirements. The existing PS 9141 will remain in service during construction of the proposed pump station. Once the new station is complete and certified for operation, the existing pump station and appurtenances will be demolished, excluding the existing primary electrical service facilities which service other properties.

The project is located in Section 6, Township 54S, Range 42E, in the City of Miami, Miami-Dade, Florida.

#### **CONSIDERATIONS FOR ANALYSIS:**

1. This project involves installation of a large diameter water main involving ductile iron pipe. This requires the use of large equipment and capable of deeper trench installations. Trench line shoring and use of highly specialized divers to guide installation will be necessary.
2. Installation of the 42-inch watermain involves trenchless construction of two sections via trenchless technology, as follows:

Microtunnel Crossing under FEC Railway Right of Way – 42-inch watermain  
Twin 30-inch Horizontal Directional Drilling

3. Installation of the 10-inch force main involves trenchless construction of two sections via trenchless technology, as follows:

12-inch Force Main – Horizontal Directional Drill  
10-inch Force Main – Jack & Bore

4. Installation of the proposed pump station requires the installation of a new FPL service, transformer, automatic transfer switch along with a new portable generator.
5. Recommended opportunity for SBE-Construction participation is in the area of roadway pavement restoration, sidewalk, curb and gutter, utility relocation, sodding, pavement marking restoration, installation of manholes, PVC pipe and ductile iron pipe and fittings.

6. **Therefore, this project is recommended for SBE-Const participation goal of 8.26%.**

**LICENSES:** The types of licenses required are: General Engineering, State Underground, Pipeline 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.**

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CONTRACT MEASURE ANALYSIS AND RECOMMENDATION**

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**CONSIDERATIONS FOR ANALYSIS:**

1. This project involves installation 7,440 L.F. of 42-inch diameter water main involving cast ductile iron pipe (DIP).
2. In addition, the success of the project involves the specialized construction of four sections of trenchless pipe constructions
3. 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 are limited opportunities for participation in this project.
4. The possible areas of subcontracting are in the area of Pavement Restoration, Horizontal directional drilling, microtunnel, jack & bore, hauling and pump station construction.
5. **Therefore, for SBE- Goods and Services the recommended participation goal of 5.34%.**

Analysis for Small Business Enterprise – Goods and Services Recommendation				
Item	Goods & Services	Prime Contractor	Sub-Contractor	SBE Availability
1.	<b>GOODS:</b> D.I. Pipe & Fittings PVC Pipe & Fittings Limerock Sod Suitable Backfill	X	X X X X X	X X X X X
2.	<b>SERVICES</b> Pipeline Construction Milling & Paving Hauling Trenchless Pipe Installation Maintenance of Traffic Utility Construction	X    X X X	   X X X X	     X X X X

