

# Cover Sheet Proposer Information



## 1. PROPOSER COVER SHEET (INCLUDE AS PART OF RESPONSE UNDER TAB 1)

### Section A. Proposer Information

Legal Name: <b>S&amp;ME, Inc.</b>	
Main Administrative Address: <b>2736 O'Neal Lane, Suite A</b>	
City & State: <b>Baton Rouge, LA</b>	Zip Code: <b>70816</b>
Telephone Number: <b>(225) 478-8476</b>	Fax Number:
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CEO/Executive Officer: <b>Matt Ryan</b>	Office Phone Number: <b>(919) 872-2660</b>
Chief Financial Officer: <b>Meredith Keyes, CPA</b>	Office Phone Number: <b>(919) 872-2660</b>
Contact Person's Name: <b>Gregory Mattson II, P.E.</b>	Phone Number Including Area Code: <b>(225) 478-8476</b>
Mailing Address, City, State, Zip Code, Email: <b>2736 O'Neal Lane, Suite A Baton Rouge, LA 70816   gmattson@smeinc.com</b>	
Type of Entity (check all that apply): <input type="checkbox"/> Private-for-Profit-Entity <input checked="" type="checkbox"/> Nonprofit	

### Section B. Certification of Accuracy and Compliance

I do hereby certify that all facts, figures, and representations made in the Proposal Response(s) are true and correct. Furthermore, all applicable statutes, terms, conditions, regulations, and procedures for program compliance and fiscal control, including but not limited to, those contained in the Proposal Package will be implemented to ensure proper accountability of contracts. I have been duly authorized to act as the representative of this Proposal.

Kyle L. Murrell

Print Authorized Official's Name

  
Authorized Official's Signature

Area Manager

Authorized Official's Title

11/20/20  
Date



**Request for Proposals for  
Geotechnical Data Collection and Sediment Sampling Services  
University Lakes Project, Baton Rouge, Louisiana**

**Prepared by:  
S&ME, Inc.  
2736 O'Neal Lane  
Suite A  
Baton Rouge, LA 70816  
[www.smeinc.com](http://www.smeinc.com)**





November 20, 2020

Attention: Project Advisors, University Lakes Project  
B&D/CSRS Team  
Email: Lakesinfo@csrsinc.com

Reference: **Request for Proposals for Geotechnical Data Collection and Sediment Sampling Services**  
Baton Rouge, Louisiana

Dear Project Advisors:

S&ME, Inc. is pleased to submit our proposal to provide professional geotechnical investigation services to University Lakes, LLC (UL) for the University Lakes Project in Baton Rouge, Louisiana. S&ME has worked with numerous Port Authorities, State and Federal agencies, and commercial interests providing geotechnical investigation, testing, and engineering services for projects like the University Lakes Project. We have been providing practical and affordable geotechnical solutions on a wide range of projects for more than 44 years.

We understand that UL is seeking qualified and experienced firms interested in providing geotechnical services to: (i) characterize the type and consistency of soils that will need to be hydraulically excavated from the lakes; and (ii) characterize the type, consistency, and strength of soils in the proposed spoil placement locations along the edges of the lakes. S&ME has considerable experience in providing the specific types of geotechnical services that will be needed for the University Lakes project, including experience with geotechnical field exploration over water, sampling of very soft soils, sensitive soil laboratory testing, dredged material behavior, and dredge material placement.

Our team includes Specialized Environmental Resources, Inc. (SER) of Lafayette, who has agreed to support S&ME's geotechnical field exploration services. SER has specialized geotechnical exploration equipment and experienced crews that will be called upon to supplement our in-house resources to expedite completion of the investigations. We have selected SER based on recent successful collaboration between our firms, the commitment to safety and quality that our firms share, and their recent experience performing geotechnical field exploration services in City Park Lake.

## **Expertise and Specialized Resources**

- **Planning and Coordination:** S&ME will work closely with UL and our subconsultant to plan and coordinate efforts for successful project completion. The S&ME team, along with our subconsultant Specialized Environment Resources, Inc. (SER), will provide all the geotechnical services outlined in the RFP.
- **Field Exploration:** S&ME will provide equipment and operators for shallow sampling within the lakes using specialized equipment such as our manually operated vibratory corer sampler. This sampling device saves time and money during geotechnical field exploration since it can be operated from a small vessel with a small crew. For deeper soil borings or any potential borings on the shorelines, equipment and operators will be provided by our in-house drilling service or SER.



- **Laboratory Testing:** Soil samples will be packaged and carefully transported to S&ME's certified geotechnical laboratory in Baton Rouge. This is full-service geotechnical laboratory with the equipment and expertise to complete all the required geotechnical testing. Additionally, we have specialized equipment for testing dredged or composited slurry samples, including standard and modified settling columns, low-stress consolidation units, and an instrumented settling tank.
- **QA/QC and Reporting:** After completing QA/QC on laboratory testing results, S&ME will deliver results and recommendations via a geotechnical data report.

S&ME, Inc. acknowledges receipt of the RFP document and Addenda, Reference Documents, and responses to inquiries posted on the project web site. We attest that all information submitted with this proposal is true and correct.

Thank you for this opportunity to submit our proposal for your consideration. We look forward to serving the project team and UL.

Sincerely,

**S&ME, Inc.**

A handwritten signature in blue ink that reads "Gregory A. Mattson, II".

Gregory A. Mattson, II, P.E.  
Project Engineer

A handwritten signature in blue ink that reads "Robert J. Werner".

Robert J. Werner, P.E.  
Principal Engineer

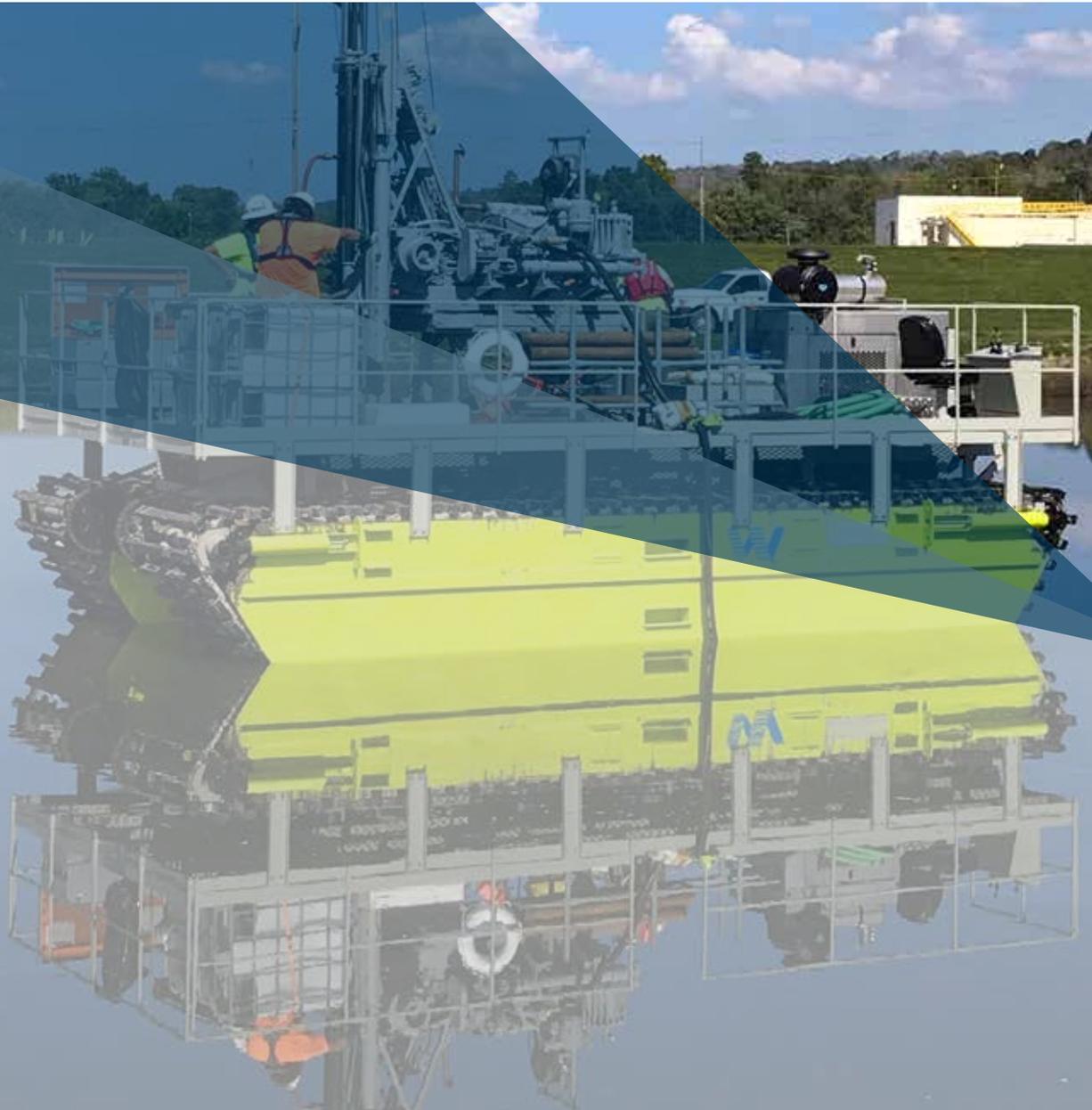
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# Organizational Background and Overview



# Organizational Background and Overview



## Firm Background

S&ME delivers planning, engineering design, environmental/natural resources, and construction services throughout the U.S. to a variety of federal, state, and local clients for multiple service lines. Founded in 1973, the firm has grown to a 1,100-employee corporation operating from 35 offices and accredited laboratories. S&ME is wholly owned by its employees who remain faithful to its core values of safety, quality, honesty and integrity. Located in Baton Rouge, Louisiana, our Gulf Coast program offers geotechnical exploration, testing, and engineering services with a focus on coastal and aquatic environments. We offer a wide range of services, but our experience and expertise in developing reliable geotechnical characterization data under challenging site conditions and critical schedule constraints are most applicable to meeting the needs of UL for the geotechnical investigation of University Lakes.

