

# Memorandum



Date: October 30, 2015

To: Tara C. Smith, Director  
Internal Services Department

From: Lester Sola, Director  
Miami-Dade Water and Sewer Department

A handwritten signature in black ink, appearing to read "Lester Sola", written over the "From:" line.

Subject: Review Item: Design-Build Services for Installation of a 48-inch Diameter  
Water Main Downtown Loop Closure – Project No. DB15-WASD-03

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It is recommended that the Small Business Development Division of Internal Services Department review the attached request for Small Business Enterprise measures for the above mentioned project, in order to proceed with the advertisement and subsequent consultant selection for this project.

The duration of the proposed design-build contract is 820 calendar days. The total compensation for the design-build contract is \$13,812,550, which includes the following:

- \$ 11,553,785 estimated construction cost
- \$ 1,213,147 estimated engineering cost
- \$ 577,689 contingency fees for construction (5%)
- \$ 121,315 contingency fees for engineering (10%)
- \$ 346,614 permitting fees

## Scope of Services

The Design-Builder shall provide, but is not limited to engineering, design, survey, technical specifications, permitting and inspection to support the construction, installation, testing and commissioning activities associated with the construction of a new 48-inch and 36-inch water main. The Design-Builder should also comply with all other required construction methods for this work, including those to minimize noise, dust and other impacts to surrounding residential neighborhoods. The design and construction services rendered by the Design-Builder shall result in a complete, functional and operable piping project with a standard design life.

The Project includes the following main elements:

- Furnish and install approximately 4780 linear feet of 48-inch diameter and 2370 linear feet of 36-inch prestressed concrete cylinder pipe for water service. Pipe material shall be in accordance with the American Water Works Association Standard C304;
- Furnish and install all ancillary piping, tie-in connections and piping, required to facilitate successful construction and commissioning of the new 36-inch and 48-inch water main without any interruption of service to existing WASD customers;
- Furnish and install a 48-inch diameter water main including a casing pipe under active railroads using micro-tunnel or other trenchless construction installation technique;

- Furnish and install a 36-inch diameter water main under Biscayne Boulevard using micro-tunnel or other trenchless construction installation technique;
- Provide launching and receiving pits for the micro-tunnel installation;
- Connect to the existing 48-inch water main just south of N.W. 17 Street and N.W. 1 Place;
- Connect to the existing 36-inch water main at N.W. 6 Street and N.W. 1 Court;
- Provide all required valves and piping to facilitate connection of the existing water mains to the new water main;
- Provide air release valve assemblies at all high points on the new water main;
- Relocate existing utilities in conflict with the alignment of the water main, as required by the Engineer;
- Remove, transport, salvage and/or legally dispose of construction and demolition materials including asphalt pavement, concrete pavement, miscellaneous concrete, unsuitable backfill material, pipe, valves and sod;
- Sheeting and shoring ordered left in place by the Engineer;
- Furnish and place suitable backfill for pipe bedding and backfill, as required by the Engineer;
- Construct and restore pedestrian curb ramps and detectable warning surfaces, temporary and permanent replacement or relocation of any utilities, pavement, sidewalk, curb and gutter, valley gutter, trees, landscaping, sod, pavement markings and/or driveway damaged during construction to a condition equal to or better than at the start of construction;
- Furnish all materials, equipment, supplies, and labor necessary for cleaning, testing, commissioning and placing the new water main into service;
- Remove existing 30-inch water main on N.W. 6 Street from N.W. 1 Avenue to N.W. 1 Court;
- Design, permit and maintain all required vehicle and pedestrian traffic control measures; and
- Provide all other appurtenant and miscellaneous items and work for a complete and fully functional installation.

The scope of services shall include all professional services, all labor, supervision, quality control, project controls, safety programs, materials, tools, equipment, services, methods and procedures necessary or convenient for the Design-Builder to fulfill all duties and obligations imposed by the Contract Documents, which can be reasonably assumed as necessary to fulfill the intent of the Contract Documents and to provide a complete, fully functional and satisfactory Project.

