

# ISSUING DEPARTMENT INPUT DOCUMENT

## CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

New   
 OTR   
 Sole Source   
 Bid Waiver   
 Emergency   
 Previous Contract/Project No. N/A

Re-Bid   
 Other – Legacy Contract   
 LIVING WAGE APPLIES:  YES  NO

Requisition No./Project No.: RQPE2000002   
 TERM OF CONTRACT 1 YEAR(S) WITH  YEAR(S) OTR

Requisition /Project Title: Genetic Analyses in Waters

Description: The County would like to engage the services of Source Molecular Corporation for genetic analyses services.

Issuing Department: ISD-SPD   
 Contact Person: Jonathan Desverguñat   
 Phone: 305-375-5312

Estimate Cost: \$250,000

Funding Source:   
 GENERAL    
 FEDERAL    
 OTHER

X    
   

### ANALYSIS

<b>Commodity Codes:</b>	<span style="border: 1px solid black; padding: 2px;">961-48</span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>
Contract/Project History of previous purchases three (3) years Check here <input checked="" type="checkbox"/> if this is a new contract/purchase with no previous history.				
	<b><u>EXISTING</u></b>	<b><u>2<sup>ND</sup> YEAR</u></b>	<b><u>3<sup>RD</sup> YEAR</u></b>	
<b>Contractor:</b>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	
<b>Small Business Enterprise:</b>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	
<b>Contract Value:</b>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	
<b>Comments:</b>	<span style="border: 1px solid black; padding: 2px;"></span>			

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### RECOMMENDATIONS

	Set-Aside	Subcontractor Goal	Bid Preference	Selection Factor
<b>SBE</b>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>

Basis of Recommendation: No measure based on Sole Source.

<b>Signed:</b> <span style="border: 1px solid black; padding: 2px;">Jonathan Desverguñat</span>	Date sent to SBD: <span style="border: 1px solid black; padding: 2px;">6/22/2020</span>
	Date returned to SPD: <span style="border: 1px solid black; padding: 2px;"></span>

## Scope of Services

### 3. SCOPE OF SERVICES

The below Scope of Services is for a genetic analyses, including lab services to ultimately identify and understand non-point sources of bacteria and contaminants in County waters.

#### **DEFINITIONS:**

- 1) The words “Best Management Practices” to mean, if the County were to employ “BMPs” at a location, like asking people to pick up after their dogs at a “dog beach” as a way of reducing fecal bacteria loading into surface waters of the beach or sand, they would be able to evaluate how effective implementation of our BMP was.
- 2) The words “Total Maximum Daily Load” (TMDL) to mean a regulatory threshold imposed by the state of Florida (Dept. of Environmental Protection) after a waterbody has been declared impaired for a particular parameter. We have water bodies in the County that are impaired for fecal bacteria. Paragraph 3, Section 3.31 refers to a service that can be provided to help the County meet the requirements of a TMDL should we need that support.

#### **The vendor shall:**

- 3.1 Provide molecular lab services on quantitative polymerase chain reaction (qPCR) and digital quantitative polymerase chain reaction (dPCR).
- 3.2 Provide the source identification analytical approach required to match the scale and specific objectives of the studies being planned.
- 3.3 Employ well-established and up-to-date technologies including both qPCR and dPCR, highly precise approaches for sensitive detection and quantification of nucleic acid.

#### **Molecular-grade processing (filtration/extraction)**

- 3.4 Select and execute the appropriate sample processing protocols (filtration, extraction) to maximize genetic material recovery and purity from diverse environmental sample types
- 3.5 Analyze environmental samples of saltwater, freshwater, soil, sediment, sludge, mud, filters, DNA, RNA, surface swabs, sand, feces, sewage, septage, etc.
- 3.6 Process samples from fresh and saltwater environments to identify potential sources of bacterial contamination in watersheds throughout Miami-Dade County
- 3.7 Provide molecular grade packing material, coolers, filters, sterile bottles, and other requisite supplies as needed and requested
- 3.8 Process water quality samples that may contain fecal pollution from point and non-point sources from the freshwater and marine environment. Point sources may include sewage, effluent from wastewater treatment plants and stormwater. Nonpoint sources may include leaking septic systems, agriculture or wildlife runoffs where the entry point of contamination to surface waters is not obvious.