**Analysis for SBE - Construction**  
**Recomm. – 8.26% SBE Constr & 5.34% G&S**

<b>A.                    <u>42-Inch POM Water Main</u></b>					
1	Mobilization	\$560,800.00	3.47%		
2	Furn 8", 12", and 20" DIP	\$41,000.00	0.25%		0.25%
3	Install 8", 12", and 20" DIP	\$78,400.00	0.49%	0.49%	
4	Furn 30" DIP	\$461,700.00	2.86%		2.86%
5	Install 30" DIP	\$117,800.00	0.73%		
6	Furn 42" DIP	\$2,194,800.00	13.59%		
7	Install 42" DIP	\$842,000.00	5.21%		
8	Furn 20" RS Gate Valve	\$104,300.00	0.65%		0.65%
9	Install 20" RS Gate Valve	\$56,000.00	0.35%		
10	Furn 30" RS Gate Valve	\$419,000.00	2.59%		
11	Install 30" RS Gate Valve	\$100,000.00	0.62%		
12	Furn 42" RS Gate Valve	\$400,000.00	2.48%		
13	Install 42" RS Gate Valve	\$50,000.00	0.31%		
14	Venturi Meter	\$963,700.00	5.97%		
15	Microtunnel under FEC Railroad	\$728,000.00	4.51%		
16	Twin 30" HDD Subaqueous Crossing	\$3,910,000.00	24.20%		
17	Constructing Air Release Valve Assem.	\$23,800.00	0.15%	0.15%	
18	Removal, hauling & disposal of debris	\$25,000.00	0.15%	0.15%	
19	Connections to existing Mains	\$191,500.00	1.19%	1.19%	
20	Suitable backfill material	\$37,500.00	0.23%		0.23%
21	Limerock base for permanent paving repairs	\$181,700.00	1.12%	1.12%	
22	Permanent paving repairs	\$237,500.00	1.47%	1.47%	
23	Replacing pavement markings	\$15,000.00	0.09%		
24	Replacing sodding	\$6,800.00	0.04%	0.04%	
25	Sidewalk, Curb & Gutter Restoration	\$30,000.00	0.19%	0.19%	
26	Subtotal - 42" Water Main	<b>\$11,776,300.00</b>			
27	Contingency (10%)	\$1,177,630.00	7.29%		
28	<b>SBE TOTAL - 42" Water Main</b>	<b>\$12,953,930.00</b>			
<b>B.                    <u>10-inch DIP FM</u></b>					
1	Selling 10" & 12" PVC	\$201,500.00	1.25%		1.25%
2	Installing 10" & 12" PVC	\$100,900.00	0.62%	0.62%	
3	Furnishing & Installing Dog house manhole	\$20,000.00	0.12%		
4	Making connections to existing mains	\$10,000.00	0.06%	0.06%	
5	By-pass pumping	\$20,000.00	0.12%		
6	HDR - 12" FM	\$1,092,000.00	6.76%		
7	Jack & Bore - 10"FM	\$238,900.00	1.48%		
8	Furnish & Install 8" & 10" Plug Valve	\$74,000.00	0.46%		
9	Constructing ARV's	\$35,000.00	0.22%	0.22%	
10	Selling 10" DIP	\$16,125.00	0.10%		0.10%
11	Installing 10" DIP	\$57,825.00	0.36%	0.36%	
12	Sidewalk, concrete curb & gutter	\$30,000.00	0.19%	0.19%	

13	Limerock	\$2,500.00	0.02%	0.02%
14	Permanent Paving	\$5,630.00	0.03%	0.03%
15	Milling	\$2,500.00	0.02%	
16	Off-Duty Police Officers	\$24,000.00	0.15%	
17	Mobilization	\$96,000.00	0.59%	
18	Subtotal - 10-inch Force Main	<b>\$2,026,880.00</b>		
19	Contingency (10%)	\$202,688.00	1.25%	
20	<b>SBE TOTAL - 10" Force Main</b>	<b>\$2,229,568.00</b>		

C      **Pump Station No. 9141 Upgrades**

1	Div. 1 - Mobilization & General	\$42,000.00	0.26%	0.26%
2	Div. 2 - Site Construction	\$157,000.00	0.97%	0.97%
3	Div. 3 - Concrete	\$119,500.00	0.74%	0.74%
4	Div. 8 - Access Doors	\$12,700.00	0.08%	
5	Div. 15 - Mechanical - Pumps, motors	\$147,500.00	0.91%	
6	Div. 16 - Electrical	\$159,000.00	0.98%	
7	Standby Generator	\$93,000.00	0.58%	
8	Dewatering	\$20,000.00	0.12%	
9	New FPL Service	\$7,500.00	0.05%	
10	Testing	\$15,000.00	0.09%	
11	Contractor, OH, Profit & Taxes	\$84,000.00	0.52%	
12	Freight & Misc. Expenses	\$25,000.00	0.15%	
13	Subtotal - Pump Station	<b>\$882,200.00</b>		
14	Contingency (10%)	\$88,220.00	0.55%	
15	<b>SBE TOTAL - Pump Station</b>	<b>\$970,420.00</b>		

**SBE TOTAL FOR ENTIRE PROJECT**

<b>\$16,153,918.00</b>	<b>100.00%</b>	<b>SBE CONSTR 8.26%</b>	<b>SBE G&amp;S 5.34%</b>
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