The Design-Builder must complete the Work within the durations specified below, which exclude the warranty administration period:

- Substantial Completion on or before 730 calendar days after the date of Notice to Proceed which requires placing into service all new water mains and connections within the public right-of-way and shall include all work associated with surveying, geotechnical investigations, engineering, design, technical specifications, permitting, construction, testing and commissioning services for the complete and fully operational installation of the new 48-inch and 36-inch diameter water main and reopening all roads and sidewalks to traffic.
- Final Completion and Project Closeout on or before 820 calendar days after the date of Notice to Proceed which requires Final Completion and Project Closeout: including obtaining acceptance by all applicable regulatory agencies including WASD, of all Work

and Services under the Contract, including all remaining site restorations, record documents, and all other remaining incomplete or unacceptable work items identified at or subsequent to Substantial Completion.

If the Design-Builder does not achieve Substantial Completion by the established Substantial Completion Contract Date, Liquidated Damages (LDs) will be assessed in the amount of \$2,500 per calendar day, which will be paid to the County by the Design-Builder. If the Design-Builder does not achieve Final Completion by the established Final Completion Contract Date, LDs will be assessed in the amount of one thousand dollars (\$1,000) per calendar day, which will be paid to the County by the Design-Builder. LDs will be cumulative if both the Substantial Completion Contract Date and the Final Completion Contract Date are exceeded. All assessments of LDs to the Design-Builder may be adjustments to payments due to the Design-Builder.

#### A/E TECHNICAL CERTIFICATIONS REQUIREMENTS

Technical Category (TC)	Description	Total Percentage	SBE A/E %
6.01 Prime	WATER AND SANITARY SEWER SYSTEMS – WATER DISTRIBUTION AND SANITARY SEWAGE COLLECTION AND TRANSMISSION	30%	
16.00 Prime	GENERAL CIVIL ENGINEERING	30%	
3.02A Other	HIGHWAY SYSTEMS – TUNNEL DESIGN	1%	
3.04 Other	HIGHWAY SYSTEMS – TRAFFIC ENGINEERING STUDIES	5%	5%
9.02 Other	SOILS, FOUNDATIONS AND MATERIALS TESTING – GEOTECHNICAL AND MATERIALS ENGINEERING SERVICES	2%	2%
9.03 Other	SOILS, FOUNDATIONS AND MATERIALS TESTING – CONCRETE AND ASPHALT TESTING SERVICES	1%	1%
9.04 Other	SOILS, FOUNDATIONS AND MATERIALS TESTING – NON-DESTRUCTIVE TESTING AND INSPECTIONS	1%	1%
10.05 Other	ENVIRONMENTAL ENGINEERING – CONTAMINATION ASSESSMENT AND MONITORING	1%	1%
11.00 Other	GENERAL STRUCTURAL ENGINEERING	1%	
12.00 Other	GENERAL MECHANICAL ENGINEERING	5%	
15.01 Other	SURVEYING AND MAPPING – LAND SURVEYING	3%	3%
15.03 Other	SURVEYING AND MAPPING – UNDERGROUND UTILITY LOCATION	5%	2%

17.00 Other	ENGINEERING CONSTRUCTION MANAGEMENT	15%	5%
	TOTAL	100%	20%

WASD is recommending a 20% SBE A/E, 8.2% SBE Construction and 0.5% SBE goods/services goal participation. Attached are WASD's Departmental Input Worksheets and minimum requirements for your review and approval.

If you have any questions, please contact Patty Palomo, Chief, Intergovernmental Affairs Section at [pattyd@miamidade.gov](mailto:pattyd@miamidade.gov) or (786) 552-8040.