#### **Microbial Source Tracking (MST)**

- 3.9 Analyze environmental samples for fecal contamination from at least 13 different species on qPCR or dPCR
- 3.10 Use EPA-developed and patented MST technology, as state criteria are adopted as per EPA guidance
- 3.11 Provide results of MST qPCR or dPCR MST analysis in no more than 10 business days
- 3.12 Provide presence/absence or quantification to determine the concentration of the host-associated genetic marker
- 3.13 Provide expertise in developing an approach in a work plan to identify potential sources of pollutants to a water body

#### **Pathogens**

- 3.14 Analyze environmental samples for at least 7 viral and bacterial pathogens on dPCR

#### **Molecular Fecal Indicator Bacteria**

- 3.15 Analyze environmental samples according to US EPA Method 1611: Enterococci in Water by TaqMan qPCR Assay

- 3.16 Provide same day results provided careful coordination following a rapid indicator protocol
- 3.17 Must be familiar with regulatory material in establishing water quality criteria with alternative analytical methods and alternative indicators
- 3.18 Simultaneously analyze environmental samples for enterococcus and HF183 via dPCR

#### **Microbial Community Analysis (MCA)**

- 3.19 Use MCA tools to identify fecal pollutant sources
- 3.20 Select the appropriate MCA technologies to meet project objectives

#### **Molecular Data Analytics and Interpretation**

- 3.21 Provide broad sector knowledge of peer reviewed literature in MST data interpretation
- 3.22 Determine the most appropriate statistical techniques to achieve project objectives with molecular data
- 3.23 Calculate host fecal score, a standardized way to conduct high level MST data interpretation for site prioritization, Best Management Practices effectiveness evaluation
- 3.24 Provide expertise in conducting quality assurance of "genetic" data sets
- 3.25 Provide expertise in the statistical or other analysis of data, particularly, but not limited to the interpretation of water quality results for bacteria and pathogens
- 3.26 Provide expertise in the statistical evaluation of water quality results for bacteria and pathogens
- 3.27 Provide statistical analysis and modeling of environmental monitoring data sets, including genetic analytical results
- 3.28 Collaborate with stakeholders to
  - 3.28.1 formalize data analysis and interpretation approach using the most advanced MST industrial knowledge and
  - 3.28.2 prioritize sites based on their extent of contamination for remediation and/or further investigation

#### **Independent Scientific Review and Technical Advisor**

- 3.29 Provide scientific review of special studies and projects conducted to identify fecal pollutants
- 3.30 Provide scientific and technical expertise in disciplines relevant to molecular methods, bacteria pollution, and environmental monitoring
- 3.31 Provide assistance with water quality monitoring program suggestions/improvements based on findings including Total Maximum Daily Load development and implementation
- 3.32 Provide comments on requested documents and attend meetings necessary to provide support of technical issues

#### **Training and Technology Transfer**

- 3.33 Provide training in setting up labs to perform genetic analysis on samples when client has little to no PCR experience.
- 3.34 Provide training and implementation of all technical aspects of source identification or pathogen detection projects

#### **Quality Assurance Project Plan (QAPP) Development and Review**

- 3.35 Prepare QAPP documents for environmental monitoring projects including molecular analyses

#### **Monitoring Plan Development and Review**

- 3.36 Prepare and review monitoring plans to meet the client's project objectives
- 3.37 Provide water quality data to select sampling locations and events
- 3.38 Provide and develop an analytical plan to address project objectives

#### **Assistance in framing achievable objectives**

- 3.39 Identify fecal pollution issues to design and execute MST projects.
- 3.40 Coordinate diverse groups of stakeholders to assist with MST projects
  - 3.40.1 transform public health or public relation problems into scientific questions and concrete project objectives,
  - 3.40.2 form testable hypotheses about potential sources of pollution, and
  - 3.40.3 construct study designs appropriate for testing such hypotheses.

#### **Recommending Follow-up Actions**

- 3.41 Provide scientific interpretation in the context of regulatory and public health drivers