# Jefferson Parish Professional Services Questionnaire
# Resolution No. 144205
# SOQ NO. 24-020
# Coastal Engineering Consulting Services
# on an as-needed basis for Miscellaneous Projects
# July 16, 2024

MSMM
ENGINEERING, LLC

# TEC Professional Services Questionnaire

**A. Project Name and Advertisement Resolution Number:**

Coastal Engineering Consulting Services on an as-needed basis for Miscellaneous Projects – SOQ NO. 24-020; Resolution No. 144205

**B. Firm Name & Address where Project work will be performed:**

MSMM ENGINEERING, LLC

4508 Clearview Parkway, Suite C
Metairie, Louisiana 70006

**C. Name, title & contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the state of Louisiana:**

Manish Mardia, P.E., President
mmardia@msmmeng.com
(504) 559-1897

**D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.**

Manish Mardia, P.E., President
mmardia@msmmeng.com
(504) 559-1897

**E. Please provide the number of employees whose primary function corresponds with each category:**

| | | | | | |
|---|---|---|---|---|---|
| 4 | Administrative | 1 | Estimators | 1 | Specification Writers |
| 1 | Architects (Licensed) | | Geologists | 2 | Structural Engineers |
| | Chemical Engineers | | Geotechnical Engineers | | Graduate Engineers |
| 7 | Civil Engineers | | Interior Designers | 6 | Project Managers |
| 3 | Construction Inspectors | 1 | Landscape Architects | | Clerical |
| | Ecologists | | Land Surveyor | | Grant/Funding Specialist |
| 1 | Electrical Engineers | 1 | Mechanical Engineers | | Sanitary Engineers |
| | Engineer Intern | 2 | Environmental Engineers | 1 | Administrative/Accounting |
| | Professional Land Surveyors | 3 | CAD Draftsman | 34 | **TOTAL** |
| | Environmental Scientist | | Transportation Engineer | | |

**F. Is this submittal by a JOINT-VENTURE? Please check:**

**YES ☐ NO [X]**

**If marked "No" skip to Section I. If marked "Yes" complete Sections G-H.**

## TEC Professional Services Questionnaire

**G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific area of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.**

**1. Not Applicable**

**2.**

**H. Has this JOINT-VENTURE previously worked together? Please check:**
**YES ☐ NO X**

**I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.**

| Name & Address: | Specialty | Worked with Firm Before (Yes or No): |
|---|---|---|
| **1. Coast & Harbor Engineering, Inc.**<br><br>**PO Box 202737**<br>**Austin, TX 78720** | Coastal Engineering | Yes |
| **2. Gulf South Engineering and Testing, Inc.**<br><br>**15 Veterans Memorial Boulevard**<br>**Kenner LA 70062** | Geotechnical Engineering | Yes |
| **3. BFM Corporation, LLC**<br><br>**15 Veterans Memorial Boulevard**<br>**Kenner LA 70062** | Surveying | Yes |

**J. Please specify the total number of support personnel that may assist in the completion of this Project:**

25

**TEC Professional Services Questionnaire**

| **PROFESSIONAL IN CHARGE OF PROJECT:** |
|---|
| **Name & Title:** |
| **Mark Wingate, P.E.**<br>Executive Vice President |
| **Project Assignment:** |
| Program Manager |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 1 (2024) |
| **Education: Degree(s)/Year/Specialization:** |
| BS in Civil Engineering, 1989, University of New Orleans |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 2001<br>Discipline: Civil State: Louisiana License No.: 29419 |
| **Other experiences and qualifications relevant to the proposed Project:** |

Mark R. Wingate, P.E., serves as the Executive Vice President at MSMM Engineering, LLC. Mr. Wingate brings over three decades of USACE civil works experience to MSMM, comprising an impressive history in executive-level management experience for delivering flood risk management, hurricane and storm damage risk reduction, navigation, and environmental and coastal restoration/sustainability projects. He served for nearly 31-years with USACE, New Orleans District, which culminated with serving as the Lead Civilian (Deputy District Engineer for Programs and Project Management (DPM)) for nearly 9-years at the New Orleans District. Along the way, he also served in an acting capacity as the MS Valley Division Regional Business Director (SES position), Deputy Advisor on Infrastructure to the Executive Office of the President (EOP), and Chief of the Projects and Restoration Branch in the New Orleans District. Mr. Wingate received the inaugural R. King Milling Distinguished Coastal Service Award from the State of LA in December 2023.

***USACE – Delivery of the 14.6B Hurricane and Storm Risk Reduction System (HSDRRS)***

As DPM for USACE, New Orleans (MVN), Mr. Wingate was responsible for the completion and the delivery of the ~$14.6B Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS), a 130-mile-long perimeter system of levees, flood walls, pump stations, navigation gates, and other structures as well as environmental mitigation to reduce flood risk to SE LA. Coordinated closely with the State of LA, CODEL, landowners, levee districts, NGOs, and other key stakeholders to deliver this USACE-World Class System. Coordinated with MVD and Higher Authority on project issues and associated resolutions.

Role: DPM/Program Manager

## PROFESSIONAL IN CHARGE OF PROJECT:

**Name & Title:**

**Mark Wingate, P.E.**
Executive Vice President

***USACE – New Orleans Branch Chief – Project Management***

During his time at USACE, Mr. Wingate was responsible for delivering USACE Civil Works projects in the areas of Flood Risk Management, Ecosystem Restoration, and Navigation. Areas of responsibility included project delivery under RESTORE Act and Lower MS River Diversions, LA Coastal Area (LCA) Ecosystem Restoration, Mississippi River and Tributaries (MR&T), Continuing Authorities Program (CAP), Flood Plain Management Services (FPMS) and Planning Assistance to States (PAS). Coordinated closely with USACE HQ and Division, State and Federal Agencies, NGOs, Parishes, Municipalities, Tribal Nations, and project Stakeholders throughout Southern LA.

Role: Program Manager/Branch Chief

***USACE - West Shore Lake Pontchartrain (WSLP) – FRM Construction Project***

As MVN DPM, Mr. Mingate oversaw and ensured the advancement of the USACE-WSLP project for St. Charles and St. John Parishes to deliver an 18-mile risk reduction system including earthen levees, T-walls, pump stations and control structures iaw with the feasibility and Chief's report. Also drove advancement of small-scale non-structural solutions including various alignments of ring levees with pumps, access points, etc. for St. James Parish. Successfully secured unplanned funds and initiated a USACE General Reevaluation Report (GRR) to consider resiliency features.

Role: DPM/Program Manager

**TEC Professional Services Questionnaire**

| **PROFESSIONAL IN CHARGE OF PROJECT:** |
|---|
| **Name & Title:** |
| **Manish Mardia, P.E.**<br>President |
| **Project Assignment:** |
| Quality Control Manager |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 13 (2011) |
| **Education: Degree(s)/Year/Specialization:** |
| M.S. in Civil Engineering, 1994, Louisiana State University<br>B.S. in Civil Engineering, 1990, University of Jodhpur |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 1999<br>Discipline: Environmental State: Louisiana License No.: 28482<br>*Also registered in Mississippi (18522)* |
| **Other experiences and qualifications relevant to the proposed Project:** |

Manish Mardia is a registered professional civil and environmental engineer and is the President of MSMM Engineering, LLC. He is an experienced engineering manager and principal with over thirty years of experience in managing and designing public works projects. His experience includes environmental assessments, NEPA documentation, planning, design, and construction management for roadway, water, wastewater, and solid waste systems for industry and government, design, construction and management of industrial and municipal wastewater treatment facilities, landfill gas collection and control systems, study and management of infiltration and inflow of stormwater into public wastewater collection systems.

Mr. Mardia has worked *on more than **200 projects for various departments of Jefferson Parish.*** These projects were successfully completed on time and schedule. Project types include Streets and Roadway design; water line replacement design, Environmental Permitting; Hydraulic Modeling; Infiltration and Inflow; Water Treatment and Collection; Wastewater Collection, Distribution, and Treatment; and Landfill Design and Permitting.

***Lake Mechant Landbridge Restoration, Terrebonne Parish, LA***

MSMM was tasked by the Coastal Protection & Restoration Authority (CPRA) of Louisiana to perform all engineering services associated with the restoration of a sheet pile plug that was damaged in Terrebonne Parish during Hurricane Isaac in 2012. Steel Sheet pile Plug #2 was severely damaged, with a large portion of the 280' long structure leaning over in the center, and since the original collapse, the condition of the sheet pile has deteriorated and become a boating hazard. The plug was initially installed as part of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) of Louisiana to serve as a barrier to saltwater intrusion in

order to improve the marsh behind the structure for environmental restoration habitat and for the multiple lines of defense theory for hurricane protection. The sheet pile plug crosses an access canal between Lake Pagie and Lake Mechant. The original plug was constructed using PDA-27 Grade 42 steel sheet pile sections to an elevation of 4 feet NAVD88. The sheet pile was installed to a maximum depth of -23.0 feet NAVD88. The plug is 282 feet long with earthen wingwalls construction at both ends to an elevation of 5 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Role: Mr. Mardia oversaw the delivery of the project and provided QA/QC during the internal and USACE review process.

***Texas City I-Wall to T-Wall Conversion, Texas City, TX***

MSMM was tasked by the USACE Galveston District to complete engineering design services for the replacement of a portion of an I-wall to a T-wall within a chemical refinery in Texas City, Texas. The design consists of replacing the I-wall with a T-wall, replacing a vehicular access gate, as well as pedestrian access points through the wall. The major design features designed by our team included the concrete floodwall and foundation, and the structural steel swing gate. The floodwall design included pile foundation design due to lateral loading and the soil conditions at the project site. Detailed geotechnical investigation, analysis and design was completed and a report documenting the subsurface conditions plaguing the site was developed. Geotechnical investigations included subsurface soil conditions, groundwater conditions, site and subgrade preparation, deep foundation design and construction, axial capacity for piles, lateral pile analysis, seepage analysis, global stability analysis and seismic site classifications per IBC.

Role: Mr. Mardia oversaw the delivery of the project and provided QA/QC during the internal and USACE review process.

***Cow Bayou Drainage Pump Station, Galveston, TX***

The design of the Cow Bayou Pump Station was a joint effort between USACE New Orleans District, Galveston District, and MSMM. Our team completed 35% design of the 8,190 CFS pump station as part of the Sabine to Galveston Cow Bayou Complex project. This project includes levee tie-ins, floodwalls, sluice gate structures and a sector gate for navigational traffic. The pump station consists of five 1,365 CFS horizontal, vacuum primed pumps with 126-inch suction side and 115-inch discharge side formed concrete intakes; and three 455 CFS vertical self-priming pumps with 84-inch discharge piping.

Our team designed permanent project structures associated with the pump station including the horizontal and vertical pump intakes and discharge structures, engine and pump support slabs, pump station building, pump station safe house, fuel tank foundation/containment, water tank foundation, west access bridge, exterior semi-gantry and overhead bridge crane supports, and protective dolphins. The pump station and safe house were designed utilizing STAAD software.

Role: Mr. Mardia oversaw the delivery of the project and provided QA/QC during the internal and USACE review process.

## PROFESSIONAL IN CHARGE OF PROJECT:

**Name & Title:**

**Manish Mardia, P.E.**
President

***MRGO Ecosystem Restoration Plan-Feasibility Study, New Orleans, LA***

The MRGO Ecosystem Restoration Plan was developed by the U.S. Army Corps of Engineers as a supplement to the MRGO Deep-Draft Deauthorization Report to Congress. The comprehensive ecosystem restoration plan aimed to restore and conserve estuarine habitat areas affected by the MRGO navigation channel. The MRGO Ecosystem Restoration Feasibility Study encompassed a study area of approximately 3.84 million acres (6,023 square miles) including project features in multiple Louisiana parishes as well as coastal Mississippi. Multiple project features were evaluated including marsh and swamp restoration, shoreline protection, ridge restoration and a freshwater diversion. The Corps of Engineers has recommended a federally identified plan which would restore over 57,000 acres of important coastal habitat for a cost of approximately $3B. Multiple elements of the MRGO plan have been identified for early restoration through the RESTORE ACT and NRDA processes.

Role: Mr. Mardia managed staff embedded in USACE New Orleans District leading staff to develop project alternatives and produce the entirety of the Feasibility Study on schedule.

***West Bay Sediment Diversion- Project Management, New Orleans, LA***

The West Bay Sediment Diversion was constructed in 2003 as a means to restore marshes along the lower Mississippi River. The objective of the project is to restore vegetated wetlands in an area that was formerly shallow open water. The targeted wetland goal was to create/nourish approximately 10,000 acres of fresh to intermediate marsh in the West Bay area over the 20-year project life. The diversion consists of a conveyance channel for the large-scale diversion of sediments from the river. The dredging aspect of the project is a result of shoaling from the diversion in the Pilottown Anchorage Area. The USACE operations and maintenance dredging program for the river, covers the main Mississippi channel but does not cover anchorage areas. MSMM project management staff were responsible for the dredging phase of the project constructed. In total, the construction project pumped 2.9 million cubic yards of material to create 3 islands. MSMM staff were responsible for managing the initial surveying operation, coordinating with the MRC and Mississippi River users groups, the pilots association, CPRA and the CWPPRA task force. This project element was deemed as success by all parties, as the islands constructed served as sediment “speed-bumps” for water entering the receiving area via the diversion opening. The islands helped served their intended purpose by slowing down the water enough to drop the sediment composition, thus leading to the accumulation of material and eventually land in the front portion of the receiving area.

Role: Mr. Mardia managed the staff responsible for the project management. Mr. Mardia provided oversight and professional expertise to the project team.

**TEC Professional Services Questionnaire**

| KEY PERSON: |
|---|
| **Name & Title:** |
| **Jim Wilson, P.E., LEED® AP**<br>Vice-President |
| **Project Assignment:** |
| Civil Engineer/Engineering Manager |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 10 (2014) |
| **Education: Degree(s)/Year/Specialization:** |
| B.S. in Civil Engineering, 1988, Michigan Technological University |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 1993<br>Discipline: Civil State: Louisiana License No.: 35456<br>*Also registered in Michigan (38800), Texas (128376), and Florida (85114)* |
| **Other experiences and qualifications relevant to the proposed Project:** |

Mr. Wilson is a senior civil/coastal engineer with over 25 years of experience in the public sector, successfully designing and managing coastal, drainage, sewerage, roadway, waterlines, and site development projects in multiple jurisdictions of Louisiana and Michigan. Mr. Wilson is the civil engineering manager at MSMM, where he is responsible for the direct design and oversight of civil design, including water line design and water meter replacement design across South Louisiana.

***Lake Mechant Landbridge Restoration, Terrebonne Parish, LA***

MSMM was tasked by the Coastal Protection & Restoration Authority (CPRA) of Louisiana to perform all engineering services associated with the restoration of a sheet pile plug that was damaged in Terrebonne Parish during Hurricane Isaac in 2012. Steel Sheet pile Plug #2 was severely damaged, with a large portion of the 280' long structure leaning over in the center, and since the original collapse, the condition of the sheet pile has deteriorated and become a boating hazard. The plug was initially installed as part of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) of Louisiana to serve as a barrier to saltwater intrusion in order to improve the marsh behind the structure for environmental restoration habitat and for the multiple lines of defense theory for hurricane protection. The sheet pile plug crosses an access canal between Lake Pagie and Lake Mechant. The original plug was constructed using PDA-27 Grade 42 steel sheet pile sections to an elevation of 4 feet NAVD88. The sheet pile was installed to a maximum depth of -23.0 feet NAVD88. The plug is 282 feet long with earthen wingwalls construction at both ends to an elevation of 5 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Role: Mr. Wilson was MSMM's lead design engineer on the project.

## KEY PERSON:

**Name & Title:**

**Jim Wilson, P.E., LEED® AP**

Vice-President

***River Road Aquatic Ecosystem Restoration CAP Section 206, San Antonio, TX***

The aquatic ecosystem restoration project involves the design of pool/riffle/run features; restoration of the riparian habitat in Davis park; removal of low water crossings (LWC) 1, 2, and 3; and the demolition of Avenue A to be replaced by an Americans with Disabilities Act (ADA) pedestrian and small vehicular path lined with native soil and mature vegetation. Design will also include recreational elements such as pedestrian bridges, asphalt paths, access gates, bird watching platforms, signage, and trash receptacles. MSMM's responsibilities will include 100% Design Bid Build (DBB) RFP; Geotechnical Investigation; Topographic Survey; H&H Analysis; Value Engineering Study; Cost Estimate/Current Working Estimate; Construction Schedule; and a Storm Water Pollution Prevention Plan (SWPPP).

Role: Mr. Wilson was MSMM's lead design engineer on the project.

***Westside Creek Restoration Project, San Antonio, TX***

This USACE project was awarded by the Fort Worth District. The project focuses on ecosystem restoration and recreation for four tributaries along the western side of the San Antonio River mainstem: Alazan Creek, Apache Creek, Martinez Creek, and San Pedro Creek (referred to collectively as the Westside Creeks (WSC)). The purpose of this project is to restore the Riverine Ecosystem that has been severely degraded due to construction and continued maintenance, and to identify recreation opportunities compatible with the ecosystem restoration objectives. Two of our priorities while working towards these goals are to provide a habitat for migratory birds along their central flyway route as well as to provide concrete trails and additional recreational features. Recreational Amenities will include interpretive and wayfinding signs, shade structures, benches, water fountains, picnic tables, and trash receptacles.

Role: Mr. Wilson is the lead design engineer for MSMM's responsibilities on the project.

***Woodlake Drainage Pump Station with Green Infrastructure Design, Kenner, LA***

The existing drainage system at Woodland Estates and Seton Park consisted of an enclosed gravity storm sewer system that outlet at various locations in the canals. This drainage system was creating a backflow water condition, causing repeated flooding in the area. MSMM completed a drainage evaluation report that evaluated options for removing backflow conditions in the area.

MSMM is currently in the process of designing a 120 CFS pump station located in Seton Park as well as a below ground retention feature within Seton Park to capture peak flows. The retention area within the park will consist of a below ground HDPE piping network covering a roughly 75x300 ft. area fed by an overflow junction box. The pump station will be fed from a 60" drain pipe on St. Elizabeth Drive. The two 60" diameter pipes crossing Platt Street and Joe Yenni Blvd to discharge into Canal 7 and 17 will be interconnected to feed the intake of the pump station. Both 60" pipes will be fitted with flapper type gates so that low flows or flows exceeding the pump station capacity could bypass into the canal. The pump station will utilize three pumps and a single 48" force main to discharge the storm water over the West Return Wall. The force main will be approximately 1,200 linear feet and discharge the storm water over the West Return Canal Levee Wall and into the West Return Canal (part of the Lake Pontchartrain drainage system).

Role: Mr. Wilson was the Engineer of Record on the project.

**TEC Professional Services Questionnaire**

| **SPECIALIST:** |
|---|
| **Name & Title:** |
| **Scott Chehardy, P.E.** |
| **Project Assignment:** |
| Civil Engineer |
| **Name of Firm with which associated:** |
| MSMM ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 9 (2015) |
| **Education: Degree(s)/Year/Specialization:** |
| B.S. in Civil Engineering, 1994, University of Southwestern LA |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 1998<br>Discipline: Civil State: Louisiana License No.: 28532<br>*Also registered in Indiana (11700829)* |
| **Other experiences and qualifications relevant to the proposed Project:** |

Mr. Chehardy has nearly three decades of civil design and hydraulic evaluation experience in Louisiana's coastal Parishes. He has successfully designed streets, levees and floodwalls, pump stations and force mains, and canals and box culverts. His design and assessment experience spans levee and floodwall, roadway, water, sewer and drainage infrastructure elements. He started his career designing roadways along bayous in south Louisiana and was responsible for designing one of the most successful roadway projects in the history of Jefferson Parish. He also has recent experience designing levee access roads and developing new roadway for USACE projects. Mr. Chehardy's responsibilities have included project management, design, permitting, and quality control. He is currently Vice President of MSMM and serves as Engineer of Record on many projects produced by MSMM.

***Cow Bayou Drainage Pump Station Complex, Orange, TX***

The preliminary design phase was a joint engineering effort between USACE New Orleans District, Galveston District, and MSMM. MSMM's design responsibilities included roadway design, structural design, architectural design, civil site work, geotechnical evaluation and design, cost estimating, CAD drafting, and project management. MSMM was an integrated design team with New Orleans District, who provided mechanical and electrical design, while MSMM coordinated this mechanical and electrical design with the civil, structural, and geotechnical engineering design.

Project features being designed by MSMM include roadway, dolphin structures, a pump station safe house, a fuel farm, and access roads. MSMM designed the project in MicroStation 3D and Civil 3D, also utilizing Revit BIM 3D modeling and CIM modeling for the facilities. MSMM engineers also designed permanent project structures associated with the pump station, including the horizontal and vertical pump intake and discharge

| SPECIALIST: |
| --- |
| **Name & Title:** |
| **Scott Chehardy, P.E.** |

structures, engine and pump support slabs, fuel tank foundation/containment, water tank foundation, west access bridge, and exterior semi-gantry and overhead bridge crane supports. The pump station and two-story safe house were designed utilizing STAAD software. MSMM's civil engineers provided the wastewater treatment facility design, layout of the entry roadways and parking lots, and the site grading and utility layout in compliance with UFC-201-01.

Role: Mr. Chehardy managed the Civil, Structural, and Architectural aspects of the project, while USACE led the Electrical and Mechanical aspects. He developed the civil/site work design, developed the utility documentation, prepared the detailed plans and specifications, and coordinated the development of the DDR.

***Texas City I-Wall to T-Wall Conversion, Texas City, TX***

MSMM was tasked by the USACE Galveston District to complete engineering design services for the replacement of a portion of an I-wall to a T-wall within a chemical refinery in Texas City, Texas. The design consists of replacing the I-wall with a T-wall, replacing a vehicular access gate, as well as pedestrian access points through the wall. The major design features designed by our team included the concrete floodwall and foundation, and the structural steel swing gate. The floodwall design included pile foundation design due to lateral loading and the soil conditions at the project site. Detailed geotechnical investigation, analysis and design was completed and a report documenting the subsurface conditions plaguing the site was developed. Geotechnical investigations included subsurface soil conditions, groundwater conditions, site and subgrade preparation, deep foundation design and construction, axial capacity for piles, lateral pile analysis, seepage analysis, global stability analysis and seismic site classifications per IBC.

Role: Mr. Chehardy managed the Civil, Structural, and Architectural aspects of the project. He developed the civil/site work design, developed the utility documentation, prepared the detailed plans and specifications, and coordinated the development of the DDR.

***Lake Mechant Landbridge Restoration, Terrebonne Parish, LA***

MSMM was tasked by the Coastal Protection & Restoration Authority (CPRA) of Louisiana to perform all engineering services associated with the restoration of a sheet pile plug that was damaged in Terrebonne Parish during Hurricane Isaac in 2012. Steel Sheet pile Plug #2 was severely damaged, with a large portion of the 280' long structure leaning over in the center, and since the original collapse, the condition of the sheet pile has deteriorated and become a boating hazard. The plug was initially installed as part of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) of Louisiana to serve as a barrier to saltwater intrusion in order to improve the marsh behind the structure for environmental restoration habitat and for the multiple lines of defense theory for hurricane protection. The sheet pile plug crosses an access canal between Lake Pagie and Lake Mechant. The original plug was constructed using PDA-27 Grade 42 steel sheet pile sections to an elevation of 4 feet NAVD88. The sheet pile was installed to a maximum depth of -23.0 feet NAVD88. The plug is 282 feet long with earthen wingwalls construction at both ends to an elevation of 5 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Role: Mr. Chehardy managed the coastal components of the project and supported in the Design effort.

**TEC Professional Services Questionnaire**

| INDIVIDUAL CONSULTANT: |
|---|
| **Name & Title:** |
| **Chris Mills, PE**<br>Civil Engineer and Project Manager |
| **Project Assignment:** |
| Civil Engineer and Project Manager |
| **Name of Firm with which associated:** |
| MSMM ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 5 (2019) |
| **Education: Degree(s)/Year/Specialization:** |
| BS in Civil Engineering, 2019, Louisiana State University |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 2023<br>Discipline: Civil (PE) State: Louisiana License No.: 47987 |
| **Other experiences and qualifications relevant to the proposed Project:** |

Mr. Mills has worked with MSMM for 5 years, emerging as a crucial component of our firm's municipal design projects. Mr. Mills is a talented professional engineer with experience designing over 20 municipal projects in Southeast Louisiana. His experience includes coastal amenities, roadway and streets design, hydraulic modeling, general civil schematic design, engineering studies, marine infrastructure design, drainage channel revitalization, and pump station design. His referenced general civil design experience includes calculations and schematic design for drainage, water, sewer, and roadway infrastructure. He also served in a construction administration role for various design projects, meticulously managing construction to ensure that all work performed adhered to the design plans, specifications, and local ordinances. His proactive, collaborative, and accessible approach guarantees that each project meets the highest standards of quality and compliance, reflecting his commitment to excellence in every aspect of his work.

***Bucktown Marina Transient Boat Dock Design, Metairie, LA***

Mr. Mills served as Project Manager and Engineer of Record for the Bucktown Marina Boat Dock design project. The project involved the creation of a transient boat dock and service area. This area features an L-shaped, transient, and flexible dock, specifically designed for accommodating the commercial fishing fleet. He utilized Permatrac technology for composite concrete decking, ensuring a highly durable surface. The transient dock is comprised of a composite wood non-slip surface, prioritizing safety. His work encompassed the installation of piles, dredging operations, construction of a parking lot and walkway, as well as obtaining the necessary permits. This included securing a permits from DNR, CPRA, USACE, and the Levee Board.

Role: Mr. Mills served as Project Manager and Engineer of Record.

## INDIVIDUAL CONSULTANT:

**Name & Title:**

**Chris Mills, PE**

Civil Engineer and Project Manager

***Sankofa Silver Jackets- New Orleans, LA***

MSMM was contracted by USACE New Orleans district to develop a SWMM model for the Sankofa Wetland Park. During the Phase I modeling effort of the Sankofa Wetland Park, it was discovered that the water levels in the Sankofa wetland pond are directly tied to the neighboring St. Bernard Parish storm drainage canal system. Phase II of the modeling effort involves connecting the St Bernard Parish model with the Lower Ninth Ward/Sankofa Wetlands Model. Additionally required is the analysis of the rain records versus the water-body stage-record data for the most recent rain data as well as incorporating proposed control structure and pumping operation parameters into the SWMM model to provide predictive outcomes of proposed action items.

Role: Mr. Mills is the Project Management for Phase II of the modeling effort. Mr. Mills is responsible for the modeling, analysis, and final considerations for the project.