## Field Exploration Capabilities

S&ME has extensive experience working in soft soil conditions typically encountered in southern and coastal Louisiana. Unlike drilling and soil sampling in medium to stiff consistency deposits, it is very crucial to recover high-quality soil samples in very soft soil. Sample disturbance will alter the soil properties and will negatively affect geotechnical design. This is where S&ME provides real value on projects as our knowledge of soft soil behavior and local geologic conditions are key to interpreting data from field exploration, assigning laboratory testing, developing subsurface soil profiles, and selecting design parameters.

Our Baton Rouge operation has a field exploration program dedicated to soft soil sampling in aquatic environments. Our equipment fleet includes a handheld vibratory corer, which is a soil sampling device designed specifically for sampling soft soils in water up to 10 feet deep. This device is especially useful in obtaining cores of soft mud, "fluff", that is often found in marsh, swamp, and "silted in" water bodies. It is light enough to use from platforms such as airboats and small skiffs and can collect soil samples up to 6 feet in length with very little loss or disturbance of the sample. This method of sampling significantly reduces the time and cost of geotechnical sampling as compared to traditional drilling and sampling. S&ME has successfully deployed the vibratory corer on numerous marsh creation and mitigation projects and were able to obtain samples of very soft soils, low-density slurries, and highly organic soils.

S&ME has a dedicated fleet of equipment prepared to conduct geotechnical field explorations in marsh, shallow water, and other aquatic environments. As utilized for CPRA's New Orleans Landbridge marsh creation project in Orleans Parish, LA, our in-house direct push (Geoprobe™) equipment and electronic cone penetration test (CPT) equipment can also be mounted on an airboat or barge to complete CPT soundings in marsh areas. Additionally, S&ME has a tracked amphibious carrier-mounted drill rig, equipped for drilling as well as pushing CPTs, saving time and money on mobilization and equipment mounting. This amphibious carrier was recently utilized in Morgan City, LA for CPRA's Flat Lake Sediment Management Study.

For additional field exploration needs, S&ME teams with Specialized Environmental Resources, Inc. (SER) as a subconsultant. SER has a wealth of local knowledge and experience working in soft Louisiana soils, particularly in drilling in coastal and aquatic environments. S&ME has an extensive working relationship with SER, as is displayed in our key firm experience.

## S&ME Offices



# Organizational Background and Overview



## List of Field Equipment:

- Handheld Vibratory Corer
- CPT Rig
- ATV Drill Rigs
- Amphibious Drill Rig
- Trucks
- Garmin Handheld GPS
- Hand Auger
- Probe
- Pocket Penetrometer
- Torvane
- Mud Balance
- Dynamic Cone Penetrometer (DCP)



Hand Held Vibracore



S&ME Tracked Amphibious Carrier Mounted Drill Rig

## Geotechnical Testing Laboratory Capabilities

S&ME has a geotechnical laboratory in our Baton Rouge, Louisiana office that is AASHTO-certified for soil testing and is accredited by the Louisiana Department of Environmental Quality. Our Baton Rouge laboratory is operated by an experienced, full-time laboratory coordinator / manager (Justin Ator). Thirteen other S&ME laboratories in the U.S. hold accreditations through the AASHTO Accreditation Program and several hold current validations from the USACE. The pictures below show examples of some of the testing equipment in our Baton Rouge laboratory. In addition to the standard testing of soils, S&ME is setup to run low-stress consolidation and modified column setting tests in the Baton Rouge laboratory.



Soils Oven and Sieve Shakers



Testing Laboratory



Pneumatic Soil Extruder



Modified Settling Column

## List of Laboratory Equipment:

- 4 GeoJac Systems: Capable of running triaxial strength tests and low-stress consolidation tests
- 4 Conventional Consolidometers
- 3 Permeability Cells
- 6 Hydrometers
- Sieves and Shaker
- 2 Atterberg Liquid Limit Cups
- Furnace and Ovens
- Multiple Settling Columns
- Miniature Vane
- Instrumented Settling Tank
- 2 Specific Gravity Pycnometers



## Sample Quality

Sample disturbance adversely affects laboratory measurement of critical geotechnical properties, such as undrained shear strength and consolidation properties, which can lead to: (i) underestimated in-situ undrained shear strength; (ii) underestimated degrees of preconsolidation; and (iii) underestimated in-situ consolidation rates. Collectively, these effects can adversely affect the reliability of stability and settlement analyses, potentially leading to overly conservative designs. S&ME engineers, field personnel, and laboratory staff are all focused on the importance of minimizing sample disturbance. We use piston samplers and monitor drilling mud properties as recommended in the CPRA's Marsh Creation Design Guidelines, and only new thin-walled tubes are used to obtain very soft, sensitive clay samples. In the laboratory, we employ special de-bonding and manual extrusion techniques and our technicians and engineers are trained to identify signs of sample disturbance. All samples are assigned a sample quality designation based on magnitudes of recompression strains in one dimensional consolidation tests and  $\epsilon_{50}$  values from triaxial compression tests. These sample quality designations are considered in evaluation of laboratory data for selection of geotechnical properties, but more importantly, they provide a means to identify areas for sample quality improvement.



## Sediment Source Characterization Expertise

Geotechnical sediment property characterization is key to sizing placement areas for beneficial use of excavated and dredged materials. S&ME has considerable experience managing design services for beneficial use of dredged sediments and extensive experience planning and performing geotechnical investigations for riverine, shallow water body, inland, and offshore project sites. We have experience executing geotechnical sediment sampling in challenging conditions and preparing geotechnical reports based on sediment analyses results. Additionally, we are well versed in the analyses for end use of sediments such as marsh creation, shoreline stabilization, levee construction, and beach nourishment. S&ME is very well organized to perform stringent QA/QC on field and laboratory data, completing the geotechnical engineering analyses, and preparing geotechnical reports, as needed.