Attachments

**DEPARTMENTAL INPUT  
CONTRACT MEASURE ANALYSIS AND RECOMMENDATION**

DATE: October 30, 2015

TO: Tara C. Smith, Director  
Internal Services Department

FROM: Lester Sola, Director  
Water and Sewer Department

TITLE: Design-Build Services for Installation of a 48-inch Diameter  
Water Main Downtown Loop Closure; Project No. DB15-WASD-03

Construction Cost	\$11,551,785
Construction Contingency 5%	\$ 577,689
Permitting Fees 3%	\$ 346,614
<b>TOTAL:</b>	<b>\$12,476,088</b>

ITEM	DESIGN-BUILD SUBTRADE	ESTIMATED COST	% OF CONSTRUCTION COST	SBE %
1	Water main construction (includes mobilization, furnish and installation, tapping and connections, trenchless construction, bypass pumping, utility relocation, dewatering, demolition, valves and assemblies)	\$10,913,276	94.4%	5.0%
2	Pavement Restoration	\$ 239,121	2.1%	2.1%
3	Miscellaneous restorations (sidewalks, curb & gutter)	\$ 122,663	1.1%	1.1%
4	Maintenance of Traffic	\$ 276,725	2.4%	
5	Total Construction Cost	\$11,551,785	100%	8.2%
6	Contingency Allowance 5%	\$ 577,689		
7	Permitting 3%	\$ 346,614		
8	Total Estimated Construction Cost including Contingency and Permitting Fees	\$12,476,088		

**DEPARTMENTAL INPUT  
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION**

**Contract/Project Title:** Design-Build Services for Installation of a 48-inch Diameter Water Main Downtown Loop Closure

**Contract/Project No.** DB15-WASD-03

**Description:** Design-Build Services for Installation of a 48-inch Diameter Water Main Downtown Loop Closure

**DEPARTMENT:** Miami-Dade Water and Sewer Department (WASD)      **CONTACT:** Patty David  
**PHONE:** (786) 552-8040

**Estimated Cost:** One (1) contract at \$13,812,550, plus a contingency allowance in accordance with Ordinance 00-65.

**Funding Sources:** WASD Revenue Bonds Sold, Future WASD Revenue Bonds

**ANALYSIS**

Commodity/Service No. \_\_\_\_\_ SIC: \_\_\_\_\_  
Trade/Commodity/Service Opportunities \_\_\_\_\_

**Contract/Project History of Previous Purchases for Previous Three (3) Years**  
**Check Here if this is a New Contract/Purchase with no Previous History**

	Existing	2 <sup>nd</sup> Year	1 <sup>st</sup> Year
Contractor	_____	_____	_____
Ethnicity/Race	_____	_____	_____
Gender	_____	_____	_____
Contract Value	_____	_____	_____

COMMENTS: \_\_\_\_\_

**RECOMMENDATIONS**

<u>SBE GOAL</u> 20 %	<u>BID PREFERENCE</u>	<u>NO MEASURE</u>
	<u>Analysis for Goal Recommendation</u>	
<u>Sub-Trade</u>	<u>Est. Cost</u>	<u>% of Item to Base Bid</u>
_____	\$ _____	_____
_____	\$ _____	_____
_____	\$ _____	_____
Total:	\$ _____	_____
		<u>Availability</u>

**Basis for Recommendation:** WASD proposes that the goal of 20% can be achieved with SBE Firms assisting with 3.04-5%; 9.02-2%; 9.03-1%; 9.04-1%; 10.05-1%; 15.01-3%; 15.03-2% and 17.00-5%.



By: Lester Sola, Director

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

Internal Services Department

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

**EXPERIENCE AND QUALIFICATIONS  
DESIGN-BUILD SERVICES FOR INSTALLATION OF A 48-INCH DIAMETER WATER MAIN  
DOWNTOWN LOOP CLOSURE  
PROJECT NO. DB15-WASD-03**

Proposed Design-Builder shall demonstrate its project team experience by presenting the qualifications and capabilities of each Design-Build Team member firm, for projects completed within the last ten (10) years from the date of this solicitation, including projects that may be at least fifty percent (50%) complete prior to the required submittal date of this Request Design-Build Services Step one (1) solicitation, that demonstrate related minimum project experience as indicated below:

**1. Lead Constructors:**

- a. The Lead Construction firm performing the open cut installation work must have successfully constructed at least one (1) pressure pipeline project of similar size and complexity in an urban environment and a minimum thirty-six (36) inch nominal diameter pipe.
- b. The Lead Construction firm performing micro-tunnel installation of the water pipe must have successfully constructed at least one (1) project utilizing micro-tunnel technique (minimum of 36-inch pipe). To qualify, the installation must have been a minimum of thirty-six (36) inch internal diameter in ground conditions similar to those expected, such as high ground water level conditions.
- c. The Lead Construction firm performing the shaft construction shall have successfully constructed at least one (1) shaft that was at least twenty-five (25) feet below ground surface. The shaft must have been extended below groundwater and required means of controlling inflow and bottom heave of the shaft.
- d. Design-Builder must submit evidence of the Lead Constructors and Pipe Installation Crews past performance completing projects of similar size and complexity on schedule and to the satisfaction of the facility owner.