***Lake Mechant Landbridge Restoration, Terrebonne Parish, LA***

MSMM was tasked by the Coastal Protection & Restoration Authority (CPRA) of Louisiana to perform all engineering services associated with the restoration of a sheet pile plug that was damaged in Terrebonne Parish during Hurricane Isaac in 2012. Steel Sheet pile Plug #2 was severely damaged, with a large portion of the 280' long structure leaning over in the center, and since the original collapse, the condition of the sheet pile has deteriorated and become a boating hazard. The plug was initially installed as part of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) of Louisiana to serve as a barrier to saltwater intrusion in order to improve the marsh behind the structure for environmental restoration habitat and for the multiple lines of defense theory for hurricane protection. The sheet pile plug crosses an access canal between Lake Pagie and Lake Mechant. The original plug was constructed using PDA-27 Grade 42 steel sheet pile sections to an elevation of 4 feet NAVD88. The sheet pile was installed to a maximum depth of -23.0 feet NAVD88. The plug is 282 feet long with earthen wingwalls construction at both ends to an elevation of 5 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Role: Mr. Mills designed the schematic design and oversaw the drafting team to deliver this project successfully. He also contributed to the DDR and internal technical design review.

***River Road Aquatic Ecosystem Restoration CAP Section 206, San Antonio, TX***

The aquatic ecosystem restoration project involves the design of pool/riffle/run features; restoration of the riparian habitat in Davis park; removal of low water crossings (LWC) 1, 2, and 3; and the demolition of Avenue A to be replaced by an Americans with Disabilities Act (ADA) pedestrian and small vehicular path lined with native soil and mature vegetation. Design will also include recreational elements such as pedestrian bridges, asphalt paths, access gates, bird watching platforms, signage, and trash receptacles.

Role: Mr. Mills designed the schematic design and oversaw the drafting team to deliver this project successfully. He also contributed to the DDR and internal technical design review.

**TEC Professional Services Questionnaire**

| INDIVIDUAL CONSULTANT: |
|---|
| **Name & Title:** |
| **Stuart Seiler, PE, PMP**<br>Civil Engineer and Project Manager |
| **Project Assignment:** |
| Civil Engineer and Project Manager |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 1 (2024) |
| **Education: Degree(s)/Year/Specialization:** |
| BS in Civil Engineering, 2016, Louisiana State University |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 2020<br>Professional Engineer- Discipline: Civil- State: Louisiana License No.: 45472<br>Project Management Professional (PMP)- 2024- License No.: 3839836 |
| **Other experiences and qualifications relevant to the proposed Project:** |
| Mr. Seiler is a licensed Professional Civil Engineer (PE) and Project Management Professional (PMP) with extensive experience spanning both public and private sectors. His career encompasses civil design, program management, project management, and construction management. In the private industry, Mr. Seiler has designed design civil projects including coastal restoration, roadways, water systems, sewer systems, civil facilities, and utility conflict resolution across multiple Parishes and municipalities in Louisiana. On the public sector front, he has managed the design and construction of over 1,250 blocks amounting to $150 million for the Department of Public Works. This hands-on experience has deepened his understanding of program implementation, procurement, and public bid law. Notably, Mr. Seiler has represented the New Orleans Department of Public Works in Louisiana's legislative sessions, advocating for municipalities' interests on proposed amendments to Statute RS38:2212 M(5).<br><br>***Lake Lery Shoreline and Marsh Restoration, St. Bernard Parish, LA***<br>According to USGS-land loss analysis, much of the southern and western shorelines of Lake Lery and the surrounding wetlands were heavily damaged in 2005 by Hurricane Katrina. In the years following this storm, wind induced waves within the lake have begun to cause further damage to the lake's shorelines. This marsh creation and shoreline restoration project. The marsh creation aspect of the project would utilize a hydraulic dredge to extract material form Lake Lery water bottoms and pump that material into contained marsh creation cells which are located south of Lake Lery. This will initially create and/or nourish approximately 496 acres of marsh (356 Net Acres at Target Year 20). The shoreline restoration project component would have a barge-mounted dragline excavating material from the bottom of Lake Lery and placing that material along 35,831 ft. of the southern and western Lake Lery shorelines. This restored shoreline would have a 50 foot crown width |

and be built to a height considered high intertidal marsh.

Role: Mr. Seiler worked congruently with the Engineer of Record on the project while working with a previous employer.

***Westside Creek Restoration Project, San Antonio, TX***

This USACE project was awarded by the Fort Worth District. The project focuses on ecosystem restoration and recreation for four tributaries along the western side of the San Antonio River mainstem: Alazan Creek, Apache Creek, Martinez Creek, and San Pedro Creek (referred to collectively as the Westside Creeks (WSC)). The purpose of this project is to restore the Riverine Ecosystem that has been severely degraded due to construction and continued maintenance, and to identify recreation opportunities compatible with the ecosystem restoration objectives. Two of our priorities while working towards these goals are to provide a habitat for migratory birds along their central flyway route as well as to provide concrete trails and additional recreational features. Recreational Amenities will include interpretive and wayfinding signs, shade structures, benches, water fountains, picnic tables, and trash receptacles.

Role: Mr. Seiler is working congruently with the Engineer of Record to design the outfall canals and revitalization of the Martinez Creek.

***Texas City I-Wall to T-Wall Conversion, Texas City, TX***

MSMM was tasked by the USACE Galveston District to complete engineering design services for the replacement of a portion of an I-wall to a T-wall within a chemical refinery in Texas City, Texas. The design consists of replacing the I-wall with a T-wall, replacing a vehicular access gate, as well as pedestrian access points through the wall. The major design features designed by our team included the concrete floodwall and foundation, and the structural steel swing gate. The floodwall design included pile foundation design due to lateral loading and the soil conditions at the project site. Detailed geotechnical investigation, analysis and design was completed and a report documenting the subsurface conditions plaguing the site was developed. Geotechnical investigations included subsurface soil conditions, groundwater conditions, site and subgrade preparation, deep foundation design and construction, axial capacity for piles, lateral pile analysis, seepage analysis, global stability analysis and seismic site classifications per IBC.

Role: Mr. Seiler joined MSMM during the design review stage of this project. He worked in conjunction with the Project Manager to produce additional design details and answered questions provided by USACE Galveston District.

**TEC Professional Services Questionnaire**

| **PROFESSIONAL IN CHARGE OF PROJECT:** |
|---|
| **Name & Title:** |
| **Marty Tittlebaum, Ph.D., P.E.**<br>Project Engineer, QA/QC |
| **Project Assignment:** |
| Environmental Engineer |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 9 (2013) |
| **Education: Degree(s)/Year/Specialization:** |
| Ph.D. in Environmental Engineering, 1979, University of Louisville<br>ME in Environmental Engineering, 1972, University of Louisville<br>BE in Civil Engineering, 1971, University of Louisville |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 1980<br>Discipline: Civil & Environmental State: Louisiana License No.: 18997<br>*Also registered in Kentucky (9563)* |
| **Other experiences and qualifications relevant to the proposed Project:** |

Marty E. Tittlebaum, the past Edward G. Schlieder Chair for Urban Waste Management and Research and Professor of Civil and Environmental Engineering, possesses expertise in the areas of hazardous and industrial waste remediation, environmental permitting and environmental engineering research and project management, water and wastewater treatment and reuse, resource recovery, and hazardous waste management. Dr. Tittlebaum has received over $8 million in state, national and international research funding, written over 75 refereed technical journal articles and been an invited lecturer of over 100 papers. Dr. Tittlebaum has served on several technical advisory panels, including the U.S Corps of Engineers hazardous waste evaluation program.

At MSMM, Mr. Tittlebaum serves as our Principal Quality Control Engineer, and he reviews all design products. He is also responsible for leading all of our environmental permitting activities and has an excellent working relationship with all of the permitting agencies.

***Texas City I-Wall to T-Wall Conversion, Texas City, TX***

MSMM was tasked by the USACE Galveston District to complete engineering design services for the replacement of a portion of an I-wall to a T-wall within a chemical refinery in Texas City, Texas. The design consists of replacing the I-wall with a T-wall, replacing a vehicular access gate, as well as pedestrian access points through the wall. The major design features designed by our team included the concrete floodwall and foundation, and the structural steel swing gate. The floodwall design included pile foundation design due to lateral loading and the soil conditions at the project site. Detailed geotechnical investigation, analysis and design was completed and a report documenting the subsurface conditions plaguing the site was developed.

## PROFESSIONAL IN CHARGE OF PROJECT:

**Name & Title:**

**Marty Tittlebaum, Ph.D., P.E.**
Project Engineer, QA/QC

Geotechnical investigations included subsurface soil conditions, groundwater conditions, site and subgrade preparation, deep foundation design and construction, axial capacity for piles, lateral pile analysis, seepage analysis, global stability analysis and seismic site classifications per IBC.

Role: Dr. Tittlebaum is providing quality control design for the project. He is tasked with reviewing all design products before they are submitted to USACE

***Cow Bayou Drainage Pump Station Complex, Orange, TX***
The preliminary design phase was a joint engineering effort between USACE New Orleans District, Galveston District, and MSMM. MSMM's design responsibilities included structural design, architectural design, civil site work, geotechnical evaluation and design, cost estimating, CAD drafting, and project management. MSMM was an integrated design team with New Orleans District, who provided mechanical and electrical design, while MSMM coordinated this mechanical and electrical design with the civil, structural, and geotechnical engineering design.

Project features being designed by MSMM include dolphin structures, a pump station safe house, a fuel farm, and access roads. MSMM designed the project in MicroStation 3D and Civil 3D, also utilizing Revit BIM 3D modeling and CIM modeling for the facilities. MSMM engineers also designed permanent project structures associated with the pump station, including the horizontal and vertical pump intake and discharge structures, engine and pump support slabs, fuel tank foundation/containment, water tank foundation, west access bridge, and exterior semi-gantry and overhead bridge crane supports. The pump station and two-story safe house were designed utilizing STAAD software. MSMM's civil engineers provided the wastewater treatment facility design, layout of the entry roadways and parking lots, and the site grading and utility layout in compliance with UFC-201-01. Project Management included preparing a detailed communication plan which outlined procedures for coordination of activities and addressed scheduling, communication distribution structure, information collection and filing procedures, and a flow chart of personnel and project progression.

Role: Dr. Tittlebaum is providing quality control design for the project. He is tasked with reviewing all design products before they are submitted to USACE.

***Lake Mechant Landbridge Restoration, Terrebonne Parish, LA***
MSMM was tasked by the Coastal Protection & Restoration Authority (CPRA) of Louisiana to perform all engineering services associated with the restoration of a sheet pile plug that was damaged in Terrebonne Parish during Hurricane Isaac in 2012. Steel Sheet pile Plug #2 was severely damaged, with a large portion of the 280' long structure leaning over in the center, and since the original collapse, the condition of the sheet pile has deteriorated and become a boating hazard. The plug was initially installed as part of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) of Louisiana to serve as a barrier to saltwater intrusion in order to improve the marsh behind the structure for environmental restoration habitat and for the multiple lines of defense theory for hurricane protection.

Role: Dr. Tittlebaum is providing quality control design for the project. He is tasked with reviewing all design products before they are submitted to USACE.

**TEC Professional Services Questionnaire**

| KEY PERSON: |
|---|
| **Name & Title:** |
| **Jeff Wilson, P.E.**<br>Civil Engineer |
| **Project Assignment:** |
| Civil Engineer |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 1 (2023) |
| **Education: Degree(s)/Year/Specialization:** |
| B.S. in Civil Engineering, 1988, University of New Orleans<br>Coastal Engineering Certificate, 2014, Old Dominion University |
| **Active registration: Year first registered/discipline:** |
| Year First Registered: 1992<br>Discipline: Civil State: Louisiana License No.: 16581<br>*Also registered in Mississippi (31566)* |
| **Other experiences and qualifications relevant to the proposed Project:** |

Mr. Wilson brings 27 years of experience designing and managing land and marine infrastructure projects to this project. These projects covered a wide spectrum of work from roadway improvements to hydraulic studies and the design of commercial and residential sites. In addition to a design background in roadways, drainage, and utilities, Mr. Wilson has experience with marine construction. He was employed as a diving professional for over 12 years, with experience in the offshore Oil and Gas industry. Mr. Wilson is an active member of the American Society for Civil Engineers (ASCE) and the American Concrete Institute (ACI). He is proficient in EPA SWMM, HEC-RAS, Arcview GIS Software, and the LADOTD Hydraulics software.

***Woodlake Drainage Pump Station with Green Infrastructure Design, Kenner, LA***

The existing drainage system at Woodland Estates and Seton Park consisted of an enclosed gravity storm sewer system that outlet at various locations in the canals. This drainage system was creating a backflow water condition, causing repeated flooding in the area. MSMM completed a drainage evaluation report that evaluated options for removing backflow conditions in the area.

MSMM designed a 120 CFS pump station located in Seton Park as well as a below ground retention feature within Seton Park to capture peak flows. The retention area within the park will consist of a below ground HDPE piping network covering a roughly 75x300 ft. area fed by an overflow junction box. The pump station will be fed from a 60" drain pipe on St. Elizabeth Drive. The two 60" diameter pipes crossing Platt Street and Joe Yenni Blvd to discharge into Canal 7 and 17 will be interconnected to feed the intake of the pump station. Both 60" pipes will be fitted with flapper type gates so that low flows or flows exceeding the pump station capacity could bypass into the canal. The pump station will utilize three pumps and a single 48" force main to discharge the storm water over the West Return Wall. The force main will be approximately 1,200 linear feet

| KEY PERSON: |
| --- |
| **Name & Title:** |
| **Jeff Wilson, P.E.**<br>Civil Engineer |

and discharge the storm water over the West Return Canal Levee Wall and into the West Return Canal (part of the Lake Pontchartrain drainage system).

Role: Mr. Wilsonprovided QA/QC during the internal and USACE review process.

***Cow Bayou Drainage Pump Station, Galveston, TX***

The design of the Cow Bayou Pump Station was a joint effort between USACE New Orleans District, Galveston District, and MSMM. Our team completed 35% design of the 8,190 CFS pump station as part of the Sabine to Galveston Cow Bayou Complex project. This project includes levee tie-ins, floodwalls, sluice gate structures and a sector gate for navigational traffic. The pump station consists of five 1,365 CFS horizontal, vacuum primed pumps with 126-inch suction side and 115-inch discharge side formed concrete intakes; and three 455 CFS vertical self-priming pumps with 84-inch discharge piping.

Our team designed permanent project structures associated with the pump station including the horizontal and vertical pump intakes and discharge structures, engine and pump support slabs, pump station building, pump station safe house, fuel tank foundation/containment, water tank foundation, west access bridge, exterior semi-gantry and overhead bridge crane supports, and protective dolphins. The pump station and safe house were designed utilizing STAAD software.

Role: Mr. Wilson served as a professional engineer on the project.

***Port of New Orleans Hydraulic and Hydrologic Drainage Evaluation***

The overall scope of this project involved H&H model setup and calibration, proposing high level development drainage improvements, and development of a preliminary drainage report. MSMM developed multiple SWMM models, which were then used to determine 2, 5, 10-, 25-, 50-, and 100-year events. We also collected aerial and LiDAR data, as well as historic storm hydrologic and hydraulic models to identify H&H feature characteristics for stormwater management.

Role: Mr. Wilson was the project manager on this project. His contribution included liaison with the prime consultant and preparing a drainage study for the Owners using information from historical records. He also assisted in preparing the drainage model and evaluation.

**TEC Professional Services Questionnaire**

| INDIVIDUAL CONSULTANT: |
|---|
| **Name & Title:** |
| **Eric M. Curson**<br>Design Manager |
| **Project Assignment:** |
| GIS Specialist<br>GIS/CADD |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 9 (2015) |
| **Education: Degree(s)/Year/Specialization:** |
| Associates: Southeastern College of Technology<br>Some Classes: Purdue University |
| **Active registration: Year first registered/discipline:** |
| N/A |
| **Other experiences and qualifications relevant to the proposed Project:** |
| Eric Curson is a GIS Specialist, geospatial, and CAD manager at MSMM, where his project experience encompasses a variety of geospatial and software initiatives within the Federal and local market in southeast Louisiana. Mr. Curson has worked extensively on projects that require the use of ESRI ArcGIS and Microsoft SQL Server for Federal clients including the USACE New Orleans District. He has been instrumental in leading the GIS database creation and management for several MSMM projects including the Jefferson Parish I&I project, and the Chitimacha and Ascension Parish GIS planning tool initiatives. With a background in both CAD and GIS, Mr. Curson understands the similarities and differences between the two systems and has played an important role in working through any conversion issues that have arisen through the digitization and database creation process. As the lead drafter at MSMM, Mr. Curson has been instrumental in the development of project plans, working in conjunction with the engineering staff to finalize all submittals.<br><br>***Coventry Court Drainage Evaluation Feasibility Report, Jefferson Parish, LA***<br>In early 2017, following repetitive street flooding in the Coventry Court area of River Ridge, MSMM Engineering worked with the Jefferson Parish District 2 office to propose a solution to the flooding issues in the area. The MSMM engineering team identified several potential options that could be evaluated. In 2018, the Jefferson Parish Council tasked our staff with developing a multi-phase feasibility report to evaluate several drainage solutions in the area.<br><br>As part of the Coventry Court evaluation, the Jefferson Parish drainage department requested that MSMM investigate and determine the feasibility of providing improved drainage. The investigation consisted of the following:<br>- Evaluation Phase/Data Review – collection and analysis of existing information |

| INDIVIDUAL CONSULTANT: |
|---|
| **Name & Title:** |
| **Eric M. Curson**<br>Design Manager |

- Field Reconnaissance and Preliminary Survey – collection of relevant field information
- Model Runs and Calibration – updated the HEC-RAS model with the area's data for 10-year, 50-year and 100-year storm events.
- Cost Estimating of Multiple Alternatives – provided detailed cost breakouts consisting of vendor furnished pricing data for materials
- Development of a Prioritized List of Recommendations – the alternatives developed were prioritized based on our engineering recommendations.

MSMM is the only entity to envision and develop the Coventry Court drainage pump station concept. The final report was completed in less than 6 months, and the final recommendation is to design a new drainage pump station on a vacant parcel owned by the parish between Coventry Court and Lee Court, westerly of Jefferson Highway. This 90 cfs (120 cfs ultimate) pump station with a 48' open cut discharge forcemain placed down Colonial Heights Road and over the Mississippi River levee. Other project features consist of a discharge dolphin in the Mississippi River and upsizing of the Jefferson Highway drainage crossings and downstream conveyance. This recommended alternative provides the greatest pumping capacity while requiring the least amount of permanent drainage servitude.

Role: Mr. Curson worked with the civil and hydraulic engineering staff to develop GIS shapefiles for inclusion into the model. He also mobilized to the field identifying catch basins, inlets, manholes and other drainage features, which he grabbed coordinates for and uploaded into the model. Finally, Mr. Curson developed project alternatives in GIS and provided conceptual level design in CAD.

***Clearview Drainage Pump Station, St. Peter's Ditch Improvements – Phase 4, Jefferson Parish, LA.***

MSMM engineering staff provided complete design services for a 220 cfs drainage pump station located within the DOTD Right-of-Way of the Clearview Parkway/Earhart Expressway interchange. The goal of this pump station was to pump stormwater runoff from the existing detention pond network, over Cross Canal, and discharge directly into the improved St. Peter's Ditch (box culvert). The project required multiple disciplines including civil, structural, electrical and mechanical engineering, as well as, cost estimating and drafting (CAD). The pump station structure contained three 75 cfs vertical lift pumps with 250 HP motors and several hundred feet of 36" discharge piping. Additional features of the project included a pile supported reinforced concrete structure, sheetpile intake area, trash rake with conveyor, conditioned control building, generator, traffic detour plan, discharge pipe aerial canal crossing, utility relocations, and other related improvements.

Mr. Curson was the lead CAD designer for the project. He worked with civil, structural, electrical and mechanical engineers to develop the project design and supply of all drawings.

**TEC Professional Services Questionnaire**

| INDIVIDUAL CONSULTANT: |
|---|
| **Name & Title:** |
| **Binh Le**<br>Engineering Technician |
| **Project Assignment:** |
| CADD and BIM/CIM |
| **Name of Firm with which associated:** |
| MSMM<br>ENGINEERING, LLC |
| **Years' experience with this Firm:** |
| 1 (2023) |
| **Education: Degree(s)/Year/Specialization:** |
| Bachelor's in architecture, 1979, University of Saigon |
| **Active registration: Year first registered/discipline:** |
| N/A |
| **Other experiences and qualifications relevant to the proposed Project:** |

Mr. Le is an Engineer Technician and BIM/CIM Modeler who has spent 43 years specializing in highway projects, architectural projects, and structural projects. His relevant expertise includes collecting information, preparing site plans, and organizing design variables/documents for the EOR on various infrastructure such as floodwalls and levees, pump stations, sewer treatment plants, drainage plans, and landscaping details. He has worked on major local interstate, bridge, renovation, and flood protection projects and has extensive experience in AUTOCAD major, REVIT, Autodesk BIM, Twinmotion, and MicroStation.

***River Road Aquatic Ecosystem Restoration- San Antonio, TX***

MSMM was contracted by USACE/San Antonio River Authority to provide 100% Design-Bid-Build of this large-scale project, which focused on recreational usability as well as ecosystem restoration. MSMM's responsibilities included H&H analysis, stream restoration, landscape architecture, civil and structural design, cost estimating, and value engineering.

Role: Mr. Le provided engineering tech services to the design team. He utilized google earth to search for potential obstructions and organized the project files accordingly. He was also the BIM/CIM for the project, creating models for bird-watching platforms, water features, and Fishing Piers using Autodesk BIM software.

***Woodlake Estates/Seton Park Subdivision Drainage Pump Station, Jefferson Parish, LA***

MSMM was tasked by the Jefferson Parish Council to evaluate drainage pump station alternatives to solve the issue of long-term flooding within the Woodlake and Seton Park neighborhoods within the City of Kenner. In 2018, MSMM completed a feasibility study that developed multiple drainage pump station alternatives that bypass the capacity limitations of the canals and alleviate stormwater flooding in the area. At the completion of the feasibility report, the following alternatives were identified:

| INDIVIDUAL CONSULTANT: |
| --- |
| **Name & Title:** |
| **Binh Le**<br>Engineering Technician |
| - A new drainage pump station at the corner of Canal 17 and Canal 7 (west end of Joe Yenni Blvd.), a discharge forcemain westwards, with a discharge basin in the West Return Canal.<br>- A new drainage pump station at the northeast corner of Vintage Drive and Platt Street on Canal 17, a discharge forcemain westwards, with a discharge basin in the West Return Canal.<br>- A new inline drainage pump station at or near the corner of Canal 17 and Canal 7 with discharge into the canals and also with a discharge forcemain westwards to a discharge basin in the West Return Canal<br><br>Mr. Le worked with the civil and hydraulic engineering staff to develop GIS shapefiles for inclusion in the model. He also mobilized to the field to identify catch basins, inlets, manholes, and other drainage features, for which he grabbed coordinates and uploaded them into the model. Finally, Mr. Le developed project alternatives in GIS and provided conceptual-level design in CAD. |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 1

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| Lake Mechant Landbridge Restoration, Terrebonne Parish, LA<br><br>Terrebonne Parish<br>8026 W Main St #600,<br>Houma, LA 70360<br><br>Mr. Brian Babin<br>Engineering Supervisor<br>985-447-0956 | MSMM was tasked by CPRA to perform all engineering services associated with the restoration of a sheetpile plug that was damaged in Terrebonne Parish during Hurricane Isaac in 2012. Steel Sheetpile Plug #2 was severely damaged, with a large portion of the 280' long structure leaning over in the center, and since then the condition of the sheetpile has only deteriorated. Upon the completion of an initial survey, it was determined that a large scour hole had formed at the location of the failed structure, and the structure would have to be re-located. Additional survey was collected to determine the extent of the scour hole. MSMM then designed a new combi-wall that places the new structure outside of the footprint of the scour hole. Based on concerns about siltation of the access route to the site, we also analyzed additional survey data and established a dredging plan. Per the project plans, the contract will dredge their way into the site, pull the existing structure and construct the new structure to re-establish the salinity barrier.<br><br>The North Lake Mechant Landbridge Restoration Project (TE-044) project was bid in September 2021 and construction commenced in December 2021. In addition to the design phase services, MSMM is also providing construction phase services inclusive of daily resident inspection, construction administration consisting of shop drawing review and approval, pay application review and approval, review and response to RFI's, as well as leading bi-weekly construction status meetings with the contractor and CPRA field staff. The project was completed in late summer 2022.<br><br>  <br>  |

| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2022 | $356 | $301 |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 2

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| Calcasieu Ship Channel Salinity Control Measures<br>Lake Charles, LA<br>(Contract #4400010387)<br><br>Coastal Protection and Restoration Authority<br>150 Terrace Ave<br>Baton Rouge, LA 70802<br><br>Ms. Katie Free<br>Project Manager<br>225-342-4635 |  <br>MSMM was tasked to perform comprehensive design services for the West Pass portion of the Calcasieu Ship Channel Salinity Control Measures Project. MSMM provided all design services associated with the West Pass portion of the project. The design consisted of part combi-wall and part steel sheeting structure. The design of the West Pass covers 546' of wall for this important salinity control project. The design called for a wall opening to allow for local boat traffic, this opening is 60' wide. The H&H analysis completed for the project showed velocities through the opening to be very high, therefore extensive rock placement was needed for added stability to the wall and for scour protection. Additional services provided included management of field services inclusive of topographic, bathymetric, and magnetometer surveys; geotechnical data collection and engineering; data collection and reporting in support of regulatory compliance; and notification to landowners of project activities.<br><br>Following design, CPRA determined that the modeling benefits would not be realized by the design they requested, so the project was never built. However, the engineering contracts were modified. MSMM provided an analysis (based on new modeling results) of adding hardscape features to the area, including pumping stations and different rock closure designs. |

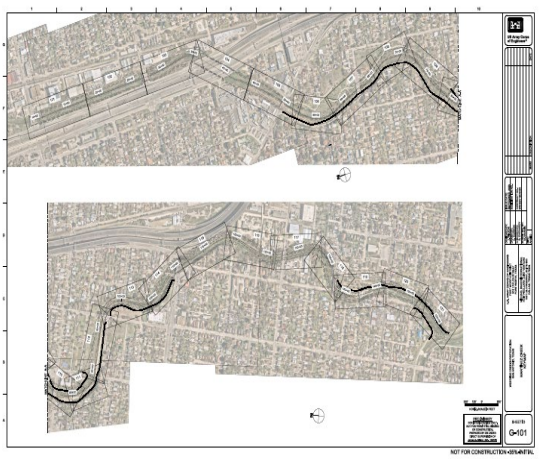
| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2022 | $1,200 | $500 |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 3