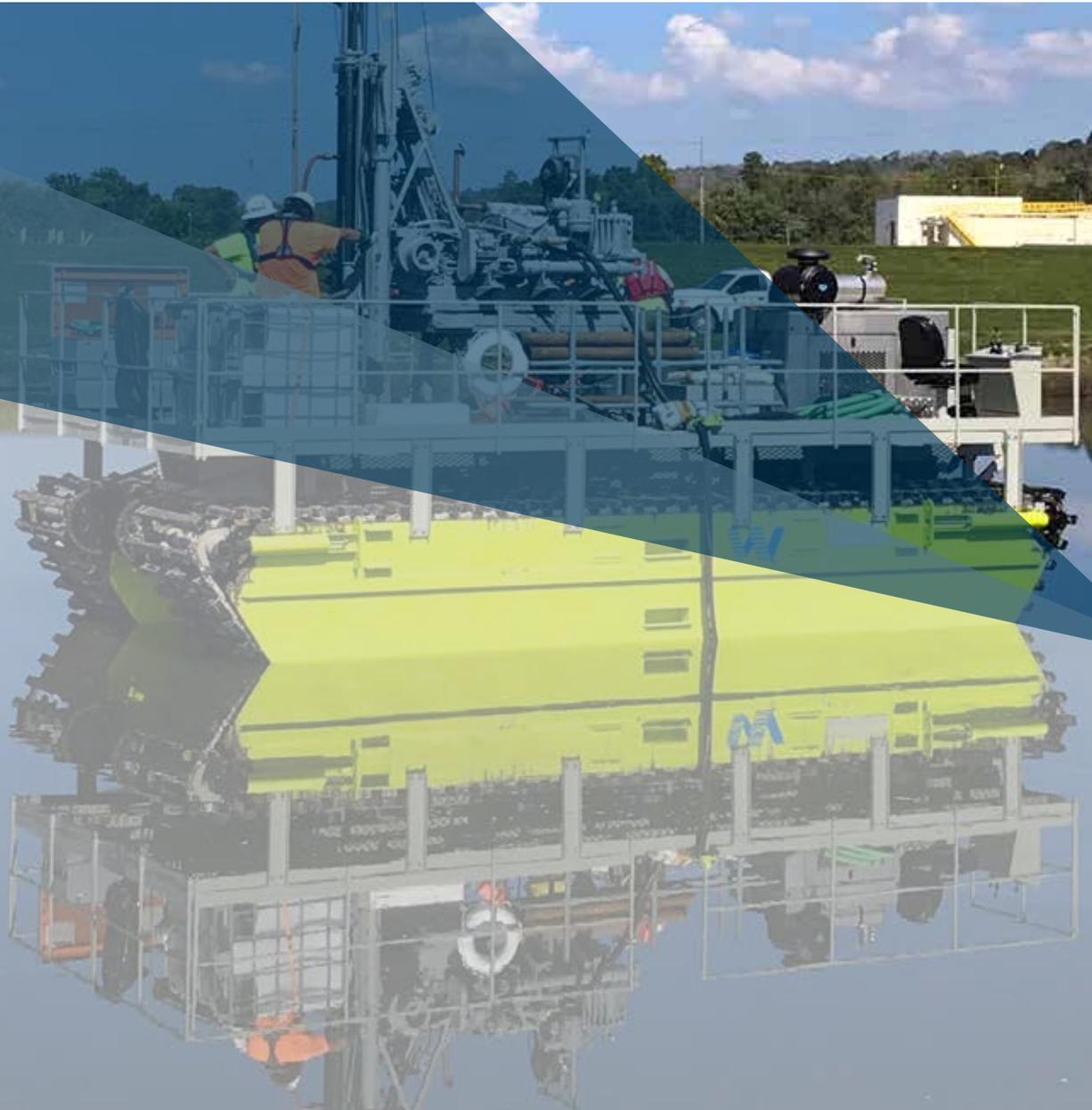


## Geotechnical Research and Advanced Testing Innovations

S&ME is always striving to improve current testing standards as well as develop new methods to better replicate construction conditions. Recently, the local Baton Rouge team has obtained considerable experience planning and implementing geotechnical instrumentation and monitoring programs, particularly programs designed for marsh creation projects using Instrumented Settlement Plates (ISPs). Testing devices such as the Instrumented Testing Tank (IST) and the modified settling column apparatus are two key pieces of equipment that allow for an innovative approach of analyzing construction and post-construction fill behavior. The IST is a large tank instrumented with total pressure cells and vibrating wire piezometers that allows for the pumping of a composited slurry and long term data observations. The addition of dewatering wells and heat lamps helps simulate the life-cycle of a typical marsh creation project as the hydraulically-placed fill dewateres through weir structures and ultimately dewateres through evaporation caused by solar and wind energy. Additionally, the modified column settling apparatus helps predict effective stress relationships within various concentrations and depths of marsh slurry.



# Project Understanding and Work Plan



# Project Understanding and Work Plan

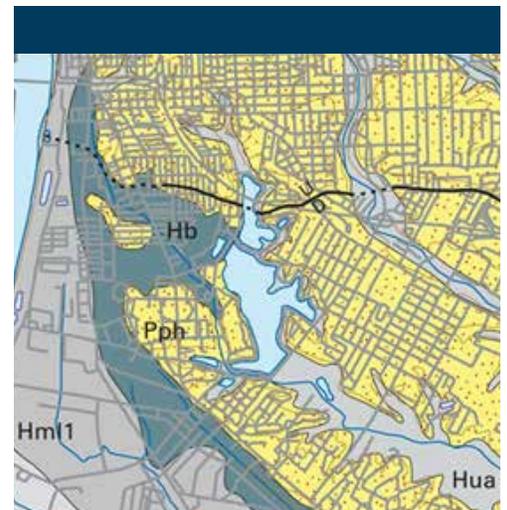


## Project Overview

The University Lakes have been a long-time centerpiece of the LSU and Baton Rouge communities. We understand it is paramount to restore and rejuvenate the lakes and the surrounding areas and are prepared to assist UL in accomplishing this important project. The plan to dredge the lakes will improve the health of the lake system and will provide the potential to beneficially use the material removed to establish new parks, walking paths, wetland habitat, beach areas, etc. For the future Master Designer Team to successfully design the project and achieve these goals, a proper geotechnical investigation centered around studying all potential sediment to be dredged and the placement of that material is required. For the proper placement of dredged material, proper containment design, shear strength, and consolidation properties are key. The stability and settlement of the containment are crucial for long term functioning of the placed material regardless of end use. We will model our field exploration and laboratory testing for the proper containment design, material placement, and dredged material properties. It is our plan to provide all the necessary geotechnical data needed to conduct the analyses and design of the material placement areas around the lakes, regardless of the planned material removal method (dredging or excavation) or end use. Our experience engineering solutions specific to the challenging issues encountered with soft soils in aquatic environments will allow an efficient, targeted approach to the University Lakes Project.

## Historical Data Desktop Review

To obtain a better understanding of the project's geology, we performed a desktop review of historical aerials, geologic maps, geotechnical data reports and the Baton Rouge Lakes Master Plan. Historical imagery showed a large concentration of cypress trees in the area prior to construction of the lakes in the 1930s, which account for the significant number of stumps present throughout the lakes today. The USGS geology map shows highly organic back swamp deposits in the area as well as abandoned stream deposits from the previous course of Bayou Duplantier, likely leading to highly variable soils across the site. The geotechnical testing results performed as part of the 2014 Baton Rouge Lakes Master Plan Data Report supports the high variability of soil properties throughout University Lake and City Park Lake. Calculated in-situ void ratios from the soil properties in the report have a broad range of 0.8 to 6.1 with an average of 2.81 within the top 5 feet. As such, when the soils are dredged or excavated, they will only further bulk as water and air is introduced through bucket or hydraulic dredging, indicating the need for placement areas with significant capacity. A 5-foot cut depth across the roughly 270 acres of lakes could equate to over 2 million cubic yards of material. It is also likely that it will take significant time for the soils to settle and consolidate in the placement area(s).



USGS Area Geology Map

## Field Exploration Program

The variability described above emphasizes the need for sufficient sampling throughout the footprint of all six lakes. Our plan is to mobilize a small craft vessel and use our handheld vibratory corer to obtain shallow, 3-inch soil samples up to 6 feet in length. The use of our handheld vibratory corer provides considerable efficiency when mobilizing between sampling locations, travelling between lakes, and when sampling. Due to the efficiency of this corer, we plan to collect 30 samples across all six lakes in a single day, weather permitting. This should provide an adequate number of data points to evaluate the lake subgrades, while accounting for material variability across City Park Lake and University Lake.

# Project Understanding and Work Plan



For the deeper soil borings at potential spoil placement sites, we have teamed with SER for field exploration support. SER will mobilize an airboat-mounted drill rig to drill and continuously sample 6 soil borings to a depth of 30 feet below the mudline within University Lake and City Park Lake. We anticipate this can be completed in two days, weather permitting. All field exploration efforts will be supervised by an S&ME geotechnical representative, who will document, package, and transport the soil samples to S&ME's geotechnical laboratory in Baton Rouge.

## Soil Boring Locations

Although the scope of work states that the lake bottom borings be allocated proportionally to the size of the six lakes, we plan to do a more in-depth review of the existing data that would allow selection of locations based upon variability of soil conditions throughout the lakes. Furthermore, we recommend a phased approach for the bathymetric and stump surveys and the geotechnical field investigation. Knowledge of the bathymetry and locations of the stumps throughout the lake prior to mobilization will help to further refine boring locations and would provide a more targeted data collection plan. Historical imagery and previous dredging events have shown a large number of stumps throughout the lakes. These could impact the ability to obtain soil samples.



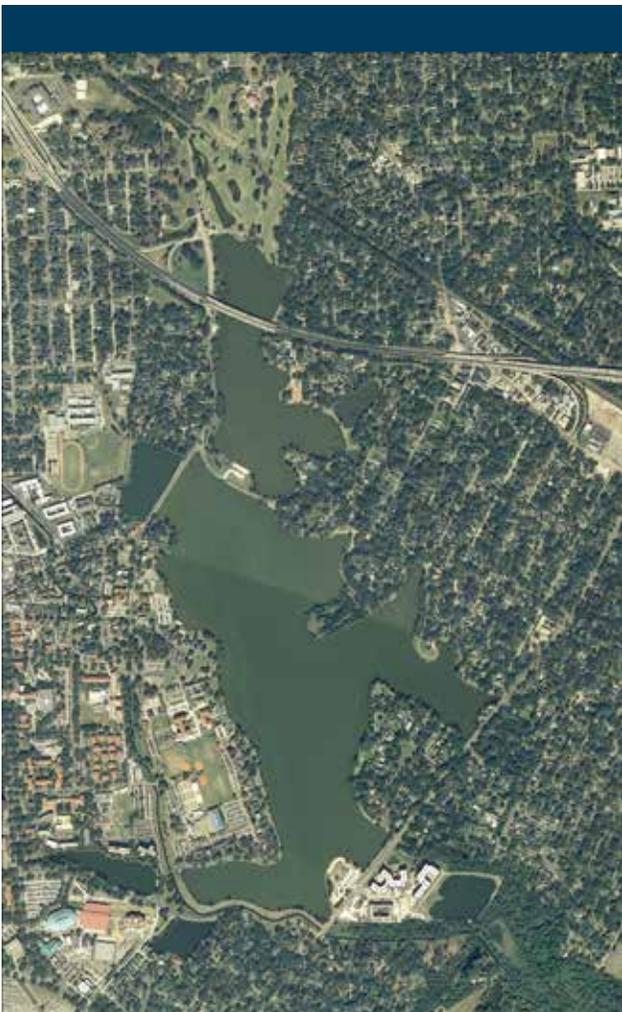
# Project Understanding and Work Plan



## Laboratory Testing

The following laboratory testing would be conducted on select samples for both the lake bottom edge borings:

- Standard classification of soils in general accordance with ASTM International (ASTM) D2488;
- Unit weight determination (ASTM D7263);
- Moisture content determination (ASTM D2216);
- Atterberg limits determination (ASTM D4318); and
- Compressive strength determination (ASTM D2166/D2850);
- Specific gravity of soils (ASTM D854);
- Particle-size analysis of soils by Hydrometer (ASTM D422);
- Organic matter of peat and other soils (ASTM D2974);
- One-dimensional consolidation of soil (ASTM D2435);
- Modified column settling test (USACE EM 1110-2-5026); and
- Low stress consolidation.