**2. Lead Designers:**

- a. The Lead Designer firm performing the design of the water main must have designed at least one (1) pressure pipeline project in an urban environment consisting of a minimum thirty-six (36) inch nominal pipe diameter.
- b. The Lead Designer firm who will design the micro tunnel installation of the pipe must have designed at least one (1) micro-tunnel project consisting of a minimum of thirty-six (36) inch diameter pipe installed by micro tunnel. The referenced project(s) shall be a minimum of thirty-six (36)-inch diameter water pipe or larger. The referenced project shall have been designed for construction in ground conditions similar to those expected to be encountered on this project
- c. The Lead Designer firm or their Subconsultant(s) performing design for the shaft(s) shall have designed one (1) shaft project to support a micro tunnel construction operation. Depth of the shaft for the referenced project(s) shall have been at least twenty-five (25) feet below ground surface.

- 3. Industry Experience of Design-Build Team Key Personnel:** The qualifications and industry experience referenced in this section must be met by qualified individual(s) of the Design-Build Team and its Subconsultants. The experience must be demonstrated by direct or substantial involvement of the individual(s) in a capacity that is equivalent to or exceeds the stated minimum requirement. The determination of the individual(s) qualifications and compliance with the experience and qualifications shall be at the sole discretion of the County and the Competitive Selection Committee (CSC). The CSC may

negatively evaluate proposals from firms they determine have failed to meet the required experience and qualification(s).

- a. Industry experience for each of the following Key Personnel shall be clearly identified:
  - Project Manager - Design-Builder
  - Design Manager - Lead Designer
  - Construction Manager - Lead Constructor
  - Superintendent - Micro tunnel Constructor
  - Superintendent - Shaft Constructor
  - Superintendent - Pipeline Constructor
  - Design Engineer - Lead Pipeline Designer
  - Design Engineer - Lead Micro tunnel Designer
  - Lead Structural Engineer
  - Lead Geotechnical Engineer
  - Permitting/Compliance Manager
  - Design-Builder Quality Assurance/Quality Control Manager
  - Design-Builder Safety Manager
- b. Key Personnel must demonstrate experience with the type of work being performed:
  - Proposers shall identify, in their Statement of Qualifications those State of Florida registered Professional Engineers who will sign and seal construction plans and specifications.
  - Key Personnel resumes shall indicate the individual's current firm association, their professional qualifications, a client reference with contact information, and their role and duration on each project for which they are being credited the related experience.

**4. Additional Preferred Project Experience:**

- a. Experience in a significant role on a Design-Build project, especially in a similar role as proposed for this Project.
- b. Superior references with regard to meeting cost, schedule, and quality objectives on previous projects, and maintaining a positive client relationship.

**5. Design-Builder Safety Record - Past Performance:** Experience Modification Rate (EMR) for the Design-Builder for the pipeline work and the micro-tunnel contractor is recommended to be below 1.10 for each firm.

Design-Builders shall provide EMR data for the previous three (3) full calendar years (2012, 2013, and 2014) on a firm-wide basis shall be documented by a signed letter with contact information from the firm's insurance carrier, or the insurance carrier's agency representative. Higher qualification scores shall be provided by the CSC for a Design-Builder demonstrating an average EMR lower than other competing Design-Builder firms. Design-Builder shall also provide their Occupational Safety and Health Administration (OSHA) forms 300 and 300A for the last three (3) full calendar years (2012, 2013, and 2014) indicating OSHA submitted accident data for evaluation by the CSC as to their frequency