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| Westside Creeks Restoration Project<br>San Antonio, TX<br><br>USACE San Antonio River Authority & USACE San Antonio<br><br>Ms. Zia Burns<br>817-886-1633<br>Project Manager | MSMM Engineering has been hired as a subconsultant under Michael Baker International (MBI) -Huitt-Zollars, JV (HZ) for work on the Westside Creeks Restoration Project in San Antonio, TX. The project focuses on ecosystem restoration and recreation for four tributaries along the western side of the San Antonio River mainstem: Alazan Creek, Apache Creek, Martinez Creek, and San Pedro Creek (referred to collectively as the Westside Creeks (WSC)).<br><br>The purpose of this project is to restore the Riverine Ecosystem that has been severely degraded due to construction and continued maintenance, and to identify recreation opportunities compatible with the ecosystem restoration objectives. Two of our priorities while working towards these goals are to provide a habitat for migratory birds along their central flyway route as well as to provide concrete trails and additional recreational features. Recreational Amenities will include interpretive and wayfinding signs, shade structures, benches, water fountains, picnic tables, and trash receptacles. |



| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2025 | $3M | $800K |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 4

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| MRGO Ecosystem Restoration Plan – Feasibility Study, Project Management<br><br>US Army Corps of Engineers – New Orleans District, New Orleans LA<br><br>Greg Miller Chief, Regional Planning Chief 504-862-2130 | The MRGO Ecosystem Restoration Plan was developed by the U.S. Army Corps of Engineers as a supplement to the MRGO Deep-Draft Deauthorization Report to Congress. The comprehensive ecosystem restoration plan aimed to restore and conserve estuarine habitat areas affected by the MRGO navigation channel. Multiple project features were evaluated including marsh and swamp restoration, shoreline protection, ridge restoration and a freshwater diversion. Multiple elements of the MRGO plan have been identified for early restoration through the RESTORE ACT and NRDA processes.<br><br>  <br><br>MSMM staff were embedded at the New Orleans District to help the federal staff complete the feasibility study on-time and within budget. MSMM staff not only helped develop the project alternatives but led the feasibility study through each step of the process. This cumulated in our staff presenting at the Civil Works Review Board and helping transmit the planning documents to Congress. A Chief's Report was signed in September of 2012, documenting the FID. Since the completion of the MRGO report, multiple project elements have been pulled from the report and identified for restoration under the State Master Plan and RESTORE ACT program. |

| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2016 | $7,500 | $290 |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 5

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| Dallas Floodway Extension Recreation and Bridge Design<br><br>USACE Fort Worth District<br><br>Sandra Allen<br>Design Manager<br>817-886-1669 |  <br>This project involved the planning and design of various recreational components on a former golf course in South Dallas. The trail system and bridge features were designed for the United States Army Corps of Engineers (USACE) Ft. Worth District in support of the City of Dallas. The Dallas Floodway extension project consisted of various access routes, walking/vehicular trails, bridges, boardwalks, and platforms. This project provided 12-miles of multi-use trails, additional parking lots at major trail connection points, three additional bridges, including one larger bridge across the Trinity River, an elevated boardwalk trail for access across a low-lying marshy area, and new birdwatching platforms in the previously created wetlands. The design team also added public safety features including culverting for water distribution, locked gates, and pipe rail fences for the City of Dallas to manage public access, site lighting in the added parking lots, and site signage at the access points for time periods where the recreational areas are flooded, and public access is restricted. Benches were also added at scenic overlooks, wildflower areas and for views of the wetlands.<br><br>Our team provided full engineering services to the USACE, including schematic design, preliminary design, and final design. Our design team provided detailed design for all listed project features, inclusive of three major bridge designs. Our team performed H&H modeling of the Trinity River to help aid in the bridge design process. All roadway/bridges consist of a single lane and were designed to contain the load of school buses/emergency vehicles. |

| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2020 | $345 | $289 |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 6

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| River Road Aquatic Ecosystem Restoration<br>CAP Section 206<br>San Antonio, TX<br><br>USACE San Antonio River Authority<br><br>Ms. Maria Valadez-Lopez<br>817-886-1881<br>Engineering Supervisor | The joint venture of MSMM Huitt-Zollars, JV has been hired by the United States Army Corps of Engineers (USACE) to perform 100% of Design-Bid-Build services required by the San Antonio River Authority as part of their Continuing Authorities Program (CAP). The project involves the design of pool/riffle/run features; restoration of the riparian habitat in Davis park; removal of low water crossings (LWC) 1, 2, and 3; and the demolition of Avenue A to be replaced by an Americans with Disabilities Act (ADA) pedestrian and small vehicular path lined with native soil and mature vegetation. Design will also include recreational elements such as pedestrian bridges, asphalt paths, access gates, bird watching platforms, signage, and trash receptacles.<br><br>MSMM's responsibilities will include 100% Design Bid Build (DBB) RFP; Geotechnical Investigation; Topographic Survey; H&H Analysis; Value Engineering Study; Cost Estimate/Current Working Estimate; Construction Schedule; and a Storm Water Pollution Prevention Plan (SWPPP). |

| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2025 | $1.1M | $550K |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 7

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| West Bay Sediment Diversion – Project Management<br><br>US Army Corps of Engineers – New Orleans District, New Orleans LA<br><br>Brad Inman<br>Technical Committee Lead<br>504-862-2124 | The West Bay Sediment Diversion was constructed in 2003 as a means to restore marshes along the lower Mississippi River. The objective of the project is to restore vegetated wetlands in an area that was formerly shallow open water. The targeted wetland goal was to create/nourish approximately 10,000 acres of fresh to intermediate marsh in the West Bay area over the 20-year project life. The diversion consists of a conveyance channel for the large-scale diversion of sediments from the river. The dredging aspect of the project is a result of shoaling from the diversion in the Pilottown Anchorage Area.<br><br>MSMM staff were responsible for the dredging phase of the project constructed in 2013. MSMM staff served as project manager and designer, overseeing the design award of a $11.9 million dollar dredging contract to dredge the Pillottown Anchorage area and pump the sediment onto islands in the middle of the West Bay receiving area. In total, the construction project pumped 2.9 million cubic yards of material to create 3 islands. MSMM staff were responsible for managing the initial surveying operation, coordinating with the MRC and Mississippi River users groups, the pilots association, CPRA and the CWPPRA task force. This project element was deemed as success by all parties, as the islands constructed served as sediment "speed-bumps" for water entering the receiving area via the diversion opening. The islands helped served their intended purpose by slowing down the water enough to drop the sediment composition, thus leading to the accumulation of material and eventual land in the front portion of the receiving area.<br><br>  |

| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2013 | $11,900 | $250 |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 8

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| Bucktown Transient & Commercial Boat Dock<br><br>Jefferson Parish Government<br><br>Mario Brazille<br>Project Manager<br>504-736-6999 | MSMM Engineering has proposed design of several project features associated with establishing a new transient boat dock and commercial fishing dock in Bucktown Harbor. The placement of this L-shaped dock would be between the Coast Guard Drive and the first existing boat dock to the North of the Coast Guard Drive.<br><br>Currently there are no docking opportunities on the Lakefront at Jefferson Parish for transient boaters. The need to add a transient dock was identified as a priority in a recent Bucktown vision plan. Parish government would like to provide the commercial fishing fleet with a new dock to operate from that is closer to public viewing opportunities, and additionally provides them a laydown area that better suits their operating procedures.<br><br>  <br><br>Regarding the design of a L-shaped transient and flexible dock, the portion of the dock utilized by the commercial fishing fleet and transient dock will utilize the PermaTrac technology of precast concrete decking providing a more durable surface for the fishing fleet to work from. Dredging will be needed to provide the required draft of the water vessels. Dredge design drawings will be included in the plans. The hard surfaced ramp area between the Coast Guard Drive and the new dock will be comprised of a roughened concrete surface. The precast dock material will be extended west from the transient dock to the Parking lot. This will provide ADA accessible access from the parking lot to the docks. Permitting for this project will be required. A Coastal Zone Permit will be filed with the Louisiana DNR which will trigger permitting with CPRA, USACE and the Levee Board. Detailed project permitting will be developed once the Final plans have been approved. |

| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2024 | $144 | $144 |

## TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

### PROJECT NO. 9

| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: |
|---|---|
| **USACE Silver Jackets Program Jefferson Parish Infrastructure and Watershed Master Plan Development**<br><br>**USACE New Orleans District**<br><br>**Nik Richard, USACE Project Manager 504-862-2411**<br><br>**Michelle Gonzales, CFM – Director, Ecosystem and Coastal Management 504-736-6653** | MSMM recently developed the Jefferson Parish Watershed Management Master Plan. Development of the Jefferson Parish Watershed Management Master Plan, (WMP) gave MSMM the dual opportunities of assisting parish leadership in developing strategies to prepare the drainage system for future sea level rise and of assisting the parish residents in lowering their flood insurance rates. Working through the US Army Corps of Silver Jackets program, MSMM provided lead assistance in the ongoing process of acquiring National Flood Insurance Program (NFIP) credit for developing the WMP as part of the Community Rating System (CRS).<br>  <br>The NFIP considers a WMP to be the result of a hydrologic and hydraulic study of the watershed using a hydrograph approach, examining both existing and future development conditions, and under different management scenarios. For CRS credit it must model at least the 100-year fully developed watershed at a scale sufficient to determine local problems. Utilizing the parish's existing SWMM models, MSMM adjusted input parameters for rising sea levels, changing storm patterns as projected in the NOAA Atlas 14 rain models, and changing development plans as projected in the Jefferson Parish future land use plan. The output from this modeling effort was then quantified in terms of water surface elevation changes.<br>Utilizing modeling results, FEMA CRS guidance criteria, Jefferson Parish planning studies, input from the parish, and MSMM broad experience from previous drainage and flood studies; a series of recommended watershed management strategies were developed. These recommendations ranged from proposed implementation of standard low impact development principles, such as use of permeable pavements and bio-swales, to specific unique recommendations for Jefferson Parish watershed management regarding pump maintenance considerations, generation capacity and levee resiliency planning. |

| Completion Date (actual or estimated): | Estimated Cost (in thousands): | |
|---|---|---|
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2021 | $180 | $180 |

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

## PROJECT NO. 10

| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: |
|---|---|
| **Woodlake Drainage Pump Station, Hydraulic Modeling and Preliminary Design, Kenner, LA**<br><br>**Jefferson Parish Drainage Department**<br><br>**Mitch Theriot, PE – Drainage Director**<br>**(504) 736-6751**<br><br>  | The Woodland Estates & Seton Park subdivision areas are located at the confluence of Canal 7 and Canal 17 in Kenner. The current drainage system consists of an enclosed gravity storm sewer system that outlets at various locations in the canals. The distance the stormwater within the canal must travel before it is pumped is excessive (nearly 2 miles to the Duncan Canal Pump Station and 2.25 miles to the Parish Line Pump Station). Due to the excessive distance, the water within the canal typically backs up, creating an increased head situation where the gravity drainage pipes are unable to discharge as intended. This generates a backwater flow condition, which causes repeated flooding in the area. Because of the existing conditions in the area, MSMM completed a drainage evaluation report that evaluated options for removing the backflow condition in this area.<br><br>MSMM is currently in the process of designing this project to the 65% stage as follows: a 120 CFS pump station located in Seton Park as well as a below ground retention feature within Seton Park to capture peak flows. The retention area within the park will consist of a below ground HDPE piping network covering a roughly 75x300 ft. area fed by an overflow junction box. The pump station will be fed from a 60" drain pipe on St. Elizabeth Drive. The two 60" diameter pipes crossing Platt Street and Joe Yenni Blvd to discharge into Canal 7 and 17 would be interconnected to feed the intake of the pump station. Both 60" pipes would be fitted with flapper type gates so that low flows or flows exceeding the pump station capacity could bypass into the canal. The pump station would utilize three pumps and a single 48" force main to discharge the storm water over the West Return Wall. The force main would be approximately 1,200 linear feet and discharge the storm water over the West Return Canal Levee Wall and into the West Return Canal (part of the Lake Pontchartrain drainage system).<br><br>The subsurface drainage was modeled using the US EPA Storm Water Management Model (SWMM), and the canals and pump station utilized the River Analysis System (HEC-RAS) software. The HEC-RAS model conducted existing conditions and other simulations under design storms of 10-year, 50-year, and 100-year intensities. The resulting conditions were utilized for comparison purposes. The alternate iterations result in varying degrees of water surface lowering and flooding reduction. Extents of improvement projects, associated cost opinions, and required |

| L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary. | | |
|---|---|---|
| **PROJECT NO. 10** | | |
| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| | ancillary items such as right-of-way acquisitions, etc., were considered to select the most optimum combination which will provide the most flooding reduction. The modeling process indicated that both the subsurface drainage system and high-water elevations in the canal during a 10-year storm event are contributing to flooding issues in the project area. The recommendation was made to construct an in-line 120 cfs drainage pump station directly benefiting the two neighborhoods, as the pump station will be the new outlet, therefore no longer relying on the canal system. This alternative will indirectly benefit the entire area by removing the runoff created from these subdivisions from entering the canal system, therefore freeing up canal capacity from other areas. | |
| **Completion Date (actual or estimated):** | **Estimated Cost (in thousands):** | |
| | **Entire Project** | **Work for which Firm was Responsible:** |
| 2024 | $671 | $506 |

## TEC Professional Services Questionnaire

**M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.**

| Parties: | | Status/Result of Case: |
|---|---|---|
| **Plaintiff:** | **Defendant:** | |
| **Not Applicable** | **Not Applicable** | **Not Applicable** |

**N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.**

**COMPANY OVERVIEW & HISTORY**

MSMM Engineering, LLC (MSMM) is one of the fastest-growing small A-E businesses in the greater New Orleans area. In our 10- year company history, we have performed numerous coastal services for such clients as the Coastal Protection and Restoration Authority (CRA) of Louisiana, the United States Army Corps of Engineers (USACE), and various parishes across Louisiana, including Jefferson Parish. MSMM engineers total over 150 years of design experience and, combined, have designed over 250 projects for Jefferson Parish.

MSMM is one of the leading coastal firms responsible for working with USACE on the Coastal Wetlands Planning Protection and Restoration Act (CWPRRA) program. MSMM was also involved in the design of the first RESTORE act project in Louisiana, participating as a sub-consultant on the design of the Golden Triangle Marsh Creation project, which was originally developed by MSMM personnel when producing the MRGO Ecosystem Restoration Feasibility Study for USACE MVN. A list of MSMM coastal projects (either completed or in progress) consists of the following:

- Lake Mechant TE-44 Steel Sheetpile Plug Restoration
- Calcasieu Ship Channel Salinity Control Measures – West Pass and Joe's Cut
- H&H Modeling for the Mid Breton Diversion
- Teche Vermillion Pump Station Trash Rake Design
- Bayou Mandeville Maintenance Dredging
- Brown Avenue Canal Improvements
- Golden Triangle Wetland Restoration
- Bayou Segnette State Park Improvements (multiple phases)
- MRGO Ecosystem Restoration Plan Feasibility Study
- Mirabeau Gardens Green Infrastructure
- Jefferson Parish Silver Jackets
- West Bay Sediment Diversion

MSMM staff also develop the annual Project Priority Report (PPL) and develop the bi-annual report to Congress for the CWPPRA program. These are key reporting documents approved by the CWPPRA task force that led to congressional support to keep the program funded and provide valuable resources to restore Louisiana's fragile coastal ecosystem.

**Following is our response to the evaluation criteria listed in the SOQ:**

## 1. PROFESSIONAL TRAINING AND EXPERIENCE IN RELATION TO THE TYPE OF WORK REQUIRED FOR THE ENGINEERING SERVICES

MSMM Engineering has extensive coastal restoration experience, having performed recent coastal projects in Louisiana, Mississippi, and Texas. MSMM Civil, Structural, Environmental and Hydraulic engineers have performed various coastal design activities for CPRA, inclusive of shoreline stabilization, wetland habitat restoration design, dredge material placement design, H&H modeling, salinity control and establishment of upland habitat. As stated above, MSMM was selected by the Coastal Protection and Restoration Authority (CPRA) of Louisiana to receive small business set-aside contracts for coastal engineering services for projects within the state of Louisiana over 3-year periods. These continuous contracts have been ongoing since 2016, and MSMM has been contracted by CPRA to perform full engineering services on seven coastal projects to date.

As outlined in the projects section, MSMM has performed engineering services on multiple CWPPRA projects. One of these projects was a maintenance effort to re-construct a failed structure that was used for shoreline stabilization and as a salinity barrier. CPRA entrusted MSMM with the design of the rehab of this sheetpile wall for the Lake Mechant (TE-44) project and implemented strict deadlines due to the lack of benefits experienced on the project site. In addition to the design, MSMM managed the field investigations for this project which consisted of full hydographic survey and the collection of geotechnical borings. MSMM engineering and environmental staff also performed the H&H modeling to determine scour analysis and completed the permitting applications with USACE and CPRA. MSMM then developed a project alternative that was approved by CPRA. The project was constructed in 2022.

In addition to the maintenance project identified above, MSMM developed final plans through the CWPPRA program for the beneficial use of dredge material. These plans were developed for the West Bay Diversion project where the Pilotown Anchorage Area was dredged and over 2 million cubic yards of sandy material from the Mississippi River was pumped into the West Bay receiving area. This project was deemed a major success as it led to the natural formulation of land through the diversion receiving area.

MSMM was also recently selected by the Department of the Interior to provide environmental, civil, and architectural design to the United States Fish and Wildlife Service and the National Park Service for ongoing maintenance projects across Louisiana and the country. This design is critical to the future of our National Parks and environmentally sensitive areas and locations. Furthermore, MSMM is currently engaged with Jefferson Parish to develop a new transient boat dock and commercial fishing laydown yard in the Bucktown Harbor.

## 2. SIZE OF FIRM CONSIDERING THE NUMBER OF PROFESSIONAL AND SUPPORT PERSONNEL TO PERFORM THE ENGINEERING TASKS

MSMM has a total of 30 personnel that will be available to work on this project. Though labeled as a small DBE firm, MSMM engineering qualifications rival those of larger engineering firms in the region. Many of the aforementioned coastal projects were completed either entirely or nearly entirely by our in-house team. As a full-service engineering firm, we are committed to providing a staff that has a wide range of capabilities, as well as the ability to manage those capabilities in a way that promotes safety and quality while staying on time and in budget.

Our Project Management Plan prioritizes a style of project management that is heavily built around effective communication. This coordination encourages consistent understanding between the project owner, our engineers, and any related stakeholders. Effective coordination guarantees that we are applying the correct amount of resources, which includes staff, to meet the scope of work at any given time. Should the scope change, our sprawling, multi-talented staff will be able to amplify resources to mitigate any challenges. MSMM's engineering staff regularly engage with Louisiana Parishes and have established a high level of comfort navigating client's needs when designing projects located within coastal landscapes.

This enables us to add resources should the scope change during design, or to make any necessary staff decisions based on the needs of Jefferson Parish.
When beginning any new job, MSMM launches a QA/QC template that assigns personnel based on experience, location, and availability. This plan is developed by the Project Manager and reviewed by the principal in charge before any tasks are executed on the project. MSMM employs a QA/QC manager who not only reviews the quality of the design but is involved in forecasting available resources based on the current workload at the company. The QA/QC manager works in unison with the project manager to guarantee that MSMM is providing quality work products and ample capacity to add resources to the job, should the scope change during design.

In addition, MSMM has recent extensive Coastal Engineering experience and can provide lessons learned from these projects to all projects identified by Jefferson Parish under this solicitation. MSMM Civil and Structural engineering staff regularly engage with CPRA engineering staff and have established a level of comfort with the CPRA staff when designing projects located within coastal marshes and landscapes.

**3. CAPACITY FOR TIMELY COMPLETION OF NEWLY ASSIGNED WORK**

MSMM can strongly attest that each of our engineering staff members have greater than 60% availability to design coastal projects for Jefferson Parish. MSMM's current project load allows ample flexibility in our staffing arrangements to ensure that services are executed on time and within budget. We recently wrapped up four of our largest design jobs, one being the large drainage pump station at the New Orleans International Airport, and the other three being large design task orders for USACE Ft. Worth District. These four jobs encompassed most of our engineering resources over the last 2 years. With these jobs now finished, we have started to allocate our engineering resources to local work, and our engineers have ample availability in their current schedules for a new project. In addition, the other large design jobs we currently have ongoing for USACE (Cow Bayou Drainage Complex, Ascension Parish Wastewater Treatment Plant, and design for a new floodwall in Texas City, TX) have moved past the preliminary design phase and final design will be completed before the end of the year. Therefore, our staff has ample time to complete the work required under this RFQ.

The Jefferson Parish references identified in the response to question #7 can attest to the quality standard and timely completion of Parish projects by MSMM and our personnel.

**4. PAST PERFORMANCE BY PERSON OR FIRM ON PROJECTS OF OR SIMILAR COMPARABLE SIZE, SCOPE AND SCALE**

Since the early 1990s, the President of MSMM Engineering, LLC has worked *on more than **200 projects for various departments of Jefferson Parish.*** These projects were successfully completed on time within the estimated budget. Project types designed by MSMM engineering staff include roads and bridges, stormwater

and wastewater system assessment, funding and construction administration, environmental site assessments, permitting and NEPA documentation, and hurricane hazard mitigation design for drainage and sewerage facilities. MSMM's Principals have been working on Jefferson Parish contracts for the past 20 years and have a track record of successful project execution starting from grant applications, through environmental permitting and design, to construction administration and grant management. At no point during the 20+ year career of producing project plans and specifications has any member of MSMM been involved in projects involving design inadequacies, cost over-runs or assertions of fault.

**A listing of other Jefferson Parish projects designed by MSMM engineering staff:**

- Utility (Sewer) Relocations – Huey P. Long Bridge Widening
- 31st Street Bridge Replacement
- Hilltop to Quitman Bridge Replacement
- Manhattan Boulevard Rehabilitation from Lapalco to Harvey
- Lapalco Boulevard Widening
- Hickory Avenue (LA-48 to Mounes)
- Harahan Pump to the River, Jefferson Parish, LA
- Soniat Canal Drainage Improvements (USACE/SELA project)
- Drainage Pump Station Design, New Orleans International Airport, Kenner, LA
- Storm Water Demonstration Project, Force Main & East Bank Wastewater Treatment Plant Expansion, Jefferson Parish, LA.
- Sena Drive Drainage Improvements
- Sauve Road Drainage Improvements
- Canal 7 Drainage Improvements at Chateau Boulevard and Joe Yenni Boulevard
- East Bank Subsurface Drainage Improvement Program Phases I and II
- Drainage Evaluation of Canal Nos. 17 and 7, and Parish Line Pump Station
- Environmental Review for Hurricanes Gustav and Ike CDBG Disaster Recovery grant projects
- East Bank Sewerage Plant Disinfection Feasibility Study, Jefferson Parish, LA.
- Storm Water Demonstration Project, Force Main & East Bank Wastewater Treatment Plant Expansion, Jefferson Parish, LA.
- Infiltration/Inflow Hydraulic Modeling, Jefferson Parish, LA
- Sewer Lift Station D6-5 Force Main Improvements, Jefferson Parish, LA
- Chetta Drive Gravity Sewer System, Jefferson Parish, LA
- East Bank Water Treatment Plant Expansion, Jefferson Parish, LA
- Wastewater Treatment Plant Modifications, including Sewer Force Main (Tribune to East Bank WWTP), Jefferson Parish, LA
- Sewerage Improvements to the Crown Point Area, Jefferson Parish, LA
- Drainage Design Services for the Long Term Airport Development, New Orleans International Airport, Kenner, LA
- Bridge City Chlorination/ Dechlorination System, Jefferson Parish, LA

**MSMM coastal projects (either completed or in progress):**

- Lake Mechant TE-44 Steel Sheetpile Plug Restoration
- Calcasieu Ship Channel Salinity Control Measures – West Pass and Joe's Cut
- H&H Modeling for the Mid Breton Diversion
- Teche Vermillion Pump Station Trash Rake Design
- Bayou Mandeville Maintenance Dredging

- Brown Avenue Canal Improvements
- Golden Triangle Wetland Restoration
- Bayou Segnette State Park Improvements (multiple phases)
- MRGO Ecosystem Restoration Plan Feasibility Study
- Mirabeau Gardens Green Infrastructure
- Jefferson Parish Silver Jackets
- West Bay Sediment Diversion

## 5. LOCATION OF THE PRINCIPAL OFFICE WHERE WORK WILL BE PERFORMED

All engineering work associated with the design of coastal restoration work for Jefferson Parish will take place out of the MSMM main office located at 4508 Clearview Parkway, Metairie, LA 70006.

## 6. ADVERSARIAL LEGAL PROCEEDINGS BETWEEN THE PARISH AND THE PERSON OR FIRM PERFORMING PROFESSIONAL SERVICES

MSMM is proud to state that **neither the firm nor our staff have been involved in any litigation activity with Jefferson Parish** or any other client.

## 7. PRIOR SUCCESSFUL COMPLETION OF PROJECTS OF THE TYPE AND NATURE OF THE ENGINEERING SERVICES

We offer the following references that can attest to our previous work history regarding our design, environmental permitting, utility relocations, and construction management experience as it relates to drainage projects.