Aerial Photo 2008

## Firm Backlog

S&ME has expert engineering and laboratory staff capable of efficiently completing the scope of work. We currently hold a Geotechnical Engineering IDIQ contract with CPRA and routinely complete multi-hundred thousand-dollar projects. We are accustomed to strict deadlines and submission requirements.

## Project Implementation Plan and Schedule

Our professionals working in Louisiana have more than 35 years of marsh creation design and performance monitoring experience and our drilling subcontractors have over 30 years of experience drilling coastal Louisiana and in particular aquatic environments.

S&ME believes that with our analyses of the previous geotechnical data, the use of our specialized equipment, and our experience with similar projects, we can provide pertinent geotechnical data for project design to the project advisory team at an efficient schedule.

Available on the following pages are an organizational chart and a project implementation plan that summarizes our proposed approach and schedule for this project.

# Organizational Chart



 S&ME, Inc.

 Subconsultant

\*Licensed in State other than LA

Kyle Murrell, P.E.\* (SC,TX)  
**Senior Reviewer**

Gregory Mattson II P.E.  
**Project Engineer/Task Manager**

**Field Investigations**

**Laboratory**

**Reporting**

Craig Randazzo  
Scotty Maturin  
**Drilling (SER)**

Ryan Williamson, E.I.  
**Shallow Sampling**

Justin Ator, CET  
**Laboratory Manager**

Robert Werner, P.E.  
Ryan Williamson, E.I.  
**Geotechnical Data Review & Reporting**

Charlotte Peterson  
Monique Ator  
**Laboratory Technicians**



## Project Initiation (NTP)

### Planning and Coordination (2 weeks)

- Permits – **S&ME/Project Advisor**
- Review of bathymetric and stump survey – **S&ME/Master Design Team**
- Finalizing boring locations – **S&ME/Master Design Team**
- LA One-Call – **S&ME**
- Landowner notification– **S&ME/Project Advisor**
- Job hazard analysis and safety plan – **S&ME**

### Geotechnical Field Investigation (1 week)

- Specialized lake bottom sediment sampling – **S&ME/SER**
- Spoil placement areas drilling and sampling – **S&ME/SER**
- Drilling oversight and sample logging/preservation/transportation – **S&ME**
- Field logs, daily field reports– **S&ME**

### Laboratory Testing (2 weeks)

- Extrude and visually classify samples – **S&ME**
- Assign testing – **S&ME**
- Standard geotechnical testing – **S&ME**
- Settling column test and low-stress consolidation test – **S&ME**
- Laboratory testing QA/QC – **S&ME**

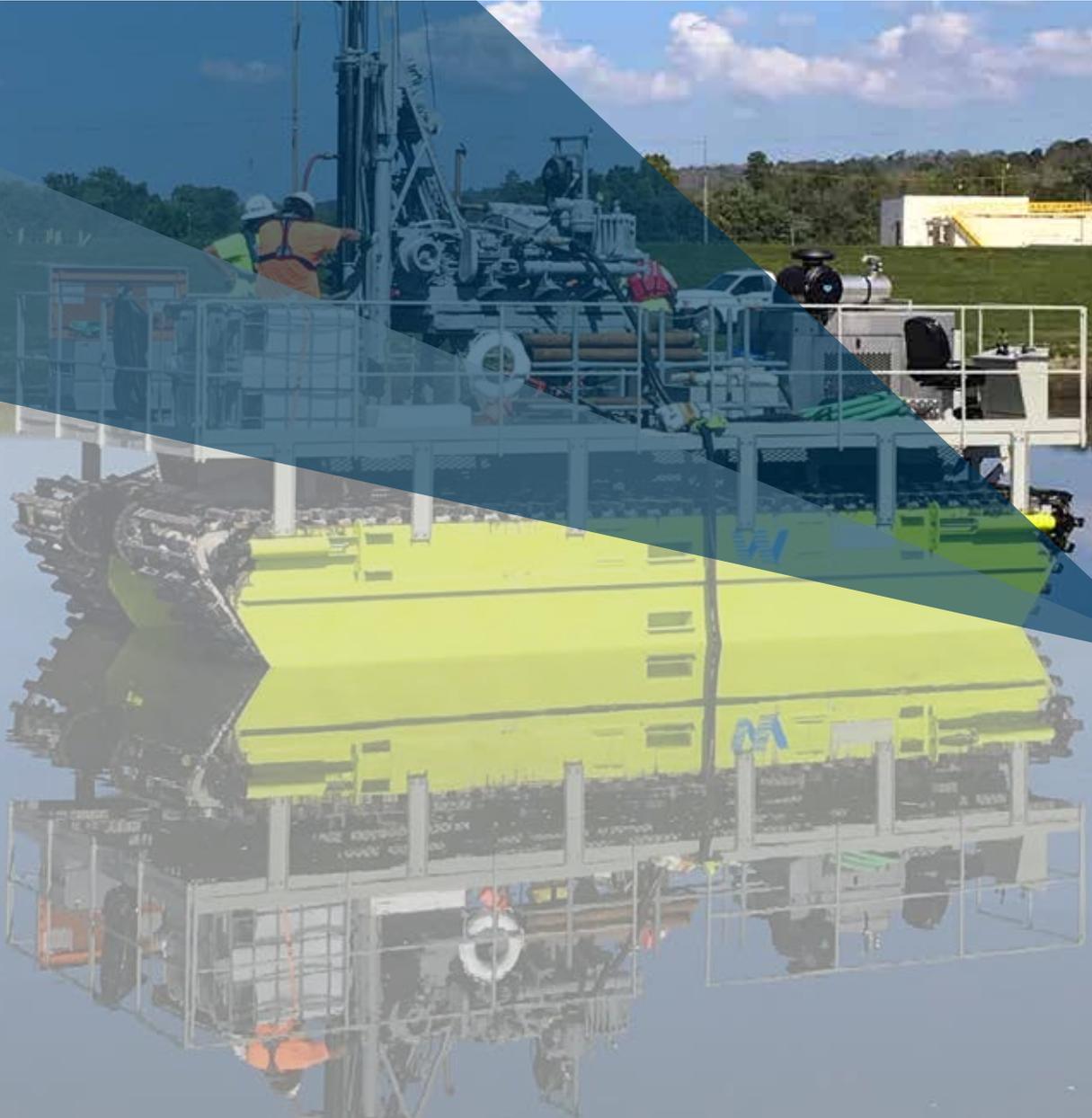
### Data Reporting (2 weeks)\*

- Prepare soil boring logs – **S&ME**
- Develop data plots and subsurface profiles – **S&ME**
- Draft geotechnical data report– **S&ME**
- Data Report comments- **Project Advisors**
- Final geotechnical data report– **S&ME**

\* Pending Project Advisor Comments



# Firm and Key Staff Experience





## PROJECT RELEVANCE

Geotechnical Investigation and Lab Testing

## LOCATION

St. Martin Parish, LA

## STAFF INVOLVED

- Robert Werner
- Gregory Mattson II
- Ryan Williamson
- Melissa Murphy
- Justin Ator
- Kyle Murrell

## FIRM RESPONSIBILITY

Sub to Duplantis Design Group (DDG)

## PROJECT OWNER & MANAGER

CPRA  
Justin Merrifield  
150 Terrace Avenue  
Baton Rouge, LA 70802  
(225) 342-4629  
[justin.merrifield@la.gov](mailto:justin.merrifield@la.gov)

## COMPLETION DATE

Ongoing

## PROJECT COST

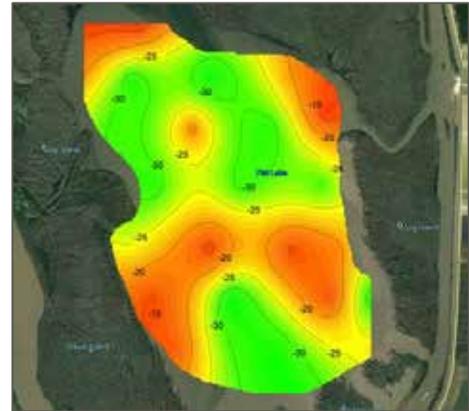
S&ME: \$211,000

## Flat Lake Sediment Management Study

### St. Martin Parish, Louisiana

The proposed project area of Flat Lake is approximately 2,600 acres of tidally influenced open water. Sedimentation of the lake has occurred gradually, leading to the loss of aquatic habitat and a less healthy Atchafalaya Basin ecosystem.

Additionally, nautical access has been limited due to shallow water depth. The proposed project involves the characterization of sediment that will potentially be dredged for beneficial use in future nearby projects. S&ME was tasked with implementing a geotechnical field investigation along with associated lab testing to determine if the project site is suitable as a borrow source for the beneficial use of dredged material.



S&ME's field exploration program included a total of 25 soil borings completed to a depth of 30 feet below the mudline. The soil borings were performed from S&ME's amphibious drill rig which includes a Mobile B-29 drill rig mounted to a marsh buggy carrier. Soil sampling was performed continuously with S&ME's Gregory Undisturbed Sampler (GUS), which is a hydraulically driven piston sampler used to obtain undisturbed samples in soft, cohesive or semi-cohesive soil conditions. The borings were performed over open water with water depths varying from 2.8 feet to 8.7 feet at the time of exploration.

Laboratory testing for the project included moisture content determination, unit weight determination, Atterberg limits, triaxial testing, gradation, consolidation, organic content, minivane testing, and column settling tests. Based on lab results,



sediment end use classifications and quantities were assigned to the materials for the use in future projects.



## PROJECT RELEVANCE

Geotechnical Investigation,  
Lab Testing, and Analyses

## LOCATION

Cameron Parish, LA

## STAFF INVOLVED

- Robert Werner
- Gregory Mattson II
- Ryan Williamson
- Justin Ator
- Kyle Murrell

## FIRM RESPONSIBILITY

Prime

## PROJECT OWNER & MANAGER

Confidential

## COMPLETION DATE

Fall 2019

## PROJECT DESIGN COST

S&ME: \$225,000

## Multiple Projects Involving Beneficial Use of Dredged Material from Calcasieu Pass Cameron, Parish, Louisiana



A confidential owner is planning to dredge along Calcasieu Pass for the construction of a marine docking berth with the dredged spoils to be beneficially used for marsh creation.

Over the course of several years, and multiple projects and clients, S&ME has completed 28 soil borings in Calcasieu Pass and within two nearby marsh creation/restoration areas. Soil borings were performed by SER under the supervision of a S&ME engineer. Multiple drilling platforms were utilized for field exploration including an amphibious tracked platform, a pontoon platform and an ATV platform. Soil samples were transported back to Baton Rouge where samples were tested.

Laboratory testing for the project included moisture content determination, unit weight determination, Atterberg limits, triaxial testing, gradation, and consolidation tests.

Geotechnical analyses for this project included a geological desktop study, slope stability analysis for the earthen containment dikes (ECDs), bearing capacity analyses for the ECDs, settlement analyses for the ECDs and the marsh subgrade, and marsh fill analyses. Additional analyses were completed to characterize borrow area properties to identify potential mitigation end uses.



## PROJECT RELEVANCE

Geotechnical Investigation, Lab Testing, and Analyses

## LOCATION

Orleans Parish, LA

## STAFF INVOLVED

- Ryan Williamson
- Justin Ator
- Kyle Murrell

## FIRM RESPONSIBILITY

Sub to Providence Engineering and Environmental Group

## PROJECT OWNER & MANAGER

CPRA  
 Micaela Coner, PMP  
 150 Terrace Avenue  
 Baton Rouge, LA 70802  
 (225) 342-1952  
[micaela.coner@la.gov](mailto:micaela.coner@la.gov)

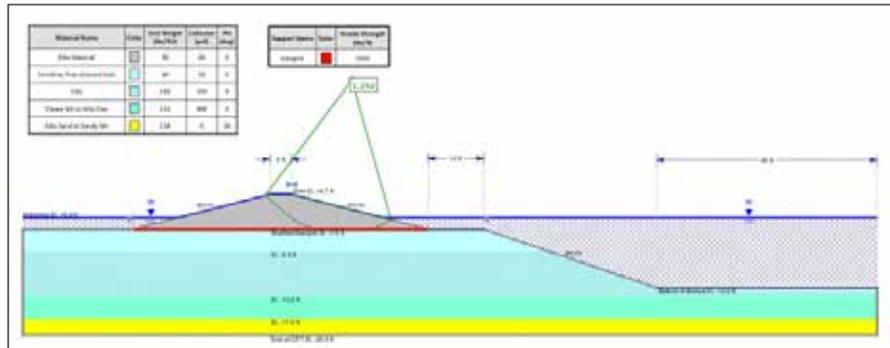
## COMPLETION DATE

Fall 2018

## PROJECT DESIGN COST

S&ME: \$310,000

## New Orleans Landbridge Shoreline Stabilization and Marsh Creation Project Orleans Parish, Louisiana



The goal of the New Orleans Landbridge Shoreline Stabilization and Marsh Creation project is to restore and reinforce marsh habitat along the eastern shore of Lake Pontchartrain and along the northern and western shores of Lake Saint Catherine. Borrow material will be dredged from areas within Lake St. Catherine and Lake Pontchartrain to create 169 acres and nourish 109 acres of brackish marsh. Containment dikes will be constructed around four marsh creation areas to hold sediments during dredging. Bank lines will also be reinforced by creating or extending earthen berms to increase protection from waves. After constructing the marsh areas, vegetative plantings are planned for the marsh areas and shoreline protection berms.

S&ME's field exploration program included drilling and soil sampling at 8 locations in the marsh creation areas with depths varying from 30 to 50 feet below existing mudline, and at 7 locations in the proposed borrow areas to a depth of 20 feet below existing mudline. Borings were performed by SER under the supervision of an S&ME engineer from a drill rig mounted on an amphibious tracked platform. In addition to the soil borings, S&ME completed CPT soundings at 20 locations in the marsh creation areas using S&ME's VERTEK CPT cone pushed using GeoProbe direct push equipment and data collection software. S&ME worked to complete laboratory testing for the project and performed thorough QA/QC of the laboratory testing results. S&ME performed an independent low-stress consolidation test at our own expense in conjunction with the QA/QC process.

Laboratory testing for the project included moisture content determination, unit weight determination, Atterberg limits, triaxial testing, gradation, consolidation, organic content, specific gravity, and settling column testing.

Geotechnical analyses for this project included a geological desktop study; slope stability analysis for the earthen containment dikes and rock breakwaters; bearing capacity analyses for the ECDs and rock breakwaters; settlement analyses for the ECDs, rock breakwaters, and the marsh subgrade; and marsh fill analyses.



## PROJECT RELEVANCE

Geotechnical Investigation, Lab Testing, and Analyses

## LOCATION

Jefferson County, TX

## STAFF INVOLVED

- Robert Werner
- Gregory Mattson II
- Ryan Williamson
- Melissa Murphy
- Justin Ator
- Kyle Murrell

## FIRM RESPONSIBILITY

Sub to T. Baker Smith

## PROJECT OWNER & MANAGER

Confidential

## COMPLETION DATE

Spring 2020

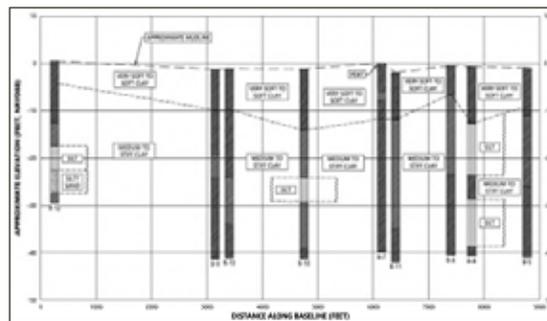
## PROJECT DESIGN COST

Total: \$  
S&ME: \$475,000

## Mitigation Plan for Port Arthur Liquefaction Project Jefferson County, Texas

The project owner is preparing a compensatory mitigation plan for the unavoidable impacts to 769.1 acres of wetlands associated with construction of the Port Arthur Liquefaction Project in Port Arthur, Texas. The proposed project will beneficially use approximately 6.1 million cubic yards of dredged material for the restoration

of approximately 1268.8 acres of tidally influenced coastal marsh. The material will be hydraulically dredged from the project site along the Port Arthur Ship Channel and pumped to the JD Murphree Wildlife Management Area, where it will be placed into 3 separate marsh creation areas.

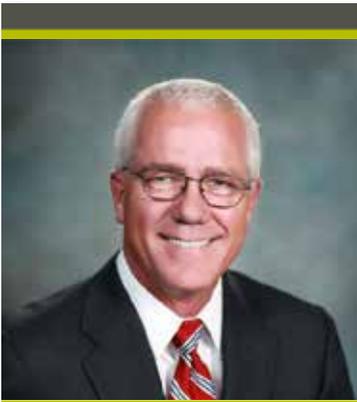


S&ME's field exploration program included a total of 25 soil borings and 33 Cone Penetration Test (CPT) sounding locations. Five borings were completed on land in the proposed borrow site to a depth of 55 feet below ground surface. Another 20 soil borings were completed over shallow water in the MCA footprints to a depth of 40 feet below the mudline. CPT soundings were completed at thirty-three 33 locations around the perimeter of each of the MCAs to depths varying from 17 to 33 feet below the mudline. Soil borings were performed by SER and supervised by an S&ME engineer from a drill rig mounted on an amphibious tracked carrier.