For coastal restoration projects:

- **Brian Babin, Engineering Supervisor, Operations Division • Coastal Protection and Restoration Authority** • 985-447-0956

For recent Jefferson Parish drainage, coastal, H&H modeling and overall design work, please reach out to the following:

- **Michelle Gonzales, CFM, Director of Ecosystem and Coastal Management • Jefferson Parish** • 1221 Elmwood Park Blvd., Ste. 310, Jefferson, LA 70123 • 504-736-6653
- **Mitchell T. Theriot, P.E., Director of Department of Drainage • Jefferson Parish** • 1221 Elmwood Park Blvd., Ste. 907, Jefferson, LA 70123 • 504-736-6753
- **Neil Schneider, Director of Capital Projects • Jefferson Parish** • 1901 Ames Blvd., Marrero, LA 70072 • 504-349-5800

For recent projects we have designed that have included roadway crossing/design, permitting with DOTD, CPRA, the Coast Guard and bike path/utilities relocation for the USACE New Orleans District, New Orleans International Airport and the Southeast Louisiana Flood Protection Authority – East:

- **Durund Elzey, Deputy District Engineer for Programs and Project Management (DPM) • US Army Corps of Engineers, New Orleans District** • 504-862-1674

**O. To the best of my knowledge, the foregoing is an accurate statement of facts.**

**Signature:**  **Print Name:** Manish Mardia, PE

**Title:** President **Date:** July 16, 2024

# Louisiana Professional Engineering and Land Surveying Board

*Hereby Certifies that*

## MSMM Engineering, Inc.

*has complied with the regulation of this Board and is authorized to provide or to offer to provide engineering services in the State of Louisiana contingent upon payment of the annual renewal fee.*

*Baton Rouge, Louisiana · 08/15/2011*

Ali Mustapha
*Chairman*

*Secretary*

*License Number* 4896

# The Louisiana State Board of Registration for Professional Engineers and Land Surveyors

*Hereby Certifies that*

## Manish Mardia

*has qualified before this Board in accordance with law and his name has been inscribed upon the list of registered Professional Engineers. He is thereby entitled to practice in the State of Louisiana the profession of*

Environmental Engineering

*contingent upon payment of the annual license fee provided by law.*

STATE OF LOUISIANA · BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS & LAND SURVEYORS

*Baton Rouge, La.* July 13, 1999

Chairman

Secretary

Registration No. 28482

# LOUISIANA UNIFIED CERTIFICATION PROGRAM

## Disadvantaged Business Enterprise Program

**This is to certify that under Title 49, Part 26 of the Code of Federal Regulations**
**& Under the State of Louisiana United Certification Program (LAUCP)**

## MSMM Engineering, LLC

**Is a Certified Disadvantaged Business Enterprise (DBE) in the following specialties:**

**541690, 541620, 541618, 541611, 541490, 541350, 541340, 541330**

*NOTE: There may be other approved NAICS Codes. The online DBE Directory includes a complete list of approved codes.*

**Certificate Eligibility: January 13, 2024- January 13, 2025**

***This certificate is valid through the above date provided. This firm meets the on-going programmatic standard and fulfills the annual update requirement to remain in good standing as a DBE. This certification is subject to annual verification and suspension or revocation based upon reasonable cause to believe that the firm is ineligible.***

Keziah L. Cawthorne

**Keziah L. Cawthorne, DBE Program Administrator II**

***Regional Transit Authority***

# TEC Professional Services Questionnaire

**A. Project Name and Advertisement Resolution Number:**

SOQ #24-020 Coastal Engineering Consulting Services as needed parish wide. Resolution No. 144205

**B. Firm Name & Address:**

Coast & Harbor Engineering, Inc.
PO Box 202737
Austin, TX 78720

COAST & HARBOR ENGINEERING

**C. Name, title and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:**

Josh Carter, PE, BC.CE
PO Box 202737
Austin, TX 78720

office: (512) 615-0816
email: josh.carter@coastharboreng.com
LA PE: 33391

**D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.**

Josh Carter, PE, BC.CE
PO Box 202737
Austin, TX 78720

office: (512) 615-0816
email: josh.carter@coastharboreng.com
LA PE: 33391



**E. Please provide the number of employees whose primary function corresponds with each category:**

| | | |
|---|---|---|
| ___ Administrative | ___ Estimators | ___ Specification Writers |
| ___ Architects (Licensed) | ___ Geologists | ___ Structural Engineers |
| ___ Chemical Engineers | ___ Geotechnical Engineers | ___ Graduate Engineers |
| ___ Civil Engineers | ___ Interior Designers | ___ Project Managers |
| ___ Construction Inspectors | ___ Landscape Architects | ___ Clerical |
| ___ Ecologists | ___ Land Surveyor | ___ Grant/Funding Specialist |
| ___ Electrical Engineers | ___ Mechanical Engineers | ___ Sanitary Engineers |
| ___ Engineer Intern | ___ Environmental Engineers | 12 Other (Coastal Engineers) |
| ___ Professional Land Surveyors | | **12 TOTAL** |

**F. Is this submittal by a JOINT-VENTURE? Please check: YES NO ✓**

**If marked "No" skip to Section I. If marked "yes" complete Sections G-H.**

# TEC Professional Services Questionnaire

**G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.**

1. **N/A**

2. **N/A**

**H. Has this JOINT-VENTURE previously worked together? Please check: N/A**
**YES NO**

**I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.**

| Name & Address: | Specialty: | Worked with Firm Before (Yes or No): |
|---|---|---|
| 1. N/A | | |
| 2. N/A | | |
| 3. N/A | | |

**J. Please specify the total number of support personnel that may assist in the completion of this Project:**

**12**

# TEC Professional Services Questionnaire

**K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e. resume) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.**

## PROFESSIONAL IN CHARGE OF PROJECT:

**Name & Title:**

Josh Carter, PE, BC.CE - Principal

**Project Assignment:**

Principal-in-Charge

**Name of Firm with which associated:**

Coast & Harbor Engineering, Inc.

**Years' experience with this Firm:**

5 months

**Education: Degree(s)/Year/Specialization:**

MS, Civil and Environmental Engineering, Massachusetts Institute of Technology / 2002 / Coastal Engineering
BS, Ocean Engineering, Texas A&M University / 1999 / Coastal Engineering

**Active registration: Year first registered/discipline:**

Professional Engineer: LA, #33391, 2007; TX, #97258, 2006; FL, #80996, 2016; MS, #18618, 2008; AL, #34115-E, 2013; VA, 57398, 2017

**Other experience and qualifications relevant to the proposed Project:**

Josh is a Principal Coastal Engineer. He has participated in 100s of coastal projects along the Gulf and as Engineer of Record for more than 20. He designs coastal structures such as breakwaters, groins, revetments, living shorelines; beach/dune nourishment and marsh creation; and navigation channels. Josh has worked in nearly all parts of coastal Jefferson Parish and has working models of Lake Pontchartrain, Barataria Bay, and areas north, as well as all of Grand Isle. Josh has delivered projects up to $500M in construction.



**Selected experience**

**Bucktown Harbor Marina Entrance Improvement Project, Jefferson Parish, LA:** Principal-in-Charge for evaluation, design, and construction of improvements to the entrance of the Bucktown Harbor Marina to reduce wave energy penetration into the marina. Oversaw data collection, wave modeling, and feasibility study. Directed the design and permitting of the project. Managed construction administration and inspection.

**Grand Isle Barrier Shoreline Stabilization Study, Jefferson Parish, LA:** Coastal Engineer for a study which developed a long-term solution to reduce storm damage and create a recreational beach. He conducted coastal engineering analysis and evaluated alternatives through numerical modeling. His coastal engineering analysis led to an understanding of the processes controlling the shoreline change at Grand Isle which allowed for solutions developed to address the processes responsible for shoreline change.

**Grand Isle Levee/Dune Hot Spot Emergency Stabilization and Repair, Grand Isle, Jefferson Parish, LA:** Project Director for emergency project to stabilize an erosional hotspot has formed on the western end of the Island where chronic erosion has continued to threaten the USACE levee/dune system, adjacent infrastructure, and recreational beach. The project consisted of constructing a 2,800-foot-long stone revetment for immediate protection, and design of beach and breakwaters for long-term stabilization. Designed 5 rock breakwaters and a 750,000 CY beach nourishment along the westernmost 2 miles of Grand Isle including design of a borrow site at the Caminada Pass ebb shoal.

**Jefferson Floodwall – Hurricane Forces on I-10 Bridge, Jefferson Parish, LA:** Coastal Engineer responsible for analyzing hurricane wave-induced forces and moments on bridge span locations at the I-10 bridge.

# TEC Professional Services Questionnaire

**Josh Carter** continued

**East/West Grand Terre Island Shoreline Stabilization, Jefferson and Plaquemines, LA:** Coastal Engineer responsible for evaluating the shoreline erosion rate and predicting the rate of shoreline retreat for each of the proposed beach nourishment alternatives. A sophisticated methodology was pioneered to evaluate the morphology and lifetime of the beach nourishment by combing cross-shore profile modeling, 2-dimensional wave and wave-induced current modeling, and the measured coastal erosion at the site. This methodology led to a better understanding of the capacity of each proposed nourishment alternatives to withstand the erosive forces acting on the islands' shorelines.

**Bayou Bonfouca Marsh Creation – Numerical Modeling, St. Tammany Parish, LA:** Project Manager for numerical modeling conducted to support a marsh creation project. He directed the evaluation of impacts of dredging the proposed borrow source on changes to the local wave climate and resulting changes in shoreline morphology. He also directed 3-dimensional circulation and water quality modeling to investigate the potential for the borrow source to act as a trap for low dissolved oxygen water and developed variations to the borrow cut design to maximize flushing of the borrow cut to eliminate water quality impacts.

**Elmer's Island Breach Repair, Jefferson Parish, LA:** Coastal Engineer who computed statistics for waves, winds, water levels, and storm occurrence. He also directed and conducted numerical modeling in support of the analysis and design calculations. Modeling work included circulation modeling, wave penetration modeling, and shoreline morphologic modeling. Results from these analyses were used to develop alternative breach fill solutions. Mr. Carter also managed field data collection tasks including topographic/bathymetric surveys, geotechnical field investigation, sediment borrow source investigation and preliminary and final design assistance.

**Living Shoreline Demonstration Project, St. Bernard Parish, LA:** Project Manager for a demonstration project which evaluated living shoreline products to reduce wave energy that reached the shore and stimulate oyster growth to increase the biodiversity in the immediate area. He was responsible for the overall project delivery, Mr. Carter directed the morphologic analysis, evaluation nine living shoreline products, and design. The evaluation investigated the product's ability to reduce wave energy past the structure utilizing 3D computational fluid dynamics modeling tools. He also managed final design, bidding phase services and managed construction administration.

**Mandeville Wetlands Protection, Mandeville, LA:** Project Manager for a protection project needed to reduce erosion to the cypress wetland, maintain the hydraulic connection with stormwater outfalls that feed into the wetlands and into Lake Pontchartrain, and serve as a walkway between two adjacent parks. He was responsible for data collection efforts and analysis of existing conditions including wind and wave climate, tide elevations, and sediment transport patterns. He also directed an alternatives analysis for three alternatives: a rock revetment, a living shoreline, and a hybrid structure which combined the advantages of the revetment and living shoreline concepts.

**Cameron Parish Shoreline Restoration, Cameron Parish, LA:** Project Manager for a $42M beach nourishment project along the Gulf Coast Beach which consisted of importing dredged sand from 20 miles offshore. He was responsible for existing and new field data collection, coastal engineering analysis, project alternatives development, alternatives analysis, and borrow source investigation, and managed acquisition of required regulatory approval for its mining. He also participated in the analysis of analytical, empirical, and numerical modeling of waves, tides, sediment transport and shoreline morphology. The design team utilized the results of the coastal engineering analysis to develop alternative shoreline nourishment methods and configuration. He also managed the construction oversight services.

**Bio-Engineered Oyster Reef Demonstration, Cameron Parish, LA:** Project Manager for a demonstration project which evaluated a new concrete oyster reef technology, the Oysterbreak™ and compared the performance of the Oysterbreak™ structures to traditional rock structures in their ability to provide shoreline stabilization to a marsh shoreline in the open Gulf of Mexico in very weak soil conditions. He was responsible for the analytical and numerical modeling, including 2D and 3D VOF numerical modeling of the structure's stability and ability to reduce wave impacts on the shoreline. He also coordinated and developed the final design, technical specifications, construction contracting documents, and coordinating with agencies and client for project review.

# TEC Professional Services Questionnaire

## KEY PERSON, SPECIALIST, OR INDIVIDUAL

**Name & Title:**

Scott Fenical, PE, BC.CE, D.PE - Principal Coastal Engineer

**Project Assignment:**

Senior Coastal Engineer

**Name of Firm with which associated:**

Coast & Harbor Engineering, Inc.

**Years' experience with this Firm:**

5 months

**Education: Degree(s)/Year/Specialization:**

MS, Ocean Engineering, Texas A&M University / 1996 / Coastal Engineering
BS, Mechanical Engineering, University of California, Santa Barbara / 1994

**Active registration: Year first registered/discipline:**

Professional Engineer: CA, 59466, 1999; TX, 116337, 2014

**Other experience and qualifications relevant to the proposed Project:**

Mr. Fenical's 29 years of experience also includes planning, engineering, and design of a wide range of shoreline protection projects such as beach nourishment, coastal armoring, inlet and waterway maintenance, and dune restoration. He prepares and reviews engineering plans and designs for coastal/ shoreline structures including maintenance dredging, habitat restoration, artificial reef development, breakwaters, groins, revetments, beach nourishment, and dune restoration. His numerical modeling and analysis experience includes wave transformation, wave-generated nearshore circulation, tide and wind-generated circulation, sediment transport under waves and currents, and water quality.

**Selected experience**

**Caminada Bridge Design Criteria Development, Caminada Pass, Jefferson Parish, LA:** Coastal engineer responsible for storm surge analysis and modeling, wave transformation modeling and wave loading analysis for the re-development of Caminada Pass Bridge. Mr. Fenical also performed evaluation of historical hurricane data which included measuring storm surge, wave heights, and hurricane parameters. Based on evaluation of these hurricane parameters, design hurricane events were estimated for the 100-year event for the project design. Storm surge was evaluated based existing studies, as well as those predicted by numerical modeling tools. He also developed a bathymetry/topography database relevant to the project site and a detailed numerical modeling domain covering the entire Gulf of Mexico and lower half of Louisiana.

**Grand Isle Shoreline Stabilization Study, Jefferson Parish, LA:** Coastal Engineer who worked on the coastal processes analysis team developing and implementing numerical modeling for existing conditions and for proposed alternatives. Mr. Fenical developed the wave transformation modeling as well as the combined tide, wave, and wind-induced currents, which were used to drive sediment transport and sediment transport pathway models. Results of the evaluation were used in the design to achieve the optimal performance of various alternative components.

**East/West Grand Terre Islands Shoreline Stabilization Project, Jefferson/Plaquemines Parish, LA:** Coastal Engineer responsible for overseeing the coastal modeling. The modeling included regional and nearshore spectral wind wave transformation, nearshore wave-induced currents, regional tidal current circulation verified with field data, coupled wave-induced and tidal-induced currents, and sediment transport under combined waves and currents. The sediment transport modeling was coupled with a shoreline response model to predict beach fill longevity. Also, the fate and longevity of the beach fill was modeled with particle tracking models. Mr. Fenical performed marsh fill volume calculations and cohesive sediment transport modeling of the marsh material under waves to determine scour of the marsh material over the project lifetime.

# TEC Professional Services Questionnaire

## KEY PERSON, SPECIALIST, OR INDIVIDUAL

**Name & Title:**

Arpit Agarwal, PE – Principal

**Project Assignment:**

Senior Coastal Engineer

**Name of Firm with which associated:**

Coast & Harbor Engineering, Inc.

**Years' experience with this Firm:**

5 months

**Education: Degree(s)/Year/Specialization:**

MS, Civil Engineering, University of Delaware / 2005 / Coastal Engineering
Bachelor of Technology, Naval Architecture & Ocean Engineering, Indian Institute of Technology, 2003

**Active registration: Year first registered/discipline:**

Professional Engineer: LA 46339. 2021; TX 104878, 2009

**Other experience and qualifications relevant to the proposed Project:**

Mr. Agarwal has served as a Project Manager and Coastal Engineer in planning and data collection efforts, alternatives analyses, and design for a variety of coastal work such as shoreline stabilization, coastal protection, and marine terminal projects. He is proficient in performing sophisticated analytical and numerical analysis on a variety of meteorologic and oceanographic data types. His experience has ranged from developing his own computer codes and using available numerical models to performing modeling and analysis of wave transformation, tide and wind induced currents, propeller wash, sediment transport, shoreline change, and morphology.



**Selected experience**

**Grand Isle Levee/Dune Emergency Stabilization, Grand Isle, LA:** Coastal Engineer responsible for managing the coastal engineering analysis which included statistical analysis of coastal processes, wave and circulation modeling, morphology analysis including shoreline change and bed bottom morphology, shoreline morphology modeling and development of sediment budget along the Grand Isle shoreline. He also helped in the development and analysis of different alternatives for mitigating shoreline erosion.

**Cameron Parish Shoreline Stabilization, LA:** Coastal Engineer for beach nourishment project that placed 2 million cubic yards of sand along the shoreline protecting State Highway 82/27. He was responsible for conducting coastal modeling to determine the fate of beach nourishment material. He developed and analyzed configurations of beach nourishment and identified the most feasible. He utilized wave modeling to transform waves to nearshore to design the project. His work also helped in determining if the dredging of borrow source sites had any adverse impact on the current shoreline. Additionally, he developed a dynamic sediment budget to predict the future shoreline positions.

**Bayou Bonfouca Marsh Creation - Numerical Modeling, St. Tammany Parish, LA:** Arpit developed wave models for evaluating changes to the wave climate leeward of the proposed borrow sites for the Bayou Bonfouca Marsh Creation Project. Mr. Agarwal conducted the borrow area impact analysis using the numerical model SWAN to assess the impact of the borrow area on local wave energies impacting the shoreline.

**Bird's Foot Delta Hydrologic Restoration, Plaquemines Parish, LA:** The 521,000-acre delta has degraded and restoration is proposed through increasing the hydraulic connection between the Mississippi River, main passes, and crevassing for land building. Mr. Agarwal conducted hydraulic and morphologic numerical modeling incorporating riverine and coastal hydrodynamics and 3D effects to capture salinity over a large range of scales to capture river processes down to detailed crevasse splay land building, and evaluated a dredge template that balances long-term land building and habitat benefits without impacts to navigation.

# TEC Professional Services Questionnaire

## KEY PERSON, SPECIALIST, OR INDIVIDUAL

**Name & Title:**

Craig Harter – Coastal Engineer

**Project Assignment:**

Coastal Engineer

**Name of Firm with which associated:**

Coast & Harbor Engineering, Inc.

**Years' experience with this Firm:**

5 months

**Education: Degree(s)/Year/Specialization:**

MS, Ocean Engineering, Texas A&M / 2015 / Coastal Engineering
BS, Civil Engineering, California Polytechnic State University, San Luis Obispo, 2010

**Active registration: Year first registered/discipline:**

Professional Engineer: TX, 134941, 2020

**Other experience and qualifications relevant to the proposed Project:**

Mr. Harter is a professional engineer with of experience in coastal modeling. He is skilled in a variety of numerical modeling software for coastal processes such as wave transformation (SWAN), general circulation and storm surge (ADCIRC), and detailed hydrodynamics (Flow 3D). Mr. Harter has effectively created, calibrated, and validated modeling tools to understand the coastal setting and analyze project performance.

**Selected experience**

**Grand Isle Levee Dune and Beach Nourishment, Coastal Protection and Restoration Authority of Louisiana, Grand Isle, LA**. Coastal engineer responsible for developing and calibrating a dynamically coupled 2D depth averaged hydro – morphological model in Delft 3D to simulate inlet dynamics and sediment bypassing across the inlet on the west end of Grand Isle. Utilized the model to identify changes to the inlet dynamics under the influence of two breakwater scenarios and three proposed dredge pit scenarios. Used the changes to bypassing from the coupled model to force a 1D shoreline response model (Gencade) to identify potential changes to the shoreline position as a result of the proposed project alternatives. (2016 - 2017).

**Cameron Creole Marsh Hydraulic Analysis, Coastal Protection and Restoration Authority of Louisiana, Cameron Parish, LA:** Coastal engineer. Developed an innovative approach to simulating tidal currents by using machine learning technology by creating a neural network that was trained to act as an accurate and efficient surrogate hydrodynamic model that predicted tidal currents and water levels 300,000 times faster than the numerical model and with remarkable accuracy. His work accelerated the computational timeline of more than 200 storm surge scenarios. Developed the methodology to evaluate the complete hurricane-induced risks including water elevation, wave conditions, and probabilistic hydrodynamic loads on project features.

**Little Bay Drainage Improvements, Rockport, TX:** Coastal engineer for hydrological, hydraulic, and hydrodynamic circulation modeling of Little Bay. Developed joint annual exceedance probability curves for storm surge and precipitation using statistical modeling from historical data. Simulated the joint influence of extreme surge and precipitation using HEC-RAS 5 in terms of flood extent and peak velocity. Further analyzed the sensitivity of the hydraulic system to the latency between surge and precipitation peaks as well as the shape of the storm surge hydrograph. The results of the analysis will be used by our team to explore potential mitigation measures to increase the overall circulation between Little Bay and Aransas Bay and alleviate prolonged flooding.

# TEC Professional Services Questionnaire

## KEY PERSON, SPECIALIST, OR INDIVIDUAL

**Name & Title:**

Thomas Everett, PE – Coastal Engineer

**Project Assignment:**

Coastal Engineer

**Name of Firm with which associated:**

Coast & Harbor Engineering, Inc.

**Years' experience with this Firm:**

5 months

**Education: Degree(s)/Year/Specialization:**

MS, Coastal and Ecological Engineering, Louisiana State University / 2016 / Coastal Engineering
BS, Civil Engineering, Louisiana State University 2014

**Active registration: Year first registered/discipline:**

Professional Engineer: TX, #137249, 2020

**Other experience and qualifications relevant to the proposed Project:**

Thomas Everett, PE is a Professional Engineer with nearly a decade of experience in coastal analyses, design, and restoration projects, working as a technical lead, project manager and staff manager. Work history includes complex modeling efforts in nearshore hydrodynamics, circulation, riverine sediment transport and morphology, and field data collection and processing with a focus in the Gulf of Mexico, and extensive experience in Louisiana and Texas.

**Selected experience**

**Bird's Foot Delta Hydrologic Restoration Project (MR-173):** Lead project engineer for a project that proposes to restore the hydrology, freshwater, and sediment delivery to the Eastern Bird Foot Delta. Project engineer responsible for developing understand the dynamics of the Bird's Foot Delta developing modeling approach. Responsible for 3D hydraulic and morphologic coastal modeling of the Lowermost Mississippi River and Bird's Foot Delta complex.

**Pontchartrain Pond Hydrodynamic Assessment:** Project manager and coastal engineer for a project that includes the analysis and design of a channel to restore circulation to Pontchartrain Pond along the south shore of Lake Pontchartrain in Jefferson Parish, LA. A fully coupled surface wave and circulation model of Pontchartrain Pond and alternative channel designs were developed. The model calculated flow velocities and water quality within the designed channels to determine channel stability.

**Slidell Breakwater Restoration:** Project manager and coastal engineer for a project that developed a design concept and detailed cost estimate for a breakwater system in Slidell, LA on the shore of Lake Pontchartrain. A coastal engineering analysis was conducted to develop a project site understanding, to aid in numerical modeling, alternatives analysis, and development of a preliminary shoreline protection system. The goal of the shoreline protection system was to reduce storm induced wind-waves along the project shoreline. Numerical modeling was used to develop, evaluate, and recommend alternatives at the project site.

**Biloxi Marsh Living Shoreline Project, Coastal Protection and Restoration Authority of Louisiana (CPRA), St. Bernard Parish, LA:** Coastal Engineer for a living shoreline project that will build approximately 11 miles of shoreline protection to reduce shoreline erosion and enhance ecological habitat. Constructed a nearshore wave model to transform offshore wave energy to the breakwater structure. Validated the model against wave gauge measurements. Additionally, he assisted in a comprehensive shoreline change analysis to determine short- and long-term retreat rates across the project site. From the shoreline change analysis and wave modeling, a relationship between incident wave energy and shoreline retreat rate was determined for each breakwater type.

# TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

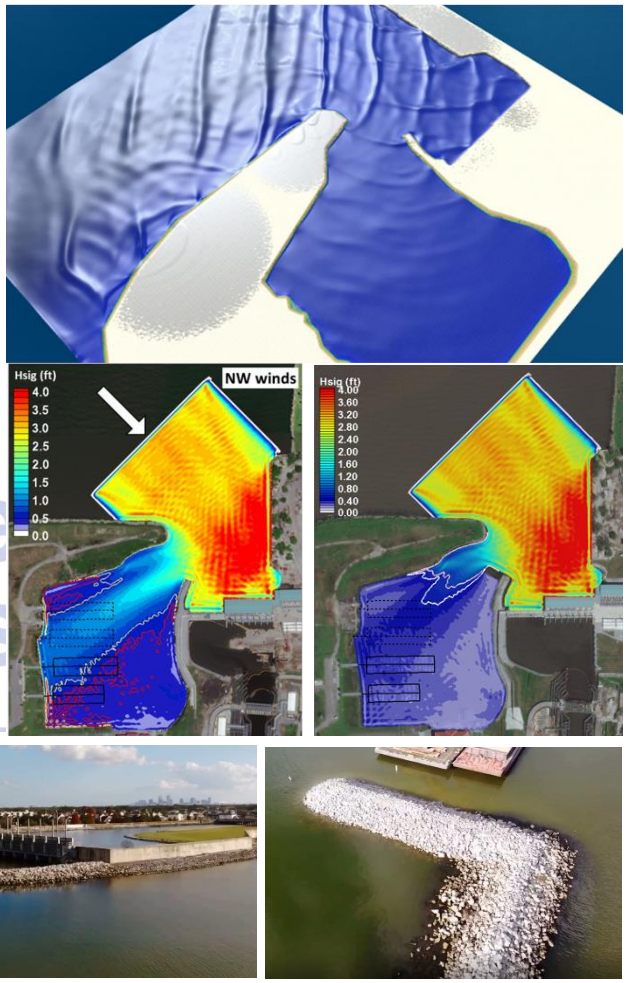
## PROJECT NO. 1

| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
|---|---|
| **Bucktown Harbor Marina Entrance Improvement Project**<br>Jefferson Parish Ecosystem and Coastal Management, Michelle Gonzales: (504)736-6653 | See below |

Ships were experiencing large motions during regular winter storm events. Coast & Harbor Engineering (CHE), as part of Mott MacDonald*, developed alternative solutions including a variety of structural modifications to the entrance and reconfiguration of the entrance channel. The improved entrance provides calm mooring conditions and improved navigation safety.

We evaluated wave energy penetration into the Marina Entrance which caused unacceptable motion of vessels moored in the marina. Waves were shown to diffract around the entrance as well as reflect off of the eastern wall of the 17th Street Canal outfall. A number of entrance configurations were developed and tested using wave modeling to provide an entrance that reduced waves to an acceptable level while still providing for safe navigation through the entrance. The recommended solution was coordinated with the Marina Tenants, US Coast Guard, the USACE, SLFPA-E, CPRA and the Parish.

The new entrance was designed and all permits were obtained for the project construction, including a USACE Section 10/404 permit, a USACE Section 408 approval in coordination with SLFPA-E and CPRA, and a SLFPA-E permit.






*Top: modeling of waves entering marina; middle: wave modeling of (left) existing conditions and (right) with recommended solution, and bottom: completed entrance jetty.*

CHE, working as Mott MacDonald, provided engineering services during construction as well as construction inspection. Construction was completed in December 2022, with final acceptance obtained in April 2023.

**CHE staff provided services as part of Mott MacDonald for Jefferson Parish from 2018-2023, and former CHE staff re-formed CHE in February 2024.*

| **Completion Date (Actual or estimated)** | **Estimated Cost:** | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| April 2023 | Construction: $1.09M | Engineering and Construction Admin: $219K |

# TEC Professional Services Questionnaire

| PROJECT NO. 2 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Grand Isle Levee/Dune Emergency Stabilization, Jefferson Parish, LA**<br>CPRA, Rudy Simoneaux (225) 342 0981 | **Nature of Firm's Responsibility:**<br>See below |

In 2008, CHE engineers* conducted a study to evaluate historical construction activities along the Grand Isle Gulf shoreline. We determined coastal processes and forces that controlled shoreline stability and developed long-term engineering solutions and recommendations that would provide storm damage reduction, preserve structural integrity for the Grand Isle gulf shoreline.

Since 2008, a series of projects have been undertaken by the USACE based on CHE's recommendations. The USACE projects have stabilized much of the Grand Isle shoreline however, an erosional hotspot has formed on the western end of the Island where chronic erosion has continued to threaten the USACE levee/dune system, adjacent infrastructure, and recreational beach. The CPRA employed CHE* to develop a solution to stabilize this hot-spot.

Our engineers conducted an analysis to understand the coastal processes and morphology at the hot spot. We evaluated regional morphology through a 2d morphologic model and developed a sediment budget. We then used these findings to develop and evaluate alternatives to reduce storm damage and stabilize the western shoreline. The four alternatives included replacing the GI-01C project template, larger scale beach nourishment, beach nourishment and breakwaters, and beach nourishment and headland breakwaters. These alternatives were evaluated by their performance, cost, and recreational value.

A 2,800-foot-long stone revetment was constructed as a temporary solution, and later 5 breakwaters and a 750,000 CY beach nourishment was design and constructed. CHE provided engineering design and construction administration for each of these projects.

**CHE staff provided services as part of Mott MacDonald for CPRA from 2014-2024, and former CHE staff re-formed CHE in February 2024 and continue to provide services to CPRA as CHE.*

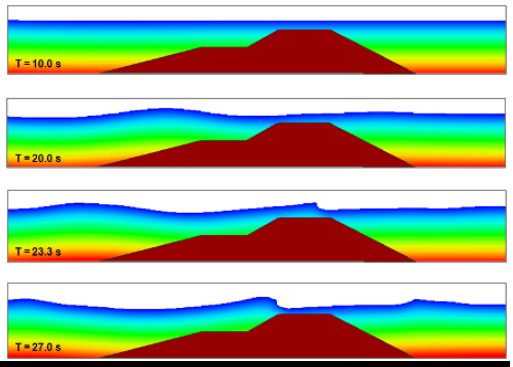
| **Completion Date (Actual or estimated)** | **Estimated Cost:** | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| March 2021 | Construction: $15M | Engineering and Construction Admin: $500k |

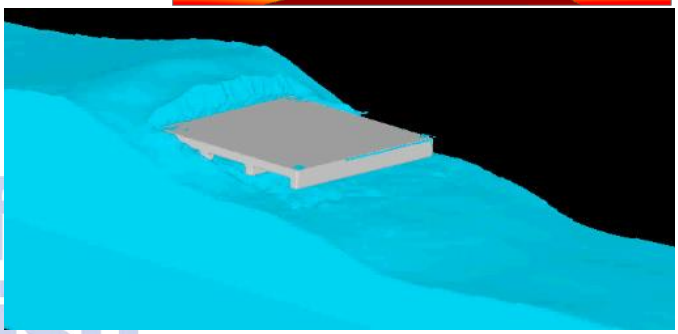
# TEC Professional Services Questionnaire

| PROJECT NO. 3 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Hurricane Forces on Jefferson Lakefront Floodwall, Jefferson Parish, LA**<br>LADOTD, Rahman & Associates, Inc. Rahman Bhatti (504) 469-0022 | **Nature of Firm's Responsibility:**<br>See below |

CHE engineers* analyzed three proposed floodwall alternatives for the Jefferson Lakefront floodwall at the intersection with the I-10 Bridge by conducting numerical modeling and computing hurricane wave-induced forces and moments on selected bridge span locations.

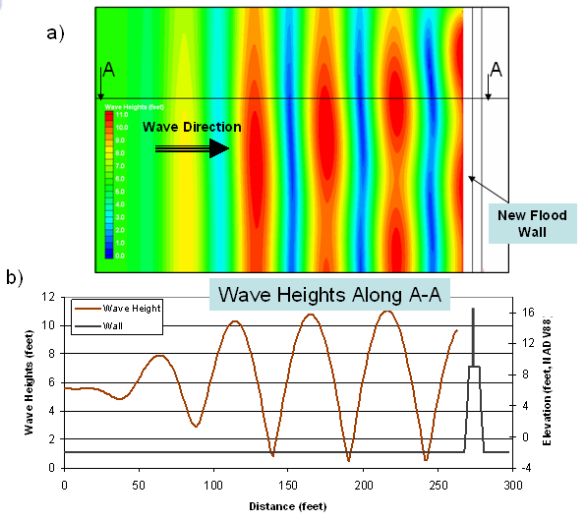
We conducted an analysis to determine the effects of the existing floodwall on waves during the design hurricane event. Hurricane wave forces and moments about the trailing edge were evaluated using AASHTO Guide Specifications. We used 2-D and 3-D computational fluid dynamics (CFD) models to evaluate the effects of the submerged existing floodwall on transformation of incident wave parameters to the selected bridge span locations. Then, our engineers determined input wave parameters to be used for wave force calculations from the numerical modeling results. We evaluated two combinations of applied forces and moments on the selected bridge spans (maximum vertical force and maximum horizontal force) following AASHTO guidelines. Results were used in the design of the floodwall.



*Existing conditions water surface elevation from CFD modeling results*

** CHE staff provided professional engineering services from 2003 to 2014, and as part of Mott MacDonald from 2014-2024. Former CHE staff re-formed CHE in February 2024.*




*Example wave transformation modeling results, interaction with vertical wall*

| Completion Date (Actual or estimated) | Estimated Cost: | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2009 | Unknown | $27k |

# TEC Professional Services Questionnaire

| PROJECT NO. 4 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Caminada Bridge Design, Caminada Pass, Jefferson Parish, LA**<br>LADOTD, Rahman & Associates, Inc. Rahman Bhatti (504) 469-0022 | **Nature of Firm's Responsibility:**<br>See below |

Louisiana Department of Transportation and Development (LADOTD) required technical information on wave forces for the Caminada Bridge design. Caminada Bridge is located in Caminada Pass. Caminada Pass separates the Caminada-Moreau Headlands (CMH) from Grand Isle. Caminada Pass connects the Gulf of Mexico on the south side to Barataria Bay to the North. Louisiana Highway 1 runs from the CMH to Grand Isle and is connected by the bridge over Caminada Pass.

The project vicinity is subject to high winds, storm surge, and wave impacts due to tropical storm and hurricane events that dominate the design conditions by becoming completely inundated by storm surge during major storm events.

CHE engineers* developed statistical information on extreme wave storm events and hurricanes and coordinated with LADOTD on the design events for the analysis. The design storm event was selected based on statistical analysis of historical events (included Hurricane Katrina) at the project site in coordination with LADOTD. The maximum water surface elevation was determined based on the results of numerical modeling, using a 2-Dimensional circulation numerical model (ADCIRC) and a spectral wave generation/propagation model (SWAN).

Wave forces on the bridge were determined using the most advanced engineering methods and numerical models. Wave forces calculations included vertical forces on the bridge deck and on pile caps, and horizontal forces on piles, girders, railings and pile caps.

We reviewed a series of draft and final reports from AASHTO and became familiar with the AASHTO methodology for computing wave forces. We also computed vertical forces on Caminada Bridge using the AASHTO methodology.

The results of the computations derived from the AASHTO methodology were compared to the results of the computations derived from our methods and an evaluation of the differences was reported to LADOTD.

**CHE staff provided professional engineering services from 2003 to 2014, and as part of Mott MacDonald from 2014-2024. Former CHE staff re-formed CHE in February 2024.*

| **Completion Date (Actual or estimated)** | **Estimated Cost:** | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2008 | Unknown | $70k |

# TEC Professional Services Questionnaire

| PROJECT NO. 5 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Biloxi Marsh Living Shoreline Project (PO-0174), St. Bernard Parish, LA**<br>CPRA, Rudy Simoneaux (225) 342 0981 | **Nature of Firm's Responsibility:**<br>See below |

The Biloxi Marshes consist of approximately 121,000 acres of brackish and salt marshes, which provide an important storm buffer for New Orleans as well as key habitat and ecosystem services. The marshes have been greatly impacted by shoreline erosion from wind-driven waves.

The project created 11 miles of bioengineered oyster reef breakwater fringing the marshes to reduce shoreline erosion, prevent further marsh degradation, promote community resilience, and enhance local fisheries and oyster production. The artificial oyster reef coastal structures were created using precast concrete units in a variety of configurations provide coastal protection and ecosystem restoration benefits by using artificial reefs to reduce wave energy impacting the shoreline thereby reducing erosion and increasing coastal habitat. CHE Engineers* provided planning, data collection, coastal engineering, engineering design, created detailed plans and specifications and provided engineering services during construction.

CHE Engineers evaluated project feasibility assessment. We conducted detailed coastal modeling and analysis to develop an understanding of the coastal processes acting at the site. We conducted wave modeling to determine the wave energy impacting the shoreline and evaluated historical shoreline change rates. This information was used to develop a model of shoreline erosion as a function of wave energy. We then developed detailed 3D computational fluid dynamic (CFD) model simulations of 12 artificial reef units (ARU) in multiple configurations to determine the wave interactions and wave transmission through the reef structures for the local wave climate. Multiple alternative project layouts were evaluated across the 11 mile project shoreline; the best performing layout was computed to save between 133 and 145 acres of wetlands over the next 20 years and provide 129 acres of reef habitat while minimizing impacts to the local habitat during construction.

CHE Engineers developed final design plans, specifications, and construction contract documents, which allowed for procurement of ARUs in a competitive process which are all protected by patent.

CHE Engineers, along with its subconsultants, provided construction administration, engineering support, and inspection throughout construction. We evaluated construction progress and schedule compliance, meeting environmental regulatory requirements, provided daily inspection in a remote site with multiple working plants, provided regular reporting of progress, change order review, baseline and monthly schedule review. Construction was completed 9 months ahead of schedule (55% of allotted time) and $8M (15%) under budget.

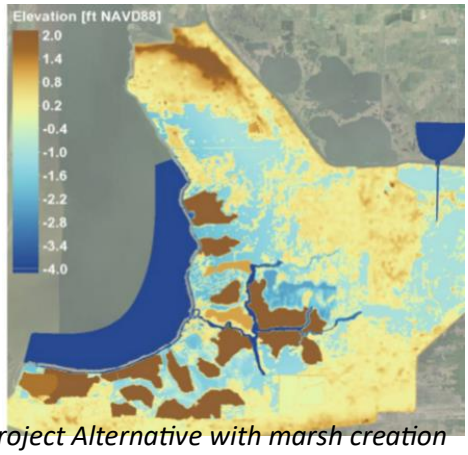
**CHE staff provided services as part of Mott MacDonald for CPRA from 2014-2024, and former CHE staff re-formed CHE in February 2024 and continue to provide services to CPRA as CHE.*

| **Completion Date (Actual or estimated)** | **Estimated Cost:** | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2023 | $51M | $3.2M |

# TEC Professional Services Questionnaire

| PROJECT NO. 6 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Cameron-Creole Hydraulic Restoration Project (CS-87) Cameron Parish, LA**<br>CPRA, Katie Freer (225) 342-4635 | **Nature of Firm's Responsibility:**<br>See below |

The Cameron-Creole watershed in southwest Louisiana has experienced wetland loss due to saltwater intrusion and flood stress. In the 1950s, the construction of the levee system was carried out to mitigate the effects of saltwater intrusion. While the flow control structures have acted to limit saltwater intrusion from the lake to the marsh, they have also exacerbated flood stress during and after heavy rainfall events by decreasing the hydraulic connectivity with Calcasieu Lake.



*Project Alternative with marsh creation*

CHE Engineers* evaluated alternatives to improve the ability to manage the water level using machine learning technology. These options consisted of increasing the area of the gate structures, converting the gate structures to flap-gates or gates that only allow water to flow out of the marsh, and increasing the drainage area by adding additional flap-gates. The Machine Learning data driven model allowed us to simulate over 8,000 variations of the additional flap gates within minutes and assisted the team in developing an optimal solution. This analysis revealed that the addition of one-way water control structures could help improve the drainage of the area and improve marsh health.


*Flow paths of hydraulic conveyance in the Cameron-Creole Watershed for preferred*

Our engineers further explored the various characteristics of the water control structures and their potential impact on the health of the Cameron-Creole watershed using a high-resolution numerical model. The project alternatives included different configurations of added one-way water control structures as well as conveyance improvements and large-scale marsh creation features. We included the marsh creation cells within the model; results showed improving conveyance around the new marsh cells are important to overall watershed marsh health.

The construction of one-way water control structures will reduce the average water level in the marsh and increase the overall area of healthy marsh. We identified seven locations along the lake rim that are suitable for the construction of these structures. The addition of 4,000 acres of new marsh could help improve the drainage of this area. Other improvements determined as part of our analysis include the dredging of the Grand Bayou and extending the connection of the East Prong to the eastern portion of the watershed.

**CHE staff provided services as part of Mott MacDonald for CPRA from 2014-2024, and former CHE staff re-formed CHE in February 2024 and continue to provide services to CPRA as CHE.*

| **Completion Date (Actual or estimated)** | **Estimated Cost:** | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2022 | Est. $160M | $250k |

# TEC Professional Services Questionnaire

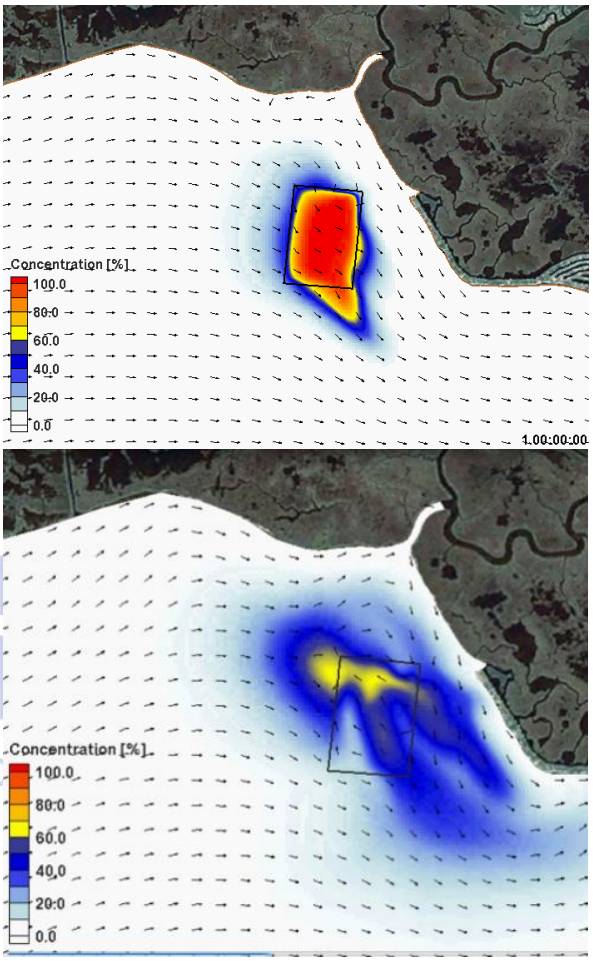
| PROJECT NO. 7 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Bayou Bonfouca Marsh Creation - Modeling St. Tammany Parish, LA**<br>CPRA, Shannon Haynes (225) 342-9424 | **Nature of Firm's Responsibility:**<br>See below |

The Bayou Bonfouca Marsh Creation Project (PO-104) created marsh in open water areas adjacent to Bayou Bonfouca with sediment pumped from Lake Pontchartrain. The proposed marsh creation sediment borrow area was located in Lake Pontchartrain approximately 3,000 feet offshore.

CHE Engineers* provided numerical modeling services for design and permitting. Our engineers evaluated changes to the wave climate as a result of dredging the borrow site and analyzed the water quality and mixing characteristics in the proposed borrow pit for various cut configurations to determine if variation in the cut design can improve mixing in the pit to improve pit water quality.

We evaluated changes to the wave climate as a result of dredging the borrow site and developed a wave modeling domain of Lake Pontchartrain and of the proposed borrow pit site and conducted two- dimensional wave generation and transformation modeling using the SWAN model.

We also developed a 3D circulation model of Lake Pontchartrain to simulate tide and wind-induced currents and mixing. We developed a variety of borrow site cut configurations and compared the residence time of each to minimize the residence time and maximize mixing and flushing, thereby improving the water quality in and near the borrow site.




*Concentration from borrow pit as simulated by 3D circulation modeling*

**CHE staff provided professional engineering services from 2003 to 2014, and as part of Mott MacDonald for CPRA from 2014-2024. Former CHE staff re-formed CHE in February 2024 and continue to provide services to CPRA as CHE.*

| **Completion Date (Actual or estimated)** | **Estimated Cost:** | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2013 | Est. $28.2M | $42k |

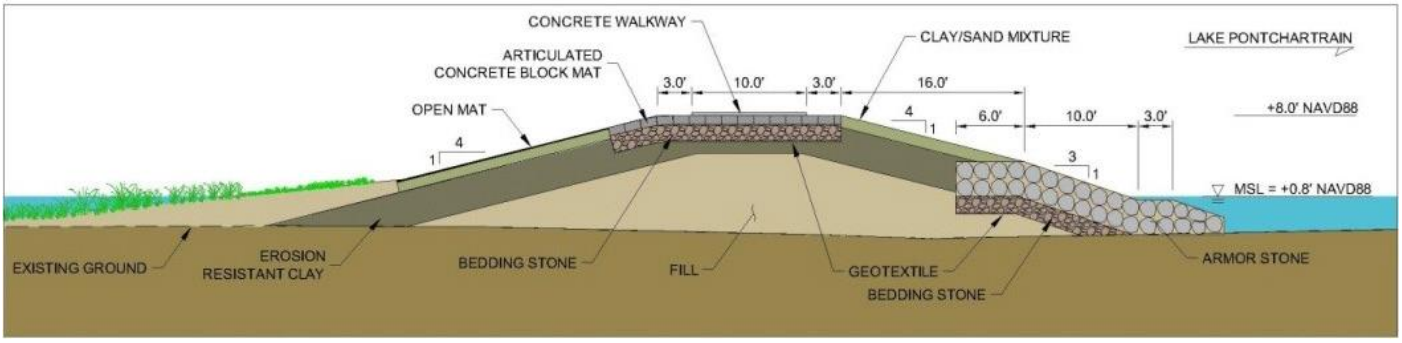
# TEC Professional Services Questionnaire

| PROJECT NO. 8 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Mandeville Wetlands Protection, Mandeville, LA**<br>Neel-Schaffer, Inc., Barry Brupbaker (985) 674-9820 | **Nature of Firm's Responsibility:**<br>See below |

A cypress wetland located between two public parks on the north shore of Lake Pontchartrain in Mandeville, Louisiana is rapidly eroding. The City of Mandeville wanted a solution that would reduce erosion to the cypress wetland, maintain the hydraulic connection with stormwater outfalls that feed into the wetlands and into Lake Pontchartrain, and serve as a walkway between two adjacent parks.

Mott MacDonald developed conceptual designs for three concepts: a rock revetment, a living shoreline, and a hybrid structure which combined the advantages of the revetment and living shoreline while meeting the project goals and minimizing construction and maintenance costs.

The hybrid structure, which encompasses the advantages of both the stone revetment and living shoreline, provides the green space in the upper portion of the embankment while maintaining stability during the storm events.




**CHE staff provided professional engineering services from 2003 to 2014, and as part of Mott MacDonald for from 2014-2024. Former CHE staff re-formed CHE in February 2024.*

| Completion Date (Actual or estimated) | Estimated Cost: | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2012 | unknown | $50k |

# TEC Professional Services Questionnaire

| PROJECT NO. 9 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**La Quinta Terminal Aquatic Habitat Creation, Corpus Christi, TX**<br>Port of Corpus Christi Authority, Sarah Garza (361) 885-6163 | **Nature of Firm's Responsibility:**<br>See below |

As part of the mitigation requirements for the La Quinta Terminal Expansion Project, aquatic habitat within the La Quinta channel needed to be created to support the transplanting of seagrass and smooth cordgrass.

CHE Engineers* developed and evaluated several habitat berm alternatives by analyzing the amount of habitat each would produce, constructability requirements, and their overall performance to determine the most cost- effective solution. The project features a protection berm designed to protect the marsh habitat from excess wave energy, aquatic habitat mitigation berms, and smooth cordgrass and seagrass plantings. Our engineers designed the berms to the ideal elevation for planting smooth cordgrass and strategically placed channels to provide sufficient circulation within the project site.

The project created over 30 acres of wetlands, provides enough sacrificial upland material to accommodate sea level rise and erosion over the next 20 years, and protects the mitigation site to maintain healthy smooth cordgrass growth.



**CHE staff provided professional engineering services from 2003 to 2014, and as part of Mott MacDonald from 2014-2024. Former CHE staff re-formed CHE in February 2024.*

| Completion Date (Actual or estimated) | Estimated Cost: | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2015 | Est. $42M | $220k |

# TEC Professional Services Questionnaire

| PROJECT NO. 10 | |
|---|---|
| **Project Name, Location and Owner's contact information:**<br>**Carancahua Boat Ramp Access Channel Dredging, Jackson County, TX**<br>Jackson County, TX, Kathy Smartt, (512) 800-4740 | **Nature of Firm's Responsibility:**<br>See below |

The boat ramp basin was subject to rapid silting and depths were insufficient for recreational vessels and rapid deployment of rescue and emergency vessels. During low tide, the ramp is completely inaccessible due to sediment buildup in the basin and access channel. The ramp area and navigation channel have been dredged numerous times, but rapidly re-silts. CHE Engineers* conducted an engineering analysis and design services to improve the boat ramp, adjacent bulkhead, and dredge the entrance channel and boat basin.

We conducted a coastal analysis to determine the processes controlling sedimentation along the project shoreline including analysis of wind, water levels, river inflow, and shoreline change. We also determined site morphology through a shoreline change analysis and performed circulation modeling to determine the effects of extending the breakwaters and wave modeling to determine any additional sheltering effects due to the proposed breakwater extensions as well as to determine the incident wave height and period for use in the design of the structures.

Based on our analysis, we developed several alternatives and evaluated them using several criteria such as permitting difficulty, cost, constructability, and performance to recommend the best alternative within the available project funding. We then developed technical specifications, construction level drawings, and cost estimates for project features including the breakwater modifications, channel and boat basin configuration, boat ramp improvements, bulkhead improvements, and dredge material placement areas.

A key to the success of the project was the creation of wetlands adjacent to the jetties using the dredge spoils protected by a small breakwater. This allowed for beneficial use of the dredged material and turned what is typically an environmental burden into a benefit. Regulatory agencies praised the creation of wetlands which more than mitigated for the dredging of wetlands on the site, making the project self-mitigating which dramatically reduced regulatory review time and construction costs.

**CHE staff provided professional engineering services from 2003 to 2014, and as part of Mott MacDonald from 2014-2024. Former CHE staff re-formed CHE in February 2024.*

| **Completion Date (Actual or estimated)** | **Estimated Cost:** | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible |
| 2014 | Est. $960k | $163k |

# TEC Professional Services Questionnaire

**M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.**

| Parties: | | Status/Result of Case: |
|---|---|---|
| **Plaintiff:** | **Defendant:** | |
| **1.** N/A | N/A | N/A |
| **2.** N/A | N/A | N/A |
| **3.** N/A | N/A | N/A |
| **4.** N/A | N/A | N/A |

**N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.**



## About us

**Coast & Harbor Engineering (CHE)** is a specialty coastal engineering consulting firm with worldwide experience and strong technical specializations in coastal and hydraulic engineering. Our coastal engineers are experts in the analysis and design related to various coastal protection and coastal habitat restoration projects. These projects include coastal resilience measures such as shoreline protection and stabilization, evaluation of sea level rise and storm impacts; ecosystem enhancement; and design of harbors, waterways, marine terminals, and beneficial use of dredged material.

### Our expertise

- Coastal planning
- Feasibility studies
- Marsh and ridge restoration
- Shoreline stabilization & protection
- Dredging
- Beneficial use of dredge material
- Living shoreline design
- Coastal & hydraulic modeling
- Coastal structure design
- Coastal restoration design
- Permitting
- Cost estimates
- Field investigations

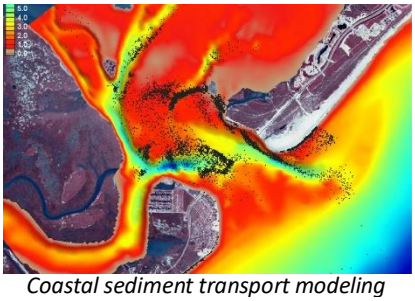
CHE was originally formed in 2003 and provided specialty hydraulic and coastal engineering services across the US and worldwide. In 2014, CHE was acquired by Mott MacDonald, where CHE staff led the coastal discipline and hydraulic and coastal design aspects of small to multi-billion dollar projects. In February 2024, former owners and leaders of CHE worked with Mott MacDonald to re-form CHE into an independent, small business providing specialized hydraulic and coastal engineering services.

**We have executed unique coastal projects in Louisiana since 2003**. Behind these successful projects has been a team of dedicated engineers, project managers, and technicians – who understand that in addition to technical excellence, success depends on sustained coordination and synergy between client, engineers, regulatory agencies, and stakeholders. Our team's strong local knowledge of Louisiana's coast, infrastructure, programs, goals, and governmental agencies, combined with our experience in planning, evaluating, designing, permitting, and overseeing coastal projects throughout the Gulf of Mexico makes us especially qualified to provide all-inclusive engineering services for Jefferson Parish.

## Evaluation Criteria

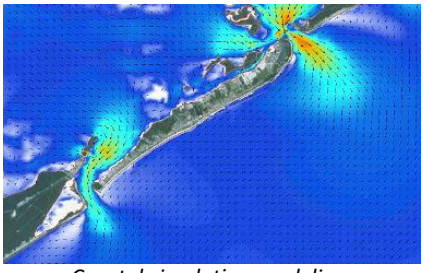
### 1. Professional training and experience in relation to coastal engineering

CHE's specialized coastal and hydraulic engineering services has helped state agencies and local municipalities across the gulf coast by utilizing advanced modeling capabilities to restore coastal habitats, implement living shoreline solutions, and protect shorelines.



*Coastal sediment transport modeling*

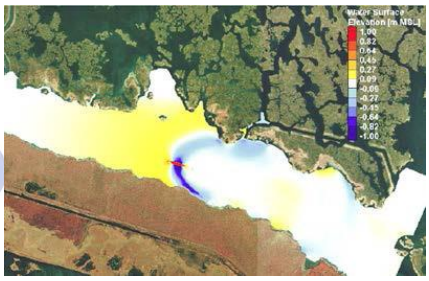
CHE is recognized as a leader in the field of coastal engineering through advanced certification, participation in professional organizations, and numerous papers and lectures presented by our staff. Two of our principals are Board Certified in Coastal Engineering by the Academy of Coastal Ocean Ports and Navigations Engineers (ACOPNE). Board Certification is a voluntary, post-license credential that provides recognition of advanced expertise in the coastal engineering field, superior experience, and a commitment to lifelong learning in coastal engineering. Certification is designated by abbreviations BC.CE.