Laboratory testing for the project included moisture content determination, unit weight determination, Atterberg limits, triaxial testing, gradation, consolidation, organic content, and minivane testing.

Geotechnical analyses for this project included a geological desktop study, slope stability analysis for the earthen containment dikes (ECDs), bearing capacity analyses for the ECDs, settlement analyses for the ECDs and the marsh subgrade, and marsh fill analyses.





## PROJECT ROLE

Principal Engineer

## LOCATION

Orlando, FL  
Baton Rouge, LA

## EDUCATION

- MS Geotechnical Engineering, Massachusetts Institute of Technology, 1990
- BS Civil Engineering, University of Cincinnati, 1988

## YEARS OF EXPERIENCE

Joined S&ME in 2019 with 28 years of experience

## REGISTRATIONS

- FL, PE #50675
- LA, PE #36633

## PROFESSIONAL MEMBERSHIPS

- Florida Engineering Society (FES)
- American Society of Civil Engineers (ASCE)
- Geotechnical and Materials Engineers Council (GMEC)

## Robert J. Werner, PE

### Principal Engineer

Rob is a Principal Engineer with more than 28 years of geotechnical investigation, design, construction and performance monitoring experience. He has served as a geotechnical and geo-environmental consultant to clients throughout the southeastern U.S. and in countries abroad, including Mexico, Venezuela, Brazil, Spain, India, South Africa and Korea. His specific expertise includes design and construction of tailings dams, levees, flood control structures and industrial infrastructure on soft, compressible foundation soils. He has led teams of geotechnical professionals in the areas of coastal restoration, industrial solid waste management, groundwater protection, regulatory compliance, industrial facility expansions and closures, and transportation infrastructure.

### Key Projects and Assignments

#### CPRA Flat Lake Sediment Management Study

St. Martin Parish, LA | 2020-ongoing

Principal Geotechnical Engineer in charge of technical data quality assurance and senior review of the geotechnical report. The proposed project area of Flat Lake is approximately 2,600 acres. Sedimentation of the lake has occurred gradually, leading to the loss of aquatic habitat and a less healthy Atchafalaya Basin ecosystem. Additionally, nautical access has been limited due to shallow water depth. The proposed project involves the characterization of sediment that will potentially be dredged for beneficial use in future nearby projects. S&ME was tasked with implementing a geotechnical field investigation along with associated lab testing to determine if the project site is suitable as a borrow source for the beneficial use of dredged material.

#### CPRA Bayou La Loutre Ridge Restoration and Marsh Creation

St. Bernard Parish, LA | 2019-2020

Principal Geotechnical Engineer in charge of technical data quality assurance, oversight of analyses, and senior review of the geotechnical engineering report. This Project will restore approximately 5.46 miles of forested ridge along Bayou La Loutre using soils borrowed from the adjacent bayou. Additionally, hydraulically dredged material from Lake Borgne will be used to create approximately 163 acres of marsh and nourish another approximately 258 acres along Lena Lagoon. S&ME was tasked with conducting a field exploration plan, lab testing, geotechnical analyses, and writing a geotechnical engineering data and engineering reports.



## **Calcasieu Ship Channel Salinity Control Measures Planning & Feasibility Phase (CS-65)**

**Cameron & Calcasieu Parishes, Louisiana | 2018**

Lead Geotechnical Engineer for the 15% conceptual design phase of this CPRA project aimed to limit saltwater intrusion and reduce land loss across various bayous, marshes, and lakes within the vicinity of the Calcasieu Ship Channel. Stretching across 20 miles, the project consists of various sill structures, erosion control measures, and channelization structures. The 15% design focused on the southern five features including the Lake Wall along the east side of the Calcasieu Ship Channel and sill structures at West Pass, East Pass and Joe's Cut.

## **CPRA Oyster Bayou Marsh Restoration (CS-59)**

**Cameron Parish, Louisiana | 2012-2019**

Oversaw geotechnical field exploration, laboratory testing, and geotechnical design analyses for 600 acres of saline marsh creation and nourishment by hydraulically dredging soils from the Gulf of Mexico. The project also included design of approximately 17,500 feet of earthen terraces for storm surge protection. The marsh creation area will be contained by earthen dikes and vegetated with wetland grasses to accelerate plant colonization, stabilize the new sediment, and improve habitat.

## **CPRA Cole's Bayou Marsh Restoration (TV-63)**

**Vermillion Parish, Louisiana | 2013-2019**

Oversaw geotechnical field exploration, laboratory testing, and geotechnical design analyses for 418 acres of marsh creation and nourishment by hydraulically dredging soils from Vermillion Bay. The marsh creation area will be contained by earthen dikes and vegetated with wetland grasses to accelerate plant colonization, stabilize the new sediment, and improve habitat.

## **40 Arpent & Maxent Levee Certification**

**Orleans & St. Bernard Parishes, Louisiana | 2017**

Engineer of Record for FEMA certification of the 22-mile long 40 Arpent Levee. The project involved extensive geotechnical field and laboratory investigations, selection of design properties, and a comprehensive series of seepage and stability analyses. Also served as Internal Technical Review Lead for the Maxent Levee Certification (5 miles of levee) where the team reviewed the geotechnical design report with approval authority over all field and laboratory data evaluation, site characterization, seepage and stability analyses and recommendations.

## **South Wastewater Treatment Plant**

**Baton Rouge, Louisiana | 2016**

As Principal Geotechnical Engineer, supervised field exploration, laboratory testing and stability analyses for the effluent pipeline installation across the Mississippi River Levee. Performed a series of analyses to demonstrate that adequate slope stability factors of safety were maintained throughout the phased construction plan and top provide the basis for minimum mat dimensions and riverbank offset distances. Results of the evaluation were used by the City-Parish and their contractors to obtain the required construction permit from the USACE.



## PROJECT ROLE

Project Engineer/  
Geotechnical Task  
Manager

## LOCATION

Baton Rouge, LA

## EDUCATION

- MS, Civil and Environmental Engineering, 2014
- BS, Civil and Environmental Engineering, 2012

## YEARS OF EXPERIENCE

6 years of experience

## REGISTRATIONS

- PE, #0042397, 2018

## PROFESSIONAL ORGANIZATION/ MEMBERSHIPS

- ASCE
- COPRI

## AWARDS

- 2019 ASCE Baton Rouge Branch Outstanding Young Civil Engineer

## RESEARCH

- Column settling and hydraulic fill behavior.

## Gregory A. Mattson, II, P.E.

### Project Engineer / Office Principal

Mr. Mattson is a Project Engineer and Office Principal for S&ME's Baton Rouge office. He is very knowledgeable in the areas of coastal and geotechnical engineering. With nearly five years of experience with marsh creation design prior to working for S&ME, he is proficient in project planning, analyzing project data, performing and overseeing design analyses, preparing construction permit applications, reviewing contract documents, and developing construction cost estimates. Mr. Mattson is highly skilled in slope stability analyses, modeling the behavior of hydraulically placed fill, and planning and executing geotechnical instrumentation and monitoring programs.

### Key Projects and Assignments

#### Louisiana CPRA, Caminada Headland Back Barrier Marsh Creation Lafourche and Jefferson Parishes, Louisiana | 2019-Ongoing

Project Engineer. This project involves the creation or nourishment of 1,061 acres of back barrier marsh using hydraulically dredged and placed material from a borrow area approximately 1.5 miles offshore in the Gulf of Mexico. The fill areas will be fully confined with ECDs along the west, north, and east sides, and to the south by the newly constructed Caminada beach and dune projects (BA-45 and BA-143). S&ME will install geotechnical instrumentation to monitor the construction of the earthen containment dikes and behavior of the placed hydraulic fill. Mr. Mattson will lead the installation of the instrumentation and monitoring of the geotechnical data.

#### Louisiana CPRA, Bayou La Loutre Ridge Restoration and Marsh Creation

St. Bernard Parish, Louisiana | 2019-2020

Project Engineer. The project will create approximately 5.46 miles of forested ridge along Bayou La Loutre from bucket dredging the bayou. Additional dredged material from Lake Borgne will create approximately 421 acres of marsh created/nourished along Lena Lagoon. S&ME conducted geotechnical field exploration, laboratory testing programs, and performed engineering analysis of the proposed marsh creation/nourishment area north of Bayou La Loutre. The soil borings ranged in depth from 20 to 65 feet. Mr. Mattson was responsible for reviewing the geotechnical investigation data report and worked with CPRA to finalize the geotechnical engineering report.

#### Louisiana CPRA, Hydrologic Restoration and Vegetative Planting in the Des Allemands Swamp (BA-34-2)

St. James Parish, Louisiana | 2015-2018

Project Engineer. This hydrologic restoration project in St. James Parish benefitted nearly 2,400 acres. Mr. Mattson reviewed hydraulic and hydrological modeling, managed all design phases, delivered design-phase presentations to federal



agencies and other stakeholders, created construction specifications for all project features, and prepared construction permit applications for submittal to USACE.