*Coastal circulation modeling*

#### Utilizing advanced modeling capabilities

CHE's coastal engineers are experts in wave mechanics and wave induced sediment transport, storm flood propagation, storm prediction and statistical analysis, beach morphology and nearshore processes, bay and estuary hydrodynamics, and hydrodynamics of navigation channels, including vessel wakes.



*Vessel hydrodynamics modeling*

Our engineering analyses focus on both the short-term and long-term impacts of these processes as well as the long-term impacts of eustatic sea level rise, subsidence, and hurricanes. Our understanding of physical processes goes beyond natural forces; we also have expertise in the analysis of impact caused by manmade structures and construction such as breakwaters and dredging.



We have performed advanced analysis on a variety of coastal processes by conducting numerical modeling, feasibility studies, and evaluating alternatives. Our engineers are highly skilled in developing, verifying, and applying data processing software, statistical analysis programs, numerical modeling tools, and data visualization techniques to effectively simulate waves, currents, and sediment transport. We have successfully used these tools to properly simulate extremely diverse coastal environments and design sustainable solutions.

**Wave growth and transformation**
- SWAN
- HWAVE
- BOUSS-2D
- CMS-WAVE
- MIKE21
- CELERIS

**Wave-Structure Interaction**
- FLOW3D
- Open Foam

**Tide, wind and wave-induced circulation**
- ADCIRC
- SELFE
- Delft 3D
- DFLOW-FM
- MIKE 21/3
- CMS-FLOW
- ADH
- FESWMS
- HEC-RAS

**Sediment Transport and Morphology**
- MIKE 21/3
- Delft 3D
- MORPHO
- COHSED
- GENCADE/GENESIS
- SBEACH
- XBEACH
- LAGRESED
- SED2D
- FLOW3D

**Vessel Hydrodynamics**
**(CHE's Proprietary Models)**
- VH-LS (steady longwave)
- VH-LU (unsteady longwave)

**Propwash**
**(CHE's Proprietary Models)**
- VH-OS (steady propwash)
- VH-PS (unsteady propwash)

**Water Quality**
- MIKE
- Delft3D-Qual
- SELFE

# TEC Professional Services Questionnaire


Biloxi Marsh Living Shoreline Project, St. Bernard Parish, LA

## Implementing living shoreline technology

As a leader in the coastal engineering industry, CHE has been on the forefront of designing living shoreline solutions to prevent shoreline erosion and create nearshore habitat. In Louisiana, we designed the first project to use artificial reef products and have advanced to creating over 13 miles of artificial reefs, now one of the largest living shoreline projects of its kind in the Gulf of Mexico.


Bluewater Highway Shoreline Protection, Brazoria County, TX

## Protection shorelines and coastal infrastructure

We have created lasting improvements to coastal communities by protecting coastal roads and stabilizing shorelines threatened by erosion, flooding, and hurricanes. We have designed resilient coastal structures such as revetments, breakwaters, seawalls, and groins. We have also nourished dune and beaches all along the gulf coast


La Quinta Aquatic Habitat Creation Corpus Christi, TX

## Restoring Coastal Habitats

CHE designs solutions that promote healthy ecosystems by restoring coastal habitat. Our engineers enhance ecosystems that rely on coastal, wetland, and riverine environments. Using advanced modeling tools, we simulate the natural processes impacting the habitat to gain an understanding of the issues to restore natural dunes and vegetation, improved water quality, created marshes, create living shorelines.


Cameron Parish Shoreline Protection, Cameron Parish, LA

## Dredge Engineering

CHE has demonstrated long-term success on a variety of complex dredging challenges. Our dredging experts have developed designs for every kind of dredging effort, from small scale specialty dredging for environmental restoration to large scale marsh creation and beach nourishment and production-based navigation dredging. We continuously work with the dredging industry to approach dredging design with an understanding from the construction industry.


Carancahua Boat Ramp, Jackson County, TX

## Beneficial use of dredged material

Dredged material disposal is the most challenging aspect of dredging engineering. Creative beneficial use (BU) helps expand options for both disposal of dredged material and create opportunities for ecosystem restoration and coastal protection. CHE frequently uses BU techniques. For example, BU on the Carancahua Boat Ramp dredging project not only allowed for very inexpensive dredging by placing material nearby the dredge site, BU turned what would have been an environmental impact into a benefit, expediting permitting and creating habitat


Bucktown Harbor Marina Entrance Jefferson Parish, LA

## Coastal Engineering Design

CHE Engineers have extensive experience in all aspects of coastal engineering design, including performing a variety of analyses and technical evaluations such as wave loading, geotechnical stability, wave transformation, and scour as well as developing cost estimates for coastal protection and restoration projects. We also plan and manage field investigations such as geotechnical, cultural resources, bathy surveys, and similar. CHE Engineers have developed designs for 100s of projects along the Gulf coast and managed construction and inspect of these designs.

# TEC Professional Services Questionnaire

## 2. Size of Firm

Coast & Harbor Engineering employs twelve experienced coastal engineers. Two of our principals are Board Certified in Coastal Engineering by the Academy of Coastal Ocean Ports and Navigations Engineers. Board Certification is a voluntary, post-license credential that provides recognition of advanced expertise in a the coastal engineering field. Nine of our staff are licensed Professional Engineers.

CHE engineers provide a full range of experience and expertise in delivering professional eingineering services. We regularly evaluate project feasiblity, develop project designs including engineering plans and technical specifications, and provide engineering support during construction including construction administration and inspection.

## 3. Capacity for timely completion

Coast & Harbor Engineering is presently prepared and available to begin working with the Parish immediately if awarded the contract. Based on the currently contracted work, CHE has prepared man-hour forecasts extending to the anticipated length of this contract. Based upon those projections and estimates of anticipated future work for that same period, CHE believes at this time that the proposed staff are more than adequate to handle the current contracted and projected work.

## 4. Past Performance

See Section L.

## 5. Principal Office Location

CHE operates as a fully remote work force, with no central office. The Principal Office address for CHE is PO Box 202737, Austin, TX 78720.

## 6. Adversarial legal proceedings between the Parish and CHE

CHE does not currently have and has never had any adversarial legal proceedings involving Jefferson Parish



## 7. Project References

In addition to the reference indicated in Section L, below are two more clients who can attest to our coastal engineering capabilities and timely execution of projects.

**Rudy Simoneaux**
**Coastal Protection and Restoration Authority**
Chief, Engineering Division
150 Terrace Ave
Baton Rouge, LA, 70802
225.342.0981
rudy.simoneaux@la.gov

**Thomas Durnin**
**Texas General Land Office**
Project Manager, Coastal Resource Division
1700 N. Congress Ave, Ste 300
Austin, TX 78701
512.463.1192
thomas.durnin@glo.texas.gov

**O. To the best of my knowledge, the foregoing is an accurate statement of facts.**

**Signature:** _____ **Print Name:** Josh Carter, PE, BC.CE

**Title:** Principal **Date:** 7/8/2024

# TEC Professional Services Questionnaire

**A. Project Name and Advertisement Resolution Number:**

As-Needed Parish-Wide

## Coastal Engineering Consulting Services

SOQ **24-020** | Resolution No. **144205**

**B. Firm Name & Address:**

GULF SOUTH ENGINEERING AND TESTING, INC. Geotechnical & Materials Consultants

**Gulf South Engineering and Testing, Inc.**
15 Veterans Memorial Boulevard | Kenner LA 70062

**C. Name, title, and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:**

**Chad M. Poché, P.E., Executive Vice President**
504-305-4401 | 504-460-5239 cell | cpoche@gulfsoutheng.com
Registered Professional Civil Engineer (Louisiana No. 27667; since 1998)

**D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline:**

**Chad M. Poché, P.E., Executive Vice President**
504-305-4401 | 504-460-5239 cell | cpoche@gulfsoutheng.com
Registered Professional Civil Engineer (Louisiana No. 27667; since 1998)

**E. Please provide the number of employees whose primary function corresponds with each category:**

| | | | | | |
|---|---|---|---|---|---|
| 7 | Administrative | | Estimators | | Specification Writers |
| | Architects (Licensed) | | Geologists | | Structural Engineers |
| | Chemical Engineers | 2 | Geotechnical Engineers | | Graduate Engineers |
| | Civil Engineers | | Interior Designers | 1 | Project Managers |
| 10 | Construction Inspectors | | Landscape Architects | | Clerical (*see Administrative*) |
| | Ecologists | | Land Surveyor (*Apprentice*) | | Grant/Funding Specialist |
| | Electrical Engineers | | Mechanical Engineers | | Sanitary Engineers |
| | Engineer Intern | | Environmental Engineers | 1 | *CMT Supervisor* |
| 1 | Professional Land Surveyors | | | 1 | *Construction Svcs Manager* |
| | | | | 4 | *Laboratory Personnel* |
| | | | | 3 | *Soil Boring Personnel* |
| | | | | **30** | **TOTAL** |

**F. Is this submittal by a JOINT-VENTURE? Please check: YES _____ NO X**

**If marked "no", skip to Section I. If marked "yes", complete Sections G-H.**

# TEC Professional Services Questionnaire

**G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.**

**1.** N/A

**2.**

**H. Has this JOINT-VENTURE previously worked together? Please check:**

**YES**_____ **NO**_____ N/A

**I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.**

| Name & Address: | Specialty: | Worked with Firm Before (Yes or No): |
|---|---|---|
| **1.** N/A | | |
| **2.** | | |
| **3.** | | |

**J. Please specify the total number of support personnel that may assist in the completion of the Project:**

30 *(all personnel will be available for assignment to the project)*

# TEC Professional Services Questionnaire

**K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e., résumé) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.**

**PROFESSIONAL IN CHARGE OF PROJECT:**

**Name & Title:**

**Chad M. Poché, P.E.**
Executive Vice President / Registered Professional Geotechnical Engineer

**Project Assignment:**

Geotechnical Engineer / Principal In Charge

**Name of Firm with which associated:**

GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

**Years' experience with this Firm:**

13 years (founded Gulf South in 2011);
31 years total (1993)

*BFM Corporation, LLC | 2017 to present*
*Gulf South Engineering and Testing, Inc. | 2011 to present*
*Ardaman and Associates, Inc. | 2007 to 2011*
*Soil Testing Engineers, Inc. | 2001 to 2007*
*Eustis Engineering | 1996 to 2001*
*Soil Testing Engineers, Inc. | 1993 to 1996*

**Education: Degree(s)/Year/Specialization:**

M.S., 1998, Civil Engineering, University of New Orleans
B.S., 1993, Civil Engineering, Louisiana State University

**Active Registration: Year first registered/discipline:**

1998, Civil Engineer (Louisiana No. 27667)
2002, Civil Engineer (Mississippi No. 15405)

**Other experience and qualifications relevant to the proposed Project:**

Chad M. Poché, P.E., is Executive Vice President, co-founder, and a Principal in Gulf South. He has been a consulting geotechnical engineer for nearly 30 years in South Louisiana, working on traditional and unique geotechnical engineering projects (shallow and deep foundation design, slope stability, pavement design, etc.). Mr. Poché has also provided construction oversight for virtually every type of earthwork related project. He has been the geotechnical engineer of record for thousands of projects throughout his career.

Mr. Poché's experience includes the development of appropriate scopes of work and proposals for a broad range of projects; planning and coordinating analyses; preparing technical reports; foundation and geotechnical engineering design; construction recommendations; Miss. River facility permitting; managing personnel and office operations and serving as an Expert Witness.

# TEC Professional Services Questionnaire

Other experience and qualifications: **Chad M. Poché, P.E. (continued)**

Mr. Poché has logged soil borings; overseen the installation of ground water monitoring wells, piezometers, and inclinometers; overseen and evaluated pile load tests; overseen, performed, and evaluated dynamic pile testing (PDA and PIT); performed CMT field testing and inspection; and performed laboratory testing.

**Marsh Island Restoration Project, Lafreniere Park, Metairie, Jefferson Parish, LA**. Geotechnical investigation for construction of a new bulkhead wall around Marsh Island. Gulf South's scope includes drilling two soil borings each to a depth of 30 feet on the island, lab testing, and geotechnical engineering analyses including sheetpile and/or retaining wall design parameters, earth pressures, and general construction procedures and recommendations. ($5,000 (fee); 2017)

**Tchefuncte Marsh Shoreline Protection Project: New Borrow Fill Area, Lake Pontchartrain, St. Tammany Parish, LA**. Geotechnical engineering services for shoreline protection along the Lake Pontchartrain coastline by construction of a rock dike (approx. 15,000 lf) and marsh fill area located east of the mouth of the Tchefuncte River in St. Tammany Parish, LA. Scope includes drilling 14 borings within the lake, each to a depth of 40 feet below the water surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Gulf South provided recommendations for allowable soil bearing values, estimates of settlement, slope stability analyses, time rate of settlement, and strength gain estimates. ($90,000 (fee); 2021)

**Northshore Living Shoreline Protection, Lake Pontchartrain, St. Tammany Parish, LA**. Geotechnical engineering services for shore protection along the northshore of Lake Pontchartrain coastline in two areas by constructing rock dikes in St. Tammany Parish, LA. Gulf South's scope includes drilling 16 borings each to a depth of 30 feet below the ground surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Gulf South provided recommendations for allowable soil bearing values, estimates of settlement, slope stability analyses, time rate of settlement, and strength gain estimates. ($65,000 (fee); 2023)

**Tchefuncte Marsh Shoreline Protection - New Rock Dikes, Lake Pontchartrain, St. Tammany Parish, LA**. Geotechnical engineering services for the shore protection along Lake Pontchartrain coastline by constructing a rock dike at Tchefuncte Marsh in St. Tammany Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (18 at 30 ft) in Lake Pontchartrain, laboratory testing (including consolidation tests), engineering analyses (bearing values, settlement, slope stability, construction procedures & recommendations). The project utilized shallow-draft barge equipment. ($65,000 (fee); 2020)

**Proposed Estuary Mitigation Bank (EMB) GIWW - Deadend Canal, Vendome Canal, Hockey Stick Canal, Crown Point, Jefferson Parish, LA**. Geotechnical investigation for construction of a new wetland restoration project near Crown Point, LA. Gulf South's scope includes drilling nine soil borings to depths of 15 and 40 feet in water and marsh, lab testing (including settlement column test), and geotechnical engineering analysis including estimates of settlement, time rate of settlement, borrow/fill ratios, and general construction recommendations. ($26,500 (fee); 2016)

**Engineering Analysis Review (EAR) - Lafitte Tidal Protection Project (Phase I), Lafitte, Jefferson Parish, LA.** Engineering analysis review of alternative pile type/size recommendations (provided by Client) for drainage structure site in Jefferson Parish, near Lafitte, LA. Gulf South's scope includes engineering analysis consisting of LPILE analysis and general construction recommendations. ($5,000 (fee); 2016)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Bryson S. Beard, P.E., ACI**
Associate Geotechnical Engineer/Field Engineer

**Project Assignment:**

Associate Geotechnical Engineer/Field Engineer

**Name of Firm with which associated:**

GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

**Years' experience with this Firm:**

2 years (joined Gulf South in 2022);
3 years total (2021)

*Gulf South Engineering and Testing, Inc. | 2022 to present*
*TetraTech, Inc. | 2021 to 2022*

**Education: Degree(s)/Year/Specialization:**

B.S., Geological Engineering (2021; University of Mississippi)

**Active Registration: Year first registered/discipline:**

Louisiana P.E. License Passed October 2023
Georgia, Engineering Intern (No. EIT029180, 2022)

**Other experience and qualifications relevant to the proposed Project:**

Bryson S. Beard, P.E., is an Associate Geotechnical Engineer/Field Engineer who serves as a Project Manager. He has performed geotechnical engineering analyses consisting of shallow and deep foundations, slope stability, TRS and sheetpile wall design, settlement, pavement design, etc., and has prepared engineering reports. Mr. Beard's experience in the field includes surface and subsurface soil sampling, water sampling, and soil classification. His work experience further includes core logging and oversight of groundwater monitoring well installations, piezometers, and inclinometers. He has been responsible for the preparation of reports and Facility Response Plans. He is experienced with laboratory sample preparation and testing as well as air sampling and soil gas sampling.

**Mr. Bryson recently passed his Louisiana Professional Engineering test and will be a noted P.E. for the State of Louisiana once he fulfills the apprenticeship requirements set forth by LAPELS.**

**Northshore Living Shoreline Protection, Lake Pontchartrain, St. Tammany Parish, LA.** Geotechnical engineering services for shore protection along the northshore of Lake Pontchartrain coastline in two areas by constructing rock dikes in St. Tammany Parish, LA. Gulf South's scope includes drilling 16 borings each to a depth of 30 feet below the ground surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Gulf South provided recommendations for allowable soil bearing values, estimates of settlement, slope stability analyses, time rate of settlement, and strength gain estimates. ($65,000 (fee); 2023)

# TEC Professional Services Questionnaire

Other experience and qualifications: **Bryson S. Beard, P.E., ACI (continued)**

**LaPlace Water Source Project: New Intake, Pump Stations & Pretreatment Facility, LaPlace, St. John the Baptist Parish, LA.** Geotechnical engineering services for the construction of a new water source infrastructure project between the Mississippi River (MSR; east bank) and railway just north of 5th street in LaPlace, LA. Proposed structures will consist of water intake structure, pump stations, pipeline crossing levee, below grade pipelines, and a pretreatment plant. Gulf South's scope includes permitting, clearing, drilling ten undisturbed soil borings (3 at 80 ft, 3 at 30 ft, 3 at 100 ft, and 1 at 150 ft) below the ground surface, laboratory testing, engineering analyses and general construction procedures and recommendations. ($100,000 (fee); ongoing)

**Barber Road Bank Stabilization, Paradis, St. Charles Parish, LA.** Geotechnical engineering services for portions of the road that have failed or are failing into the ditch along Barber Road in Paradis, LA. Gulf South's scope includes drilling five borings (depth of 40 feet below ground surface), laboratory testing, engineering analyses (slope stability analyses, pavement design) and general construction procedures and recommendations. ($12,000 (fee); 2022)

**Bucktown Paddlers Launch, Metairie, Jefferson Parish, LA.** Gulf South provided construction materials testing and inspection during construction of the project. Gulf South's scope of work includes building earthwork, paving & concrete, concrete testing, soil density tests, pile inspection and modeling, and vibration monitoring. ($15,000; 2023)

**Geotechnical Exploration Proposal (LED Site Certification), Port of Terrebonne, Houma, LA.** Geotechnical services regarding LED Certification for a 35-acre site along Rome Woodard Drive for the Port of Terrebonne in Houma, Drilled undisturbed soil borings. Geotechnical laboratory testing performed in accordance with ASTM standards, and includes strength tests (unconfined and/or triaxial), classification tests (Atterberg Limits and/or particle size), and other testing as appropriate. Geotechnical evaluation includes subsoil conditions, allowable soil bearing values, allowable pile load capacities, settlement estimates, and general construction procedures & recommendations. ($5,900 (fee); 2024)

**City of New Orleans Municipal Yacht Harbor Fishing Pier and Restroom, City of New Orleans, LA.** Gulf South performed the Geotechnical Investigation for the project, which consists of a new fishing pier and restroom building at the Municipal Yacht Harbor along the south shore of Lake Pontchartrain in New Orleans, LA. The restroom will be an elevated structure, approximately 700 square feet, and constructed on land. The pier will be approximately 300 to 400 feet in length and extend from shore into Lake Pontchartrain. The project involves field investigation, laboratory testing, and geotechnical engineering services. ($42,070 (fee); 2023)

**Bucktown Harbor New Dock and Loading Area, Metairie, Jefferson Parish, LA.** Geotechnical engineering services for construction of a new dock and bulkhead at Jefferson Parish's Bucktown Harbor in Metairie, LA. Gulf South's scope includes drilling one boring to a depth of 50 feet below the ground surface and one boring in Lake Pontchartrain to a depth of 50 feet below mudline, laboratory testing, engineering analyses (allowable pile load capacities, slope stability, sheetpile wall analyses), and general construction procedures and recommendations. ($10,500 (fee); 2022)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Joseph H. "Trey" Binder, III, ACI**
Laboratory Manager

**Project Assignment:**

Laboratory Manager; Laboratory Technician

**Name of Firm with which associated:**

GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

**Years' experience with this Firm:**

13 years (joined Gulf South in 2011);
13 years total (2011)

*Gulf South Engineering and Testing, Inc. | 2011 to present*
*Ardaman and Associates, Inc. | 2007 to 2011*
*Soil Testing Engineers, Inc. | 2006 to 2007*

**Education: Degree(s)/Year/Specialization:**

A.D., General Studies (2006; Nunez Community College)

**Active Registration: Year first registered/discipline:**

*HAZMAT Awareness*
*HAZMAT Operations Training*
*ACI Aggregate Base Testing Technician*
*ACI Concrete Strength Testing Technician*

**Other experience and qualifications relevant to the proposed Project:**

Trey Binder has direct experience with field and laboratory testing services. Mr. Binder's field work includes soil inspection and testing consisting of nuclear density testing and soil boring logging, vibration monitoring, pile inspection, concrete testing and inspection, asphalt testing and inspection, and pavement coring. In the laboratory, Mr. Binder has performed soil laboratory testing consisting of unconfined compression strength tests, triaxial strength tests, Atterberg limits, organic content tests, moisture and density tests, Proctor compaction tests, sieve analyses, and sample extrusion.

**Tchefuncte Marsh Shoreline Protection Project: New Borrow Fill Area, Lake Pontchartrain, St. Tammany Parish, LA.** Geotechnical engineering services for shoreline protection along the Lake Pontchartrain coastline by construction of a rock dike (approximately 15,000 linear feet) and marsh fill area located east of the mouth of the Tchefuncte River in St. Tammany Parish, LA. Gulf South's scope includes drilling 14 borings within the lake, each to a depth of 40 feet below the water surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Gulf South provided recommendations for allowable soil bearing values, estimates of settlement, slope stability analyses, time rate of settlement, and strength gain estimates. ($90,000 (fee); 2021)

# TEC Professional Services Questionnaire

Other experience and qualifications: **Joseph H. "Trey" Binder, III, ACI (continued)**

**Northshore Living Shoreline Protection, Lake Pontchartrain, St. Tammany Parish, LA.** Geotechnical engineering services for shore protection along the northshore of Lake Pontchartrain coastline in two areas by constructing rock dikes in St. Tammany Parish, LA. Gulf South's scope includes drilling 16 borings each to a depth of 30 feet below the ground surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Gulf South provided recommendations for allowable soil bearing values, estimates of settlement, slope stability analyses, time rate of settlement, and strength gain estimates. ($65,000 (fee); 2023)

**Bayou Des Allemands Gate, Upper Barataria Risk Reduction Program Segment 3, St. Charles Parish, LA.** Geotechnical investigation for construction of a new swinging barge gate structure within the UBRR flood protection/risk reduction system in St. Charles Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (1 at 200 ft., 2 at 120 ft., 1 at 100 ft.), lab testing (including consolidation tests), and engineering analyses including site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, seepage analyses for sheetpile walls, settlement/downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship, estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. One boring was performed over water; the remaining borings were performed over land. ($145,885 (fee); 2021)

**Highway 90 Tie-In Levee, Upper Barataria Risk Reduction Program Segment 4, St. Charles Parish, LA.** Geotechnical investigation for construction of a new earthen levee within the flood protection/risk reduction system in St. Charles Parish, LA. Scope includes drilling undisturbed soil borings, CPT probes, lab testing, and engineering analyses (site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, seepage analyses for sheetpile walls, settlement/ downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship), estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. ($174,720 (fee); 2021)

**Bayou Gauche/Sunset Levee - New Roller Gate, Upper Barataria Risk Reduction Program Segment 2, St. Charles Parish, LA.** Geotechnical investigation for construction of a new roller gate and T-wall structures. Gulf South's scope includes drilling undisturbed soil borings (2 at 200 ft.), CPT probes (2 at 200 ft.), lab testing (including consolidation tests), and engineering analyses including site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, design levee lift stability, seepage analyses for sheetpile walls, settlement/downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship, estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. The borings and CPT were performed over water using barge-mounted equipment. ($110,880 (fee); 2020)

**Airline Highway Backwater Protection Project, St. John the Baptist Parish, LA.** Geotechnical engineering services for the construction of a new water source infrastructure project between the Mississippi River (MSR; east bank) and railway just north of 5th street in LaPlace, LA. Proposed structures will consist of water intake structure, pump stations, pipeline crossing levee, below grade pipelines, and a pretreatment plant. Gulf South's scope includes permitting, clearing, drilling ten undisturbed soil borings below the ground surface, execution of laboratory testing, provision of engineering analyses (bearing values, bedding & backfills settlement, pile capacities, earth pressures, slope stability, cofferdam analyses, levee analyses) and establishing general construction procedures and recommendations. ($55,000 (fee); 2020)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Eric A. Paille, C.E.T., ACI**
Construction Services Manager

**Project Assignment:**

Construction Services Manager

**Name of Firm with which associated:**

GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

**Years' experience with this Firm:**

13 years (joined Gulf South in 2011);
35 years total (1989)

*Gulf South Engineering and Testing, Inc. | 2011 to present*
*Ardaman and Associates, Inc. | 2007 to 2011*
*Soil Testing Engineers, Inc. | 1988 to 2007*

**Education: Degree(s)/Year/Specialization:**

*High School Diploma*

**Active Registration: Year first registered/discipline:**

*ACI-I Field Technician (since 1991; No. 929012)*
*Certified Engineering Technician (since 1992)*
*Nuclear Gauge Safety Training (since1994; No. 061321)*
*Pile Driving Analyzer/CAPWAP, OSHA 40 HAZWOPER*

**Other experience and qualifications relevant to the proposed Project:**

Eric A. Paille, C.E.T., ACI, serves as Gulf South's Construction Services Manager as well as the manager of our Gonzales office. He has experience as a technician, inspector, and testing manager, and is knowledgeable in all aspects of construction materials testing and construction inspection. Mr. Paille has performed all applicable field and soil tests over the past 30+ years. In addition, he is certified in the safe use and handling of the nuclear density gauge. He received PDA training in 2003 and has knowledge of PDA testing along with significant experience with pile driving analyzers. Mr. Paille is one of the most knowledgeable people in our industry.

**Highway 90 Tie-In Levee, Upper Barataria Risk Reduction Program Segment 4, St. Charles Parish, LA.** Geotechnical investigation for construction of a new earthen levee within the flood protection/risk reduction system in St. Charles Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (1 at 200 ft., 3 at 75 ft.), CPT probes (6 at 75 ft.), lab testing, and engineering analyses including site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, seepage analyses for sheetpile walls, settlement/downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship, estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. ($174,720 (fee); 2021)

# TEC Professional Services Questionnaire

Other experience and qualifications: **Eric A. Paille, C.E.T., ACI (continued)**

**Marsh Island Wildlife Refuge Levee/Bulkhead Repairs (Louisiana DNR), Vermillion Bay, New Iberia, Iberia Parish, LA.** Geotechnical investigation for various repairs to a dam, levee, and bulkhead at Marsh Island Wildlife Refuge in Iberia Parish, LA. Gulf South's scope of work includes drilling five soil borings each to a depth of 60 feet using marsh drilling equipment, laboratory testing, and geotechnical engineering services consisting of providing allowable soil bearing values, allowable pile capacities, bulkhead design parameters, slope stability analyses, estimates of settlement, and general construction recommendations. ($51,250 (fee); 2014)

**Proposed Estuary Mitigation Bank (EMB) GIWW - Deadend Canal, Vendome Canal, Hockey Stick Canal, Crown Point, Jefferson Parish, LA**. Geotechnical investigation for construction of a new wetland restoration project near Crown Point, LA. Gulf South's scope includes drilling nine soil borings to depths of 15 and 40 feet in water and marsh, lab testing (including settlement column test), and geotechnical engineering analysis including estimates of settlement, time rate of settlement, borrow/fill ratios, and general construction recommendations. ($26,500 (fee); 2016)

**Marsh Island Restoration Project, Lafreniere Park, Metairie, Jefferson Parish, LA**. Geotechnical investigation for construction of a new bulkhead wall around Marsh Island within Lafreniere Park in Metairie, LA. Gulf South's scope includes drilling two soil borings each to a depth of 30 feet on the island, lab testing, and geotechnical engineering analyses including sheetpile and/or retaining wall design parameters, earth pressures, and general construction procedures and recommendations. ($5,000 (fee); 2017)

**South Lafourche Levee District - Morganza to the Gulf (Reach K Mitigation Area), Lafourche Parish, LA**. Geotechnical investigation for a wetlands mitigation project in Lafourche Parish, LA. Project consists of dredging various canals (totaling approx. 2.6 miles or 13,750 lf) and creating wetlands (approx. 40 acres). Gulf South's scope includes drilling 18 undisturbed soil borings to depths of 10 feet (12 borings in canals) and 30 feet (6 borings in fill area) below apparent mud line, lab testing (including consolidation tests & Settlement Column tests), and engineering analyses (inclusive of estimates of settlement, borrow/fill ratios, time rate settlement, slope stability analyses), and general construction recommendations. All borings were performed over water using barge and marsh buggy equipment. Analyses submitted, reviewed, and approved by the Louisiana Department of Natural Resources and the U.S. Army Corps of Engineers. ($42,000 (fee); 2017)

**Bayou Des Allemands Gate, Upper Barataria Risk Reduction Program Segment 3, St. Charles Parish, LA**. Geotechnical investigation for construction of a new swinging barge gate structure within the UBRR flood protection/risk reduction system in St. Charles Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (1 at 200 ft., 2 at 120 ft., 1 at 100 ft.), lab testing (including consolidation tests), and engineering analyses including site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, seepage analyses for sheetpile walls, settlement/downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship, estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. One boring was performed over water; the remaining borings were performed over land. ($145,885 (fee); 2021)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Ian Kerner Poché, ACI**
Assistant Laboratory Supervisor

**Project Assignment:**

Assistant Laboratory Supervisor

**Name of Firm with which associated:**

GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

**Years' experience with this Firm:**

7 years (joined Gulf South in 2017);
7 years total (2017)

*Gulf South Engineering and Testing, Inc. | 2017 to present*

**Education: Degree(s)/Year/Specialization:**

*High School Diploma*

**Active Registration: Year first registered/discipline:**

*ACI Concrete Field Testing Technician - Grade 1 (exp 2028 03)*
*ACI Aggregate Testing Technician - Level 1 (exp 2029 02 27)*

**Other experience and qualifications relevant to the proposed Project:**

Ian Poché has worked in Gulf South's laboratory for several years and has experience with virtually every type of soil test. He has also helped when needed in the CMT department and has concrete testing experience, and is an ACI-certified Concrete Field Testing Technician.

**Bayou Des Allemands Gate, Upper Barataria Risk Reduction Program Segment 3, St. Charles Parish, LA.** Geotechnical investigation for construction of a new swinging barge gate structure within the UBRR flood protection/risk reduction system in St. Charles Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (1 at 200 ft., 2 at 120 ft., 1 at 100 ft.), lab testing (including consolidation tests), and engineering analyses including site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, seepage analyses for sheetpile walls, settlement/downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship, estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. One boring was performed over water; the remaining borings were performed over land. ($145,885 (fee); 2021)

**City of New Orleans Municipal Yacht Harbor Fishing Pier and Restroom, City of New Orleans, LA.** Gulf South performed the Geotechnical Investigation for the project, which consists of a new fishing pier and restroom building at the Municipal Yacht Harbor along the south shore of Lake Pontchartrain in New Orleans, LA. The restroom will be an elevated structure, approximately 700 square feet, and constructed on land. The pier will be approximately 300 to 400 feet in length and extend from shore into Lake Pontchartrain. The project involves field investigation, laboratory testing, and geotechnical engineering services. ($42,070 (fee); 2023)

# TEC Professional Services Questionnaire

Other experience and qualifications: **Ian Kerner Poché, ACI (continued)**

**Geotechnical Exploration Proposal (LED Site Certification), Port of Terrebonne, Houma, LA.** Geotechnical services regarding LED Certification for a 35-acre site along Rome Woodard Drive for the Port of Terrebonne in Houma, Drilled undisturbed soil borings. Geotechnical laboratory testing performed in accordance with ASTM standards, and includes strength tests (unconfined and/ or triaxial), classification tests (Atterberg Limits and/or particle size), and other testing as appropriate. Geotechnical evaluation includes subsoil conditions, allowable soil bearing values, allowable pile load capacities, settlement estimates, and general construction procedures & recommendations. ($5,900 (fee); 2024)

**Improvements to Sewer Lift Station M-11-3 (13th & Farrington) and Force Main, Marrero, Jefferson Parish, LA.** Gulf South provided the materials testing and inspection during construction. Gulf South's scope of services included vibration monitoring, bedding and backfill testing, compaction/density tests, and concrete testing and inspection. ($15,000 (fee); 2019)

**Lake Cataouatche Drainage Pump Station Replacement (Chighizola Lane), Grand Isle, Jefferson Parish, LA.** Geotechnical engineering services for the construction of a replacement Lake Cataouatche drainage pump station at the end of Chighizola Lane in Grand Isle. Gulf South's scope includes drilling one undisturbed soil borings to a depth of 80 feet below the ground surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Pump station is close to a USACE floodwall so coordination and geotechnical engineering analyses were required to show the new pump station would not adversely affect the integrity of the floodwall. ($7,500 (fee); 2020)

**Lift Station F-8-3 Replacement, Metairie, Jefferson Parish, LA.** Geotechnical engineering services for the construction of a new lift station to replace the existing Jefferson Parish lift station (LS F-8-3) station off West Esplanade Avenue (between Houma Boulevard and Hudson Street) in Metairie, LA. Gulf South's scope includes drilling a single undisturbed soil boring to a depth of 100 feet below the ground surface, laboratory testing, engineering analyses and general construction procedures and recommendations. ($8,500 (fee); 2020)

**Ole Miss Sewer Force Main, City of Kenner, LA.** Geotechnical engineering services for the construction of a new sewer force main along Ole Miss Drive from the John Hopkins Lift Station to 35th Street within Kenner, LA. The force main will be 10-inches in diameter, approximately 2,100 linear feet, and installed 10 to 15 feet deep via directional drilling. Gulf South's scope includes drilling four undisturbed soil borings to depths of 20 feet below the ground surface, laboratory testing, engineering analyses (including soil bearing values, bedding & backfill, and settlement) and general construction procedures and recommendations. ($8,000 (fee); 2021)

**Lift Station Upgrade (24th St. and Delaware Ave.), City of Kenner, LA.** Geotechnical engineering services for construction of a new generator pad and wet well located at 24th Street and Delaware Avenue in Kenner, LA. Gulf South's scope of services includes drilling two borings to a depths of 70 feet (1 boring for wet well) and 50 feet (1 boring for generator pad) below the ground surface, laboratory testing, engineering analyses (soil bearing values, pile capacities, bedding & backfill, and estimates of settlement) and general construction procedures and recommendations. ($7,500 (fee); 2022)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Brandon A. Paille, ACI**
Construction Materials Testing (CMT) Supervisor/Project Manager

**Project Assignment:**

Construction Materials Testing (CMT) Supervisor/Project Manager

**Name of Firm with which associated:**

GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

**Years' experience with this Firm:**

5 years (2012-2016; 2023 to present);
14 years total (2010)

*Gulf South Engineering and Testing, Inc. | 2023 to present*
*Ascension Parish Sheriff's Office | 2016 to 2023*
*Gulf South Engineering and Testing, Inc. | 2012 to 2016*
*Ardaman and Associates, Inc. | 2010 to 2012*

**Education: Degree(s)/Year/Specialization:**

*High School Diploma*

**Active Registration: Year first registered/discipline:**

APNGA Nuclear Gauge Safety
ACI Field Technician Level 1
OSHA Safety Training – 8 hr.

**Other experience and qualifications relevant to the proposed Project:**

Brandon A. Paille, ACI has performed soil laboratory testing consisting of unconfined compression strength tests, triaxial strength tests, hydrometers, Atterberg limits, organic contents, moisture contents, proctor compaction tests, sieve analyses, as well as extrusion of samples. Mr. Paille's field experience includes soil inspection and testing consisting of nuclear density testing, soil boring logging, concrete testing and inspections, timber and precast pile logging and vibration monitoring. In Mr. Paille's years in the construction materials testing industry, he has obtained a vast amount of knowledge and experience which makes him an integral part of our Gulf South Team.

**Bayou Sauvage Water Control Pipe Replacement, U.S. Wildlife & Fisheries, New Orleans, LA.** Geotechnical investigation for drainage pipe replacement at 2 sites for the U. S. Fish and Wildlife in New Orleans, LA. New drainage pipes will be 6 feet in diameter. Drill 1 boring to 20 feet in depth at each site and perform laboratory testing and geotechnical engineering analyses consisting of allowable soil bearing values, bedding and backfill recommendations, estimates of settlement, and general construction recommendations. ($3,500 (fee); 2012)

**Bucktown Paddlers Launch, Metairie, Jefferson Parish, LA.** Gulf South provided construction materials testing and inspection during construction of the project. Gulf South's scope of work includes building earthwork, paving & concrete, concrete testing, soil density tests, pile inspection and modeling, and vibration monitoring. ($15,000; 2023)

# TEC Professional Services Questionnaire

Other experience and qualifications: **Brandon A. Paille, ACI (continued)**

**Bonanza Pump Station Flood Protection, Houma, Terrebonne Parish, LA.** Geotechnical investigation for replacement of an existing bulkhead at Terrebonne Parish's Bonanza Pump Station in Houma, LA. Gulf South's scope of work included performing a soil boring to a depth of 80 feet, laboratory testing, and geotechnical engineering analyses consisting of bulkhead design parameters (tip depth, bending moment, anchor force, etc.), and general construction recommendations. ($4,500 (fee); 2013)

**Casing Installation - 40 Arpent Canal Floodwall, Chalmette, St. Bernard Parish, LA.** Geotechnical investigation for casing installations at 40 Arpent Canal floodwall in Chalmette, LA. Casings installed to perform sonic tests to determine sheet pile lengths. Casings installed to depths of 40 to 60 feet below the ground surface and within 15 feet of the existing sheet pile. ($18,900 (fee); 2014)

**Bonnabel Boat Launch Ramp Replacement, Jefferson Parish, LA.** Geotechnical investigation for improvement/replacement of the existing boat ramps at the Bonnabel Boat Launch in Metairie, LA. The expansion consists of 3 (50'x60') pile supported concrete ramps. Scope of work included drilling two (2) soil borings to a depth of 60 feet each and providing laboratory testing, and geotechnical engineering analysis consisting of pile load capacities, estimates of settlement, and general construction recommendations. ($4,000 (fee), 2014)

**Drainage System Engineering Analysis – CCTV Drain Line Inspections, City of New Orleans, LA.** Project management and oversight of cleaning/flushing and inspection of sewer drainage pipelines in New Orleans, LA. Gulf South oversaw field operations and coordinated project phases with subcontractors. Subcontractor's inspection methods will utilize CCTV camera equipment to record drain line data. During post processing phase, all data was compiled and consolidated to create a digital database of the drain line information. ($20,000 (fee); 2014)

**New Pump/Lift Station, Airline Park Boulevard at West Metairie Avenue, Jefferson Parish, LA.** Geotechnical investigation for a new pump/lift station for Jefferson Parish near the intersection of Airline Park Blvd. and W. Metairie Avenue. Scope of work consisted of performing one soil boring to 50 feet, laboratory testing, and geotechnical engineering analyses consisting of allowable soil bearing values, bedding and backfill recommendations, estimates of settlement, and general construction recommendations. ($5,000 (fee); 2013)

**Taft Park Drainage Improvements, Jefferson Parish, LA.** Perform inspection and testing during construction of various drainage improvements at Taft Park. Scope of services provided by Gulf South included asphalt and/or concrete testing and inspection, field density tests, on-site inspection and documentation, and laboratory testing. ($25,000 (fee); 2015)

**Water Sampling in Mobile Bay, U.S. Coast Guard – Aviation Training Center, Mobile, AL.** Surface water sampling in Mobile Bay at 3 locations, 2 times per month for period of 1 year. Samples were tested for Enterococci, Organic Carbon, and TSS. Gulf South reported every event as well as summarized every 3 months of sampling, and further compared results to EPA threshholds. Report rainfall levels were noted 3 days prior and after sampling. ($33,000 (fee); 2012)

# TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this project. Please include and and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

| PROJECT NO. 1 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Tchefuncte Marsh Shoreline Protection Project: New Borrow Fill Area, Lake Pontchartrain,** St. Tammany Parish, Louisiana<br><br>**Volkert, Inc.**<br>9448 Brookline Ave<br>Baton Rouge LA 70809<br><br>**Matt Salmon**, 225-218-9440<br>matt.salmon@volkert.com | Geotechnical engineering services for shoreline protection along the Lake Pontchartrain coastline by construction of a rock dike (approximately 15,000 linear feet) and marsh fill area located east of the mouth of the Tchefuncte River in St. Tammany Parish, LA. Gulf South's scope includes drilling 14 borings within the lake, each to a depth of 40 feet below the water surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Gulf South provided recommendations for allowable soil bearing values, estimates of settlement, slope stability analyses, time rate of settlement, and strength gain estimates. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| December 2021 | N/A | $90,000 (fee) |

| PROJECT NO. 2 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Proposed Estuary Mitigation Bank (EMB) GIWW - Deadend Canal, Vendome Canal, Hockey Stick Canal**, Crown Point, Jefferson Parish, Louisiana<br><br>**The Natural Resources Investment Group, LLC**<br>3801 Woodland Heights Rd Ste 110<br>Little Rock AR 72217<br><br>**Robert Stainton III, PE,**<br>501-716-2884<br>robert@tnrig.com | Geotechnical investigation for construction of a new wetland restoration project near Crown Point, LA. Gulf South's scope includes drilling nine soil borings to depths of 15 and 40 feet in water and marsh, lab testing (including settlement column test), and geotechnical engineering analysis including estimates of settlement, time rate of settlement, borrow/fill ratios, and general construction recommendations. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| October 2016 | N/A | $26,500 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 3 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Northshore Living Shoreline Protection, Lake Pontchartrain,** St. Tammany Parish, Louisiana<br><br>**Barowka & Bonura Engineers**<br>209 Canal Street<br>Metairie LA 70005<br><br>**Jeff Bonura, P.E.,** 504-828-0030<br>jbonura@bbecllc.com | Geotechnical engineering services for shore protection along the northshore of Lake Pontchartrain coastline in two areas by constructing rock dikes in St. Tammany Parish, LA. Gulf South's scope includes drilling 16 borings each to a depth of 30 feet below the ground surface, laboratory testing, engineering analyses and general construction procedures and recommendations. Gulf South provided recommendations for allowable soil bearing values, estimates of settlement, slope stability analyses, time rate of settlement, and strength gain estimates. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| February 2023 | N/A | $65,000 (fee) |

| PROJECT NO. 4 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Marsh Island Wildlife Refuge Levee/ Bulkhead Repairs (Louisiana DNR), Vermillion Bay,** New Iberia, Iberia Parish, Louisiana<br><br>**Royal Engineers & Consultants, LLC**<br>3909 Ambassador Caffery Pkwy.<br>Lafayette LA 70503<br><br>**Beau Tate,** 337-456-5351<br>btate@royalengineering.net | Geotechnical investigation for various repairs to a dam, levee, and bulkhead at Marsh Island Wildlife Refuge in Iberia Parish, LA. Gulf South's scope of work includes drilling five (5) soil borings each to a depth of 60 feet using marsh drilling equipment, laboratory testing, and geotechnical engineering services consisting of providing allowable soil bearing values, allowable pile capacities, bulkhead design parameters, slope stability analyses, estimates of settlement, and general construction recommendations. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| May 2015 | N/A | $51,250 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 5 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Tchefuncte Marsh Shoreline Protection - New Rock Dikes, Lake Pontchartrain**, St. Tammany Parish, Louisiana<br><br>**Principal Engineering, Inc.**<br>1011 North Causeway Blvd, Suite 19<br>Mandeville LA 70471<br><br>**Andre Monnot, P.E.**, 985-624-5001<br>andre@pi-aec.com | Geotechnical engineering services for the shore protection along Lake Pontchartrain coastline by constructing a rock dike at Tchefuncte Marsh in St. Tammany Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (18 at 30 ft) in Lake Pontchartrain, laboratory testing (including consolidation tests), engineering analyses (bearing values, settlement, slope stability, construction procedures & recommendations). The project utilized shallow-draft barge equipment. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| June 2020 | N/A | $65,000 (fee) |

| PROJECT NO. 6 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Highway 90 Tie-In Levee, Upper Barataria Risk Reduction Program (UBRR) Segment 4**, St. Charles Parish, Louisiana<br><br>**Lafourche Basin Levee District**<br>21380 Highway 20<br>Vacherie LA 70090<br><br>**Donald Ray Henry**, 225-265-7545<br>drhenry@lbld.us.com | Geotechnical investigation for construction of a new earthen levee within the UBRR flood protection/risk reduction system in St. Charles Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (1 at 200 ft., 3 at 75 ft.), CPT probes (6 at 75 ft.), lab testing (including consolidation tests), and engineering analyses including site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, seepage analyses for sheetpile walls, settlement/downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship, estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| January 2021 | N/A | $174,720 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 7 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Marsh Island Restoration Project, Lafreniere Park,** Metairie, Jefferson Parish, Louisiana<br><br>**Mathes Brierre Architect**<br>201 St. Charles Street, Suite 4100<br>New Orleans LA 70170-4100<br><br>**Scott Evans, AIA,** 504-586-9303<br>sevans@mathiesbrierre.com | Geotechnical investigation for construction of a new bulkhead wall around Marsh Island within Lafreniere Park in Metairie, LA. Gulf South's scope includes drilling two soil borings each to a depth of 30 feet on the island, lab testing, and geotechnical engineering analyses including sheetpile and/or retaining wall design parameters, earth pressures, and general construction procedures and recommendations. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| May 2017 | N/A | $5,000 (fee) |

| PROJECT NO. 8 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Bayou Des Allemands Gate, Upper Barataria Risk Reduction (UBRR) Program Segment 3,** St. Charles Parish, Louisiana<br><br>**Lafourche Basin Levee District**<br>21380 Highway 20<br>Vacherie LA 70090<br><br>**Donald Ray Henry,** 225-265-7545<br>drhenry@lbld.us.com | Geotechnical investigation for construction of a new earthen levee within the UBRR flood protection/risk reduction system in St. Charles Parish, LA. Gulf South's scope includes drilling undisturbed soil borings (1 at 200 ft., 3 at 75 ft.), CPT probes (6 at 75 ft.), lab testing (including consolidation tests), and engineering analyses including site/soil characterization, global/local SSA for floodwalls, levee tie-ins, and floodgates, seepage analyses for sheetpile walls, settlement/downdrag analyses, unbalanced forces for structures, pile load capacities, pile foundation load-deflection relationship, estimates of settlement, ground improvement recommendations, and general construction procedures and recommendations. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| Feruary 2021 | N/A | $145,885 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 9 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Engineering Analysis Review (EAR) - Lafitte Tidal Protection Project (Phase I),** Lafitte, Jefferson Parish, Louisiana<br><br>**G&S Engineering, LLC**<br>Post Office Box 71<br>Mandeville LA 70470<br><br>**Scott Gros,** 504-744-0630<br>scottgros@gmail.com | Engineering analysis review of alternative pile type/size recommendations (provided by Client) for drainage structure site in Jefferson Parish, near Lafitte, LA. Gulf South's scope includes engineering analysis consisting of LPILE analysis and general construction recommendations. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| June 2016 | N/A | $5,000 (fee) |

| PROJECT NO. 10 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Laketown Boat Launch Improvements - New Rock Jetty, South Shore Lake Pontchartrain,** City of Kenner, Jefferson Parish, Louisiana<br><br>**Jefferson Parish**<br>1221 Elmwood Park Blvd Ste 310<br>Jefferson LA 70123<br><br>**Michelle M. Gonzales, CFM,**<br>504-736-6653<br>mgonzales@jeffparish.net | Geotechnical engineering services for the construction of a rock jetty dike and boat launch protection along the Lake Pontchartrain shoreline at the Laketown Boat Launch in Kenner. Gulf South's scope includes drilling undisturbed soil borings (two at 50 ft bgs), laboratory testing, engineering analyses and general construction procedures and recommendations. One boring was drilled within Lake Pontchartrain (using barge-mounted drilling equipment) and one boring was drilled on land. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| January 2021 | N/A | $21,500 (fee) |

# TEC Professional Services Questionnaire

**M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.**

| Parties: | | Status/Result of Case: |
|---|---|---|
| Plaintiff: | Defendant: | |
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |

*Gulf South Enginering and Testing, Inc. is not currently, nor has it previously been involved, in litigation with Jefferson Parish.*

**N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.**

GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

## CRITERIA 1 | PROFESSIONAL TRAINING AND EXPERIENCE

**Gulf South Engineering and Testing, Inc.** (Gulf South) is a geotechnical engineering and construction materials testing and inspection company which began operations in 2011. Since that time, we have grown to two offices and nearly three dozen employees.

**Gulf South provides a broad range of geotechnical related services, completing more than 100 geotechnical engineering projects and 300 construction materials testing and inspection projects each year.** These projects typically include soil borings (shallow and deep borings), laboratory testing (AASHTO, ASTM methods, etc.), soil classification (USCS), geotechnical engineering, and construction material testing and field inspection.

**Gulf South is a woman-owned, Hudson Initiative-certified small entrepreneurship in Louisiana. Our laboratory is AASHTO and CCRL certified and USACE validated.**

**Geotechnical Engineering Services**

Gulf South's ownership and senior management have decades of combined experience in the profession and have completed thousands of projects. One of Gulf South's Principals, Chad M. Poché, P.E., a founding principal and Professional Engineer registered in Civil Engineering in Louisiana and Mississippi, has specific and extensive training & experience in geotechnical engineering. He has three decades of experience in planning, administering, and conducting geotechnical investigations.

# TEC Professional Services Questionnaire

**N. continued.**

The firm has specific engineering experience and training in **Geotechnical Engineering, Foundation Design,** and **Geology & Geohydrology;** our staff has extensive experience in all aspects of soil mechanics and geotechnical engineering with specific knowledge in the following areas:

- Shallow and deep foundations (piles, shafts, augercast, screw/anchor piles)
- Deep excavations, cofferdams, retaining walls
- Levees and soft ground construction; slope stability & seepage
- Earthwork; settlement analyses
- Shoreline protection
- Scour analyses
- LRFD Design
- Mechanically Stabilized Earth (MSE) Walls
- Development of load test programs
- Geotechnical instrumentation and construction monitoring
- Canals and pump station foundations
- Pipe bedding and backfill
- Roadways, bridges, pavements

**Field Investigation Services**
Gulf South owns truck mounted (ARDCO C-1000) and track mounted (ARDCO SD 350) drilling rigs with associated and appurtenant support equipment (water trucks and buggy). Our equipment and crews are capable of drilling soil borings to depths of up to 300 feet and installing monitor wells, piezometers, and inclinometers. We can also perform CPT soundings, geoprobe borings, and field testing at any site. Our staff has extensive experience in planning, oversight, and direction of field investigations.

**Laboratory Testing Services**
Gulf South's laboratory is equipped to serve the specific needs of our clients and managed by trained and experienced personnel. All testing is performed in accordance with ASTM, AASHTO, and/or other approved procedures. Gulf South routinely performs soil and concrete strength testing (unconfined and triaxial), soil classification tests (Atterberg limits, moisture content, density, particle size), soil and aggregate sieves, organic content, pH, soil resistivity, and moisture/density relationships (Proctor tests). Gulf South's laboratories are managed by full time, experienced, managers and staff. Further, Gulf South's Kenner laboratory is AASHTO and CCRL certified and USACE validated.

**Construction Materials Testing & Inspection**
Gulf South provides a full range of construction materials testing & inspection services for structures, earthwork, foundations, pipelines, and pavements. The range of services provided includes:

- Fill and base compaction and density testing
- Vibration monitoring
- Pre- and post-construction inspection

# TEC Professional Services Questionnaire

**N. continued.**

- Concrete testing and inspection
- Soil testing (field and laboratory)
- Asphalt testing
- Pile (driven & augercast) and shaft installation monitoring
- Load tests
- Earthwork/proof roll inspection
- Welding inspection
- Steel inspection
- Noise monitoring
- Prepare daily field reports and/or field books
- Maintain records per the client's directive

We have provided construction testing & oversight for projects as small as a house pad to as large as the **$1.2 billion Louis Armstrong New Orleans International Airport North Terminal** project.

**Please refer to our projects included in Item L and in our personnel listings in Item K for specific type project examples and an overview of our projessional experience with this project type.**

## CRITERIA 2 | **SIZE OF FIRM**

At over 30 employees, Gulf South has the appropriate number of employees and personnel for this project. We will complete our scope of services on time and within budget. Further said, Gulf South can readily meet the time and budget constraints for projects assigned to this contract. Our current workload is such that we can expeditiously complete projects for this contract.

## CRITERIA 3 | **CAPACITY FOR TIMELY COMPLETION**

Activity is dependent on the scope of work as well as site access and conditions, however; typically soil borings can be started within one week of receiving notice to proceed with a final product delivered within 3 to 4 weeks of completing the borings. Gulf South's workload & scheduling, coupled with our headquarters being nearby, will allow for assignment of key personnel shortly after any project is assigned.