## **Louisiana CPRA, Lost Lake Marsh Creation and Hydraulic Restoration St. Bernard Parish, Louisiana | 2014-2018**

Engineer on project team. The project created or restored approximately 700 acres of marsh, constructed terraces to help dampen wave energy impacts on surrounding shorelines, and included five water control structures to help manage hydraulic activity around the project area. Mr. Mattson's primary role was to install and monitor geotechnical instrumentation (piezometers and pressure cells) throughout the marsh creation areas. He was the lead member on the team that developed the geotechnical instrumentation program to monitor slurry placement that is currently being used on numerous CPRA projects. He also assisted in the preparation of multiple change orders for the addition and subtraction of work increasing benefit acreage by 200 acres.

## **Louisiana CPRA Study, Morganza to the Gulf (TE-164) Terrebonne Parish, Louisiana | 2018-2019**

Engineer on Project Team. Mr. Mattson was responsible for evaluating cone penetrometer test (CPT) sounding data, developing geotechnical site characterizations and applying these to slope stability analyses that he performed to re-evaluate requirements and recommendations for constructing the next lift for maintenance of the existing levee system. The CPT sounding data and results of geotechnical laboratory testing of samples obtained from soil borings taken prior to construction of the preceding lift were analyzed and used to predict consolidation settlement and corresponding gains in undrained shear strength of the foundations clay soils. A series of CPT soundings were then performed to verify the predicted shear strength gains and verify the second lift recommendations. This application of stated construction and observational method enabled successful reduction in levee footprint, and avoided the need for additional right-of-way acquisition, ultimately resulting in substantial project cost savings.

## **Confidential Client, Mitigation Plan for Port Arthur Liquefaction Project**

**Port Arthur, Texas | 2019-2020**

Project Engineer. Our client is preparing a compensatory mitigation plan for the unavoidable impacts to 769.1 acres of wetlands associated with construction of the Port Arthur Liquefaction Project in Port Arthur, Texas. The client proposes to beneficially use approximately 2.4 million cubic yards of dredged material for the restoration of 1268.8 acres of tidally influenced coastal marsh. The dredged material will be placed within an area known as the Pintail Flats. S&ME conducted the geotechnical field exploration, laboratory testing, and geotechnical analyses for the design of the earthen containment dikes and hydraulically placed fill. Mr. Mattson was responsible for oversight of the field exploration, review of laboratory data and assembling the geotechnical engineering report and addendum.



## PROJECT ROLE

Geotechnical Staff  
Professional

## LOCATION

Baton Rouge, LA

## EDUCATION

BS, Civil Engineering, 2017,  
Clemson University

## YEARS OF EXPERIENCE

- 3 years with S&ME
- 1 year of underwater bridge inspection experience (co-op)
- 4 months of marine construction experience (internship)

## REGISTRATIONS

- EI (LA #33623)
- Remote Pilot - Small Unmanned Aircraft System [sUAS] (FAA #4393130)
- Traffic Control Supervisor (ATSSA - LA state specific)

## PROFESSIONAL ORGANIZATIONS/ MEMBERSHIPS

- ASCE
- COPRI

## Ryan A. Williamson, EI

Mr. Williamson is a driven young engineer with a passion for learning. A strong work ethic and flexibility are his two strongest attributes, he learns and adapts quickly to situations in the office and out in the field. He continues to build on his Civil Engineering education and prior co-op and internship experience in order to further develop as an engineer to better serve the client. He has experience conducting geotechnical field investigations on land, over water, and in marsh; performing laboratory tests on soil samples; and is proficient in the following programs: Microsoft Office (including Project), AutoCAD, SLIDE, Settle3D, gINT, PSDDF and CWALSHT. Outside of work, he enjoys running, travelling, backpacking, and volunteering as a mentor with Big Buddy.

## Key Projects and Assignments

### State of Louisiana, CPRA

#### Geotechnical Investigation and Lab Testing Flat Lake Sediment Management Study

St. Martin Parish, LA | 2020-ongoing

The proposed project area of Flat Lake is approximately 2,600 acres. Sedimentation of the lake has occurred gradually, leading to the loss of aquatic habitat and a less healthy Atchafalaya Basin ecosystem. Additionally, nautical access has been limited due to shallow water depth. The proposed project involves the characterization of sediment that will potentially be dredged for beneficial use in future nearby projects. S&ME was tasked with implementing a geotechnical field investigation along with associated lab testing to determine if the project site is suitable as a borrow source for the beneficial use of dredged material. Mr. Williamson coordinated, logged, and oversaw the field exploration; performed a geological desktop study; completed permit drawings; assisted with QA/QC of laboratory data; and wrote a draft geotechnical data report.

### Confidential Client

#### Geotechnical Investigation, Lab Testing, and Analysis Mitigation Marsh for Port Arthur LNG

Port Arthur, TX | 2019-2020

This project involves the construction of a new container ship berth, which requires new marsh to be constructed for mitigation purposes. Some of the material removed for the new berth will be piped to a nearby site where existing marsh is deteriorating. Five soil borings were completed in the proposed berth (borrow) area, 32 CPTs were completed in the proposed marsh creation site and an additional 20 borings were completed in the marsh creation site. S&ME was tasked with conducting a field exploration plan, lab testing, geotechnical analyses, and writing a geotechnical engineering report (GER). Mr. Williamson assisted with field work coordination, oversaw drilling and CPT exploration, logged soil samples, conducted QA/QC on lab results, generated CAD drawings, performed slope stability, bearing capacity and settlement analyses, and assisted writing and assembling the GER.



**Weeks Marine**  
**Geotechnical Investigation and Analysis**  
**Beneficial use of Dredged Material for Marsh Creation**  
**Cameron, LA | 2019**

Weeks Marine is planning to dredge along Calcasieu Pass for the construction of a new marine docking berth for a confidential client. The dredge spoils will be pumped north to nourish marsh south of Calcasieu Lake. The scope included 12 soil borings to be performed to a depth of 55 feet. Additionally, Weeks requested S&ME drill two borings to 25 feet for a proposed jack-and-bore for the dredge material pipeline to cross under Marshall Street in Cameron. Lastly, due to the pumping distance, Weeks requested S&ME drill 2 borings to 40 feet for two booster pumps to be placed along the dredged material pipeline alignment. S&ME was tasked with conducting a field exploration plan, lab testing, geotechnical analyses, and writing a geotechnical exploration reports for each phase of the project. Mr. Williamson assisted with field work coordination, oversaw drilling, logged soil samples, conducted QA/QC on lab results, generated CAD drawings, performed bearing capacity and settlement analyses, and assisted writing and assembling the geotechnical exploration reports.

**State of Louisiana, CPRA**  
**Geotechnical Investigation and Analysis**  
**Bayou La Loutre Ridge Restoration and Marsh Creation (PO-178)**  
**St. Bernard Parish, LA | 2019-2020**

This Project will restore approximately 5.46 miles of forested ridge along Bayou La Loutre using soils borrowed from the adjacent bayou. Additionally, hydraulically dredged material from Lake Borgne will be used to create approximately 163 acres of marsh and nourish another approximately 258 acres along Lena Lagoon. S&ME was tasked with conducting a field exploration plan, lab testing, geotechnical analyses, and writing a geotechnical engineering report (GER). Mr. Williamson assisted with field work coordination, oversaw drilling, logged soil samples, conducted QA/QC on lab results, generated CAD drawings, performed slope stability, bearing capacity and settlement analyses, sheetpile analyses, and assisted writing and assembling the GER.

**State of Louisiana, CPRA**  
**Geotechnical Investigation and Analysis**  
**New Orleans Landbridge Shoreline Stabilization & Marsh Creation**  
**Orleans Parish, LA | 2017 - 2018**

The scope of this project included the drilling, analysis and presentation of data for the creation of 169 acres of marshland and the implementation of shoreline protection along the shores of Lake St. Catherine and Lake Pontchartrain. S&ME was tasked with conducting a field exploration plan, lab testing, geotechnical analyses, and writing a geotechnical engineering report (GER). Mr. Williamson generated CAD drawings, performed slope stability, bearing capacity and settlement analyses, evaluated shoreline protection, and assisted writing and assembling the GER.



## **Kyle L. Murrell, PE** **Senior Engineer - Project Manager** **(Geotechnical Area Manager)**

Mr. Murrell is a Senior Engineer, Project Manager, and Area Manager for Geotechnical Services in the Gulf Coast. He is skilled in the following disciplines: Subsurface Investigations; Deep Foundation Testing (PDA, CSL, PIT, and Wave Equation Analysis); Foundation Design, Analyses, and Installation; Installation and Monitoring of Geotechnical Instrumentation in Soft Ground Conditions; Construction QA Project Management; Pavement Investigation and Design; Vibration Monitoring.

### **PROJECT ROLE**

Project Manager/Senior Engineer

### **LOCATION**

Mt. Pleasant, South Carolina

### **EDUCATION**

- BS, Civil Engineering, 2004, Louisiana State University

### **YEARS OF EXPERIENCE**

Joined S&ME in 2005

### **REGISTRATIONS**

- PE, SC #27412
- PE, TX #121462

### **CERTIFICATIONS**

- Advanced Level on Dynamic Measurement and Analysis Proficiency Test

### **AWARDS**

- S&ME John R. Browning Young Professional of the Year 2011

## **Key Projects and Assignments**

### **State of Louisiana, CPRA** **Geotechnical Investigation and Lab Testing** **Flat Lake Sediment Management Study** **St. Martin Parish, Louisiana | 2020-ongoing**

Senior engineer responsible for report review and data QA/QC. The proposed project area of Flat Lake is approximately 2,600 acres. Sedimentation of the lake has occurred gradually, leading to the loss of aquatic habitat and a less healthy Atchafalaya Basin ecosystem. Additionally, nautical access has been limited due to shallow water depth. The proposed project involves the characterization of sediment that will potentially be dredged for beneficial use in future nearby projects. S&ME was tasked with implementing a geotechnical field investigation along with associated lab testing to determine if the project site is suitable as a borrow source for the beneficial use of dredged material.

### **Confidential Client** **Geotechnical Investigation, Lab Testing, and Analysis** **Mitigation Marsh for Port Arthur LNG** **Port Arthur, Texas | 2019-2020**

Senior engineer responsible for report review and data QA/QC. This project involves the construction of a new container ship berth, which requires new marsh to be constructed for mitigation purposes. Some of the material removed for the new berth will be piped to a nearby site where existing marsh is deteriorating. Five soil borings were completed in the proposed berth (borrow) area, 32 CPTs were completed in the proposed marsh creation site and an additional 20 borings were completed in the marsh creation site. S&ME was tasked with conducting a field exploration plan, lab testing, geotechnical analyses, and writing a geotechnical engineering report (GER).



## PROJECT ROLE

Laboratory Manager

## LOCATION

Baton Rouge, Louisiana

## EDUCATION

- High School Graduate

## YEARS OF EXPERIENCE

Joined S&ME in 2018 with 10 years of experience

## CERTIFICATIONS

- Nuclear Gauge Safety Training
- DOTD Hazmat Certification
- Forklift Operator Certified
- NICET Geotechnical Level II: Laboratory (139594)
- NICET Geotechnical Level I: Exploration (139594)

## Justin Ator

### Senior Engineering Technician/Laboratory Coordinator

Mr. Ator is the Laboratory Manager in S&ME's Baton Rouge, Louisiana facility. He has completed testing for a wide array of projects including numerous beneficial uses of dredged material studies, coastal restoration and protection projects, energy sector projects, transportation projects, and industrial projects. He is well versed with agency requirements for completing soil testing, including USACE requirements. He has worked in high stress environments and has handled testing from multiple projects efficiently, within budget and ahead of schedule. He has considerable experience performing soil testing on soft samples obtained in coastal Texas and Louisiana.

Mr. Ator maintained the Baton Rouge laboratory's Quality Manuals including Standard Operating Procedures, Calibration Records, and Training Records. The lab is validated by AASHTO-AMRL. Mr. Ator regularly maintains and updates the laboratory's quality system documentation and is responsible for ensuring that laboratory technicians are fully trained to adhere to that system.

### Key Projects and Assignments

#### Baton Rouge Area Foundation

##### Baton Rouge Lakes Master Plan 2014

Baton Rouge, Louisiana | 2014

As part of the University Lakes Master Plan data collection effort, Mr. Ator supervised geotechnical drilling, logged soil samples, and performed lab testing on 12 soil borings performed across University and City Park Lakes. The soil laboratory testing included including USCS classification, moisture content, Atterberg limits, percent fines determination, and hydrometer analysis.

#### State of Louisiana, CPRA

##### Geotechnical Investigation and Lab Testing Flat Lake Sediment Management Study

St. Martin Parish, LA | 2020-ongoing

The proposed project area of Flat Lake is approximately 2,600 acres. Sedimentation of the lake has occurred gradually, leading to the loss of aquatic habitat and a less healthy Atchafalaya Basin ecosystem. Additionally, nautical access has been limited due to shallow water depth. The proposed project involves the characterization of sediment that will potentially be dredged for beneficial use in future nearby projects. S&ME was tasked with implementing a geotechnical field investigation along with associated lab testing to determine if the project site is suitable as a borrow source for the beneficial use of dredged material. Mr. Ator coordinated, performed, and oversaw the laboratory testing program.



## Specialized Environmental Resources, Inc. Firm Experience

Specialized Environmental Resources, Inc. (SER) operates and rents a fleet of outboard crew, work and airboats for the purpose of near coastal and inland oilfield service and supply throughout the United States. As a geotechnical, environmental and seismic drilling company, SER specializes in logistically difficult areas such as transition zones in and near coastal areas, shallow lakes and bays, marshlands and swamps. We also provide marsh buggy and lift boat rentals to assist with oil spill or emergency response, coastal restoration, dredging and pipeline right-of-way clearing. We have the unique ability to fabricate, alter and modify our specialized equipment to fit any job requirement.

As displayed in S&ME's firm experience section, SER routinely works with S&ME on coastal projects as a subcontractor drilling as well as providing equipment.

SER has also recently worked within the Baton Rouge University Lakes. In 2019 we worked as a subcontractor to APS Engineering and Testing for a Louisiana DOTD project. We drilled 10 borings to a depth of 100 feet below the mudline within City Park Lake.



# Firm and Key Staff Experience



## Specialized Environmental Resources, Inc. Personnel Resumes

Name	<b>Craig Randazzo</b>	Years of experience with this firm/employer	<b>4</b>
Title	<b>Chief Executive Officer</b>	Years of experience with other firm(s)/employer(s)	<b>22</b>
Contract role(s) / brief description of responsibilities		<b>Project Manager</b>	
Years	Experience and qualifications		
2016 - present	<p>Mr. Randazzo is CEO of SER and has 26 combined years of experience managing the shop and field crews for his previous employer, Omni Energy Services (now Gibson Energy). He was in charge of the division that handled geophysical drilling surveys, which is comparable to SER's current scope of work with identical equipment. He has been CEO of SER for 4 years and has since supervised many land, marsh, and offshore geotechnical drilling projects, including the following projects as a subcontractor to S&amp;ME:</p> <ul style="list-style-type: none"> <li>▪ New Orleans Landbridge Shoreline Stabilization and Marsh Creation (PO-169)</li> <li>▪ Bayou La Loutre Ridge Restoration and Marsh Creation (PO-178)</li> <li>▪ N. Lake Mechant Landbridge Restoration (TE-44)</li> <li>▪ Mitigation Plan for Sabine Pass</li> <li>▪ Mitigation Plan for Port Arthur</li> <li>▪ Beneficial Use of Dredged Material in Cameron Parish</li> <li>▪ Chemin Metairie Parkway and Detente Road Roundabout</li> <li>▪ Bayou Long Recreation Station</li> </ul>		



## Specialized Environmental Resources, Inc. Personnel Resumes

Name	<b>Scotty Maturin</b>		Years of experience with this firm/employer	<b>4</b>
Title	<b>Driller – Crew Chief</b>		Years of experience with other firm(s)/employer(s)	<b>0</b>
Contract role(s) / brief description of responsibilities		<b>Geotechnical Driller – Crew Chief</b>		
Years	Experience and qualifications			
2019	<b>I-10 - City Park Lake – Baton Rouge, LA (Subconsultant to APS Engineering and Testing for DOTD).</b> Mr. Maturin and his crew completed ten soil borings with Shelby tube sampling to a depth of 100 feet using a rotary drill rig mounted on a pontoon barge. The crew assisted with sample handling and transport from the soil boring locations back to the access landing.			
2019	<b>Bayou La Loutre Ridge Restoration and Marsh Creation Project (PO-178), St. Bernard Parish, LA (CPRA, as Subconsultant to S&amp;ME, Inc.).</b> Mr. Maturin completed 9 soil borings with continuous Shelby tube sampling to a depth of 20 feet within the proposed borrow area using a rotary drill rig mounted to a jack-up barge. Drilling and sampling were performed under the direction of S&ME’s field engineer. The crew assisted with sample handling and transport from the boring locations back to the access landing.			
2019	<b>Mitigation Plan for Port Arthur Project, Confidential Client, Port Arthur, TX (as Subconsultant to S&amp;ME, Inc.).</b> Mr. Maturin operated SER’s cone penetration test (CPT) rig from an airboat-mounted push system to complete a total of 32 CPT soundings to depths ranging from 25 to 35 feet along proposed earthen containment dike alignments of three candidate mitigation marsh creation areas. The work was performed in cooperation with S&ME’s field engineer and using their cone penetrometer and data acquisition system.			
2019	<b>Beneficial Use Dredged Material, Confidential Client, Cameron, LA (as Subconsultant to S&amp;ME, Inc.).</b> Mr. Maturin and his crew completed 12 soil borings with Shelby tube sampling to a depth of 55 feet below the mudline using a rotary drill rig mounted on a pontoon barge. Samples were obtained continuously from the mudline to a depth of 10 feet, and at 5-foot depth intervals thereafter. The work was performed under the direction of S&ME’s field engineer.			