## CRITERIA 4 | **PAST PERFORMANCE ON PARISH CONTRACTS**

Gulf South has worked both directly and indirectly for various Jefferson Parish Departments (Public Works, Engineering Department, Drainage Department, Jefferson Parish School Board, etc.) throughout our history. Beyond the projects included within this form, additional project information (including listings, background, & client contacts) are available upon request. We have also completed similar services for Public and Private concerns throughout the region.

## CRITERIA 5 | **LOCATION OF THE PRINCIPAL OFFICE**

**Gulf South Engineering and Testing has been headquartered in Jefferson Parish since beginning operations in 2011;** our principal office is located in Jefferson Parish at 15 Veterans Memorial Boulevard in Kenner. We also maintain an office in Gonzales, LA.

# TEC Professional Services Questionnaire

**N. continued.**

## CRITERIA 6 | LEGAL STATEMENT

As stated in Item M, Gulf South has had no litigation, past or present, with Jefferson Parish, nor any of our clients.

## CRITERIA 7 | PRIOR SUCCESSFUL COMPLETION OF PROJECTS

The Principals and key employees of Gulf South have many years of applicable experience in working for and with Government Agencies and private industry. Founding principal and Executive Vice President of Gulf South, Chad M. Poché, P.E., has been a practicing registered geotechnical engineer in South Louisiana since 1998. He has specialized training and experience in geotechnical engineering throughout Louisiana.

As evidenced in the provided projects and personnel résumés, key personnel experience includes the completion of thousands of projects in the region throughout their careers for a broad range of clients, including both the government and private sectors. We can submit data in formats acceptable and customized to our clients' needs.

Gulf South invites you to contact any of our clients for a candid discussion of our service and professionalism, and offer these direct references:

**Neil Schneider, CCM, P.E., Director, Capital Projects, Jefferson Parish**
(504-736-6783 | JPPW@jeffparish.net)

**Ben Lepine, Acting Director, Drainage Department, Jefferson Parish**
(504-736-6751 | JPDrainage@jeffparish.net)

**Angela DeSoto, P.E., Director, Engineering Department, Jefferson Parish**
(504-736-6511 | ADeSoto@jeffparish.net)

**Mark R. Drewes, P.E., Director, Public Works Department, Jefferson Parish**
(504-736-6783 | JPPW@jeffparish.net)

**Michael B. Cooper, Parish President, St. Tammany Parish**
(985-898-2362 | president@stpgov.org)

**Joey Tureau, Director of Transportation, Ascension Parish**
(225-450-1013 | jtureau@apgov.us)

**José A. Gonzales, CAO, City of Kenner**
(504-468-4090 | jgonzalez@kenner.la.us)

**O. To the best of my knowledge, the foregoing is an accurate statement of facts.**

**Signature:** _____ **Print Name:** Chad M. Poché, P.E.

**Title:** Executive Vice President **Date:** June 25, 2024

# TEC Professional Services Questionnaire

**A. Project Name and Advertisement Resolution Number:**

As-Needed Parish-Wide

## Coastal Engineering Consulting Services

SOQ **24-020** | Resolution No. **144205**

**B. Firm Name & Address:**

**BFM Corporation, LLC**

15 Veterans Memorial Boulevard | Kenner LA 70062

**C. Name, title, and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:**

**Ralph P. Fontcuberta, Jr., PLS, Executive Vice President**
504-468-8800 | 504-468-8800 cell | ralph@bfmcorporation.com
Registered Professional Land Surveyor (**Louisiana No. 4329; since 1974**)

**D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline:**

**Ralph P. Fontcuberta, Jr., PLS, Executive Vice President**
504-468-8800 | 504-468-8800 cell | ralph@bfmcorporation.com
Registered Professional Land Surveyor (**Louisiana No. 4329; since 1974**)

**E. Please provide the number of employees whose primary function corresponds with each category:**

| | | | | | |
|---|---|---|---|---|---|
| 4 | Administrative | | Estimators | | Specification Writers |
| | Architects (Licensed) | | Geologists | | Structural Engineers |
| | Chemical Engineers | 1 | Geotechnical Engineers | | Graduate Engineers |
| | Civil Engineers | | Interior Designers | 2 | Project Managers |
| | Construction Inspectors | | Landscape Architects | | Clerical (*see Administrative*) |
| | Ecologists | 1 | Land Surveyor (*Apprentice*) | | Grant/Funding Specialist |
| | Electrical Engineers | | Mechanical Engineers | | Sanitary Engineers |
| | Engineer Intern | | Environmental Engineers | 1 | *Researcher/Archivist* |
| 2 | Professional Land Surveyors | | | 3 | *CADD Technicians* |
| | | | | 6 | *Survey Crew Chief* |
| | | | | 6 | *Survey Crew Instrumentman* |
| | | | | **26** | **TOTAL** |

**F. Is this submittal by a JOINT-VENTURE? Please check: YES _____ NO X**

**If marked "no", skip to Section I. If marked "yes", complete Sections G-H.**

# TEC Professional Services Questionnaire

**G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.**

**1.** N/A

**2.**

**H. Has this JOINT-VENTURE previously worked together? Please check:**

**YES**_____ **NO**_____ N/A

**I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.**

| Name & Address: | Specialty: | Worked with Firm Before (Yes or No): |
|---|---|---|
| **1.** N/A | | |
| **2.** | | |
| **3.** | | |

**J. Please specify the total number of support personnel that may assist in the completion of the Project:**

26 *(all personnel will be available for assignment to the project)*

# TEC Professional Services Questionnaire

**K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e., résumé) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.**

**PROFESSIONAL IN CHARGE OF PROJECT:**

**Name & Title:**

**Ralph P. Fontcuberta, Jr., PLS**
Executive Vice President / Registered Professional Land Surveyor

**Project Assignment:**

Registered Professional Land Surveyor

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

42 years (Founding Principal of BFM in 1982);
57 years total (1967)

*Gulf South Engineering and Testing, Inc. | 2017 to present*
*BFM Corporation, LLC | 1982 to present*
*Surveys, Inc. | 1967 to 1982*
*The Boeing Company | 1964 to 1967*

**Education: Degree(s)/Year/Specialization:**

*2 yr, Building Trade Curriculum, Delgado, New Orleans*
*2 yr, Mathematics Curriculum, University of New Orleans*

**Active Registration: Year first registered/discipline:**

1974 / Professional Land Surveyor (Louisiana No. 4329)
1974 / Professional Land Surveyor (Mississippi No. 1633)

**Other experience and qualifications relevant to the proposed Project:**

**Ralph P. Fontcuberta, Jr., PLS has provided services on an almost incalculable number of surveying projects throughout southeastern Louisiana in the past half century and has been a registered Professional Land Surveyor (PLS) since 1974.** He is thoroughly knowledgeable in all aspects of surveying: topographic, hydrographic, boundary, right-of-way surveying, and all facets thereof. He has provided surveying services for residential, plant, and industrial layout projects, ranging from small private lots & buildings to multi-million-dollar programs, including the New Orleans FEMA Streets/Recovery Roads Program. Since the beginning of his career, his work has entailed computations, drafting, and field work for various industrial, commercial, municipal, and private clients.

Project work has included topographic surveying needed for a wide variety of engineering, architectural, construction, and other related endeavors. This has included projects for numerous branches of virtually every regional city/parish/town government, multiple State agencies (LA Dept. of Natural Resources (LADNR), Coastal Protection & Restoration Administration (CPRA), LA

# TEC Professional Services Questionnaire

Other experience and qualifications: **Ralph P. Fontcuberta, Jr., PLS (continued)**

Dept. of Transportation & Development (LADOTD), MS Dept. of Transportation (MDOT), and others), Federal agencies (U.S. Army Corps of Engineers (USACE), Dept. of the Navy, etc.), private/ public companies (Entergy, BellSouth, Cox Cable, etc.), and numerous other public/private entities.

**Mr. Fontcuberta's surveying experience with Jefferson Parish can be traced back to BFM's inception in 1982, and to 1967 then while working as a surveyor with another firm.** He has over half a century of experience with surveying throughout the region and specifically with Jefferson Parish. He has served as the PLS for projects throughout every corner of Jefferson Parish. Relevant project history includes, but is certainly not limited to, the following:

- Pailet Basin Tidal Protection Levee, Town of Jean Lafitte, Jefferson Parish, LA
- Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 3, Lafourche Parish, LA
- The Westshore Enhancements Storm Surge Protection Project (Phase 1 & 2), Ascension Parish, LA
- Abita River Regional Detention Pond Expansion, St. Tammany Parish, LA
- Tchefuncte Marsh Shoreline Protection Project (Magnetometer & Hydrographic Survey), St. Tammany Parish, LA
- Lafitte Tidal Protection, Phase II, Lafitte Area Independent Levee District, Jefferson Parish, LA
- Fisher Basin Alignment Extension (Fisher/Lafitte Tidal Protection Alignment), Jefferson Parish, LA
- Marsh Island (Lafreniere Park), Metairie, Jefferson Parish, LA
- Alexis Bay Marsh Creation Project, Venice, Plaquemines Parish, LA
- Bayou Segnette Topographic Survey, Westwego, Jefferson Parish, LA
- Trapp Canal Improvements, Bayou Fatma to Bayou Barataria, Jefferson Parish, LA
- Grand Isle State Park Breakwater Survey for Erosion, Jefferson Parish, LA
- Lower Lafitte Shoreline Stabilization at Bayou Rigolets, Segments AU1 and AU5, Jefferson Parish, LA
- Elmer's Island Surveying Services, Grand Isle, Jefferson Parish, LA
- Grand Isle Jetty Project, Grand Isle, Jefferson Parish, LA
- Fifi Island Restoration Extension, Jefferson Parish, LA
- Hydrographic Survey of the Mississippi River Range Line 1-9, Westwego, Jefferson Parish, LA
- Bayou Segnette Fronting Protection/New Pump Station, Westwego, Jefferson Parish, LA
- Lake Pontchartrain LPV149 - Caernarvon Canal Floodwall Construction Layout Survey, St. Bernard/ Plaquemines Parish, LA
- Tchefuncte River Area Surveys, Tchefuncte River, LA
- Multibeam Hydrographic Survey, Pelican Island, Plaquemines Parish, LA
- SLFPA-E Levee Certification Phase 2 Survey - 40 Arpent & Maxent Levees, Orleans & St. Bernard Levee Systems, Orleans Parish, LA
- Forested Ridge Reach B-2, Fort Jackson to Venice, Plaquemines Parish, LA
- Bayou Sale Shoreline Protection Project (TV-20), Terrebonne Parish, LA
- Bayou Henderson, Ascension Parish, LA

# TEC Professional Services Questionnaire

Other experience and qualifications: **Ralph P. Fontcuberta, Jr., PLS (continued)**

- LPV 107 Lincoln Beach Levee & Gate, Orleans Parish, LA
- Lac Des Allemands Shoreline Protection & Restorations, St. John the Baptist Parish, LA
- Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 3, Lafourche Parish, LA
- Hydrographic/Reclamation Monitoring at Multiple Sites, Terrebonne Parish, LA
- Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 4, St. Charles Parish, LA
- Lake Pontchartrain Shoreline Projection and Enhancement Design Survey, St. Charles Parish, LA
- Louisiana DNR 2503-00-40; Bathymetric Surveying for Lake Borgne at Shell Beach (PO-30), LA
- Lincoln Beach Restoration, Orleans Parish, LA
- Goose Bayou Ridge Creation and Shoreline Protection Project, Goose Bayou at Cypress Bayou, LA
- Barataria Bridge, Jonathan Davis Wetland Restoration, LA
- USCG Belmont Ranges, St. James Parish, Gramercy, LA
- Barataria Basin Landbridge Shoreline Protection, LA
- Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 1, St. Charles Parish, LA
- Walnut Street, Orleans Street, and Oak Park Pond, St. Tammany Parish, LA
- Central Wetlands Unit and 40 Arpent Canal Access & Enhancement Project, St. Bernard Parish, LA
- WBV-MRL 4.1, English Turn Bend to Belle Chasse, Plaquemines Parish, LA
- Plaquemines Parish Coastal Restoration, Plaquemines Parish, LA
- Louisiana DNR 2503-00-40; Violet Canal - South of Chalmette on LA 46, St. Bernard Parish, LA
- Naomi Siphon Outfall Management (BA-03C) and Barataria Bay Waterway East Bank Protection (BA-26), LA
- WBV-MRL 6.1, Parish Line to English Turn Bend, Orleans & Plaquemines Parishes, LA
- USA Right-of-Way Line, Intracoastal Waterway in Belle Chasse, Plaquemines Parish, LA
- Shrimp Factory Alternative Site, SE Louisiana Flood Protection Authority - East, St. Bernard Parish, LA
- Rigolets Shoreline Protection Development, Third District, Orleans Parish, LA
- Deer Island Pass, St. Mary Parish, LA
- Fort Pike (State Historic Site), Slidell, St. Tammany Parish, LA
- Cat Island Restoration Project, Plaquemines Parish, LA
- Bayou Dupre Flood Gate, St. Bernard Parish, LA
- Black Bayou Surveying Services, Lake Charles, Calcasieu Parish, LA
- Bayou St. John Hydrographic Survey, New Orleans, LA
- Port of Manchac Soundings, Lake Pontchartrain, Manchac, Tangipahoa Parish, LA
- Tiger Pass Hydrographic Survey, Venice Boat Harbor Road, Belle Chasse, LA
- Intracoastal Waterway Cross Sections (including Engineers Road), Belle Chasse, Plaquemines Parish, LA
- Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 2, Lafourche Parish, LA

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Chad M. Poché, P.E.**
Executive Vice President / Registered Professional Geotechnical Engineer

**Project Assignment:**

Engineering Liaison

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

7 years (became partial owner of BFM in 2017);
31 years total (1993)

*BFM Corporation, LLC | 2017 to present*
*Gulf South Engineering and Testing, Inc. | 2011 to present*
*Ardaman and Associates, Inc. | 2007 to 2011*
*Soil Testing Engineers, Inc. | 2001 to 2007*
*Eustis Engineering | 1996 to 2001*
*Soil Testing Engineers, Inc. | 1993 to 1996*

**Education: Degree(s)/Year/Specialization:**

M.S., 1998, Civil Engineering, University of New Orleans
B.S., 1993, Civil Engineering, Louisiana State University

**Active Registration: Year first registered/discipline:**

1998, Civil Engineer (Louisiana No. 27667)
2002, Civil Engineer (Mississippi No. 15405)

**Other experience and qualifications relevant to the proposed Project:**

Chad M. Poché, P.E. is an Executive Vice President with (and partial owner of) BFM Corporation, LLC, and a co-founder of BFM's sister company, Gulf South Engineering and Testing, Inc. He has been a consulting geotechnical engineer for nearly 30 years in South Louisiana, working on traditional and unique geotechnical engineering projects (shallow and deep foundation design, slope stability, pavement design, etc.). Mr. Poché has also provided construction oversight for waste facilities and virtually every type of earthwork related project. He has been the geotechnical engineer of record for thousands of projects throughout his career.

Mr. Poché's experience includes the development of appropriate scopes of work and proposals for a broad range of projects; planning and coordinating analyses; preparing technical reports; foundation and geotechnical engineering design; construction recommendations; Miss. River facility permitting; managing personnel and office operations, and; serving as an Expert Witness. Mr. Poché has logged soil borings; overseen the installation of ground water monitoring wells, piezometers, and inclinometers; overseen and evaluated pile load tests; overseen, performed, and evaluated dynamic pile testing (PDA and PIT); performed CMT field testing and inspection; and performed laboratory testing.

# TEC Professional Services Questionnaire

Other experience and qualifications: **Chad M. Poché, P.E. (continued)**

**Pailet Basin Tidal Protection Levee, Town of Jean Lafitte, Jefferson Parish, LA.** BFM provided topographic and hydrographic surveying services for the project. Scope included establishing three static GPS observation points at major turns on the levee to ensure baseline is constrained to State Plane Coordinates; BFM also established a baseline along the centerline of the existing earthen levee (referenced to NAD 1983 2011). BFM set vertical control Temporary Benchmarks (TBM) which were referenced to horizontal control points (NAVD 1988 Geoid 12B). Plotted a cross section depicting the ground, edge of water, top and toe of earthen levee, and levee centerline at typical widths of 100 feet. Located visible above-ground utilities as well as underground utilities with visible surface evidence (where available, BFM obtained record drawings from relevant agencies to further plot utilities), as well as existing wall, center of pumps, and discharge pipes at the existing pump station. Trees and large shrubbery & etc. were located and described. Existing improvements (such as sheds, piers, and buildings) and trees were included in general location surveying. Deliverables included hardcopy, PDF, and AutoCAD DWG files. ($150,000 (fee); 2018)

**The Westshore Enhancements Storm Surge Protection Project (Phase 1 & 2), Ascension Parish, LA.** BFM provided Boundary and Route Topographic & Hydrographic Surveying for the project in Ascension Parish, LA; as established, the project was executed in two phases. BFM executed a Route Topographic Survey; the full scope plan & profile included all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work. ($477,340 (fee); 2023)

**Tchefuncte Marsh Shoreline Protection Project (Magnetometer & Hydrographic Survey), St. Tammany Parish, LA.** BFM provided Magnetometer & Hydrographic surveying services for the Tchefuncte Marsh Shoreline Protection Project. Prior to field work, BFM reviewed the Prime's design work plan (September 2021), reviewing existing and previous CPRA projects to identify previously permitted and approved marsh fill borrow areas in Lake Pontchartrain within 6 miles of the project's area. The scope of services included conducting a Magnetometer Survey throughout the site to identify any potential pipelines or other metallic obstructions. Services included surveying along four transects, parallel to the shoreline. A Hydrographic Survey of two 50-acre borrow pit locations was conducted. Cross Sections were taken at 250 ft. intervals within the borrow pits. ($68,300 (fee); 2022)

**Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 3, Lafourche Parish, LA.** BFM's scope of services included all topographic & hydrographic surveying as directed; magnetometer surveying was utilized to determine the presence of pipelines within the subject survey area. BFM established as client-supplied baseline and Temporary Benchmarks (TBM). Provided cross sections along Bayou Des Allemands and located elements & existing improvements within the designated limits of survey, as well as above- & below-ground utilities. As-built data was also considered. ($118,873 (fee); 2019)

**Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 1, St. Charles Parish, LA.** BFM provided topographic and hydrographic surveying services for Segment 1 of the Upper Barataria Basin Risk Reduction (UBRR) Project; this involved the Davis Pond West Guide Levee in St. Charles Parish. ($19,147 (fee); 2019)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Gary J. Lambert, Jr., PLS**
Vice President / Registered Professional Land Surveyor

**Project Assignment:**

Project Manager/Drafting Supervisor

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

6 years (joined BFM in 2018);
13 years total (2011)

*BFM Corporation, LLC | 2018 to present*
*Riverlands Surveying | 2016 to 2018*
*Bertucci Contracting | 2011 to 2016*

**Education: Degree(s)/Year/Specialization:**

B.S., 2018, Geomatics, Nicholls State University
B.S., 2014, Construction Management, Louisiana State University

**Active Registration: Year first registered/discipline:**

2021, Professional Land Surveyor (Louisiana No. 5929)

**Other experience and qualifications relevant to the proposed Project:**

Gary J. Lambert, Jr., is a registered Professional Land Surveyor in Louisiana and provides Project Management and Drafting Oversight for BFM Corporation. He is the first point of contact for clients on technical matters, scheduling, and deliverables for project work, and conducts meetings with engineering, architectural, and government officials to discuss various project needs. His project work has encompassed all manner of surveying services, from basic home lots to 100+ acre tract boundary surveys.

In the field, Mr. Lambert has provided services as a Survey Crew Chief, using both traditional and robotic surveying methods, since the start of his professional career, and has experience with Leica, Hypack, AutoCAD, AutoCAD 3D, Trimble, and RTK surveying technologies. He further trains employees in the use of an aerial drone, laser scanner, and remote-controlled hydrographic survey boat. This survey experience includes topographic, boundary, ALTA/NSPS, FEMA, and various construction surveying. Mr. Lambert has also conducted hydrographic surveys in the Mississippi River and various other bodies of water throughout the Gulf Coast area.

Mr. Lambert has completed Basic OSHA Training and holds license with the Gulf Coast Safety Council (08SSV, ID429523).

# TEC Professional Services Questionnaire

Other experience and qualifications: **Gary J. Lambert, Jr., PLS (continued)**

**Pailet Basin Tidal Protection Levee, Town of Jean Lafitte, Jefferson Parish, LA.** BFM provided topographic and hydrographic surveying services for the project. Scope included establishing three static GPS observation points at major turns on the levee to ensure baseline is constrained to State Plane Coordinates; BFM also established a baseline along the centerline of the existing earthen levee (referenced to NAD 1983 2011). BFM set vertical control Temporary Benchmarks (TBM) which were referenced to horizontal control points (NAVD 1988 Geoid 12B). Plotted a cross section depicting the ground, edge of water, top and toe of earthen levee, and levee centerline at typical widths of 100 feet. Located visible above-ground utilities as well as underground utilities with visible surface evidence (where available, BFM obtained record drawings from relevant agencies to further plot utilities), as well as existing wall, center of pumps, and discharge pipes at the existing pump station. Trees and large shrubbery & etc. were located and described. Existing improvements (such as sheds, piers, and buildings) and trees were included in general location surveying. Deliverables included hardcopy, PDF, and AutoCAD DWG files. ($150,000 (fee); 2018)

**Tchefuncte Marsh Shoreline Protection Project (Magnetometer & Hydrographic Survey), St. Tammany Parish, LA.** BFM provided Magnetometer & Hydrographic surveying services for the Tchefuncte Marsh Shoreline Protection Project. Prior to field work, BFM reviewed the Prime's design work plan (September 2021), reviewing existing and previous CPRA projects to identify previously permitted and approved marsh fill borrow areas in Lake Pontchartrain within 6 miles of the project's area. The scope of services included conducting a Magnetometer Survey throughout the site to identify any potential pipelines or other metallic obstructions. Services included surveying along four transects, parallel to the shoreline. A Hydrographic Survey of two 50-acre borrow pit locations was conducted. Cross Sections were taken at 250 ft. intervals within the borrow pits. ($68,300 (fee); 2022)

**Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 3, Lafourche Parish, LA.** BFM's scope of services included all topographic & hydrographic surveying as directed; magnetometer surveying was utilized to determine the presence of pipelines within the subject survey area. BFM established as client-supplied baseline and Temporary Benchmarks (TBM). Provided cross sections along Bayou Des Allemands and located elements & existing improvements within the designated limits of survey, as well as above- & below-ground utilities. As-built data was also considered. ($118,873 (fee); 2019)

**Abita River Regional Detention Pond Expansion, St. Tammany Parish, LA.** BFM provided topographic and hydrographic surveying services for the project, whose Limits of Survey consisted of Parcel A3-A, a portion of Lambert Investments Minor Subdivision, in St. Tammany Parish. BFM established two temporary benchmarks (TBMs) along Harrison Avenue near the project site, with the vertical datum referenced to NAVD 1988. Surveying services included location of the existing pond, adjoining swales and culverts, and two ditches which exist within the remainder of Parcel A3-A. Spot elevations were taken at 200 ft. intervals on land and 50 ft. within the limits of the pond. Deliverables included detailed indelible prints showing plan & profile views with cross-sections along with digital files. ($68,400 (fee); 2019)

**The Westshore Enhancements Storm Surge Protection Project (Phase 1 & 2), Ascension Parish, LA.** BFM provided Boundary and Route Topographic & Hydrographic Surveying for the project in Ascension Parish, LA; as established, the project was executed in two phases. BFM executed a Route Topographic Survey; the full scope plan & profile included all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work. ($477,340 (fee); 2023)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Christopher Lemley**
Field Operations Manager/Survey Crew Chief

**Project Assignment:**

Field Operations Manager/Survey Crew Chief

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

10 years (joined BFM in 2014);
18 years total (2006)

*BFM Corporation, LLC | 2014 to present*
*G.E.C., Inc. | 2010 to 2014*
*Krebs, LaSalle, LeMieux Consultants, Inc. | 2006 to 2010*

**Education: Degree(s)/Year/Specialization:**

*High School Diploma*

**Active Registration: Year first registered/discipline:**

*American Traffic Safety Service Assn. – Traffic Flagger*
*Louisiana Boater Education - Boating Safety Certificate*
*Norfolk Southern Roadway Worker Protection Contractor Safety Certificate*

**Other experience and qualifications relevant to the proposed Project:**

Chris Lemley's services as BFM's Field Operations Manager includes overseeing all field work and activity by company personnel. His surveying experience includes over 8 years as a Survey Crew Chief. His survey software experience includes projects involving Trimble, Topcon, Leica, and Hypack, and has maintained and operated GPS, Auto-Level, and Total Station. Notable past project work has included the New Orleans Museum of Art, Jackson Barracks Restoration, US Highway 11, NASA Michoud Cells 3 & 4, the St. Bernard Lot Next Door Program, and multiple Orleans Parish School Recovery projects (including L.B. Landry, George Washington Carver, and Alice M. Harte schools).

**Lafitte Area Levee Repair (BA-82) (CPRA 4400007082, Task 8), Jefferson Parish, LA.** BFM provided all topographic and hydrographic surveying services as required by the project. This included establishing a baseline parallel to the shoreline, establishing temporary benchmarks, plotting location of improvements, determining pipeline aspects (size, depth, etc.), and taking cross sections, as well as all elements of the hydrographic survey of the waterway. ($8,924 (fee); 2017)

**Lower Lafitte Waterline, Jefferson Parish, LA.** BFM provided surveying services associated with the location of a 16 inch plastic waterline in the Barataria Waterway as part of the Lower Lafitte Shoreline Stabilization project. BFM provided stakeout surveying for the project, staking the water

# TEC Professional Services Questionnaire

Other experience and qualifications: **Christopher Lemley (continued)**

line every 50 feet (with 4 ft. wooden stakes). Certain areas were very deep and the line was not accurately located in this area. BFM set markers where approximate locations were based on the areas where the line was found. ($38,205 (fee); 2017)

**Fisher Basin Alignment Extension (Fisher/Lafitte Tidal Protection Alignment), Jefferson Parish, LA.** BFM provided topographic, bathymetric, and boundary surveying services for the project. The scope of services included extension of the project baseline along the shoreline of Bayou Barataria and towards LA45. The topographic survey was executed with sufficient intermittent shots to establish grade, and located all topographic features that could interfere with the proposed floodwalls and levee. Cross sections were also taken, with hydrographic surveys continuing out into the water and terminating at the thalweg. Overall, the surveying and mapping included sufficient topographic surveys and cross sections necessary to design, layout, access, construct, and perform the work. ($12,197 (fee); 2015)

**Tchefuncte Marsh Shoreline Protection Project (Magnetometer & Hydrographic Survey), St. Tammany Parish, LA.** BFM provided Magnetometer & Hydrographic surveying services for the Tchefuncte Marsh Shoreline Protection Project. Prior to field work, BFM reviewed the Prime's design work plan (September 2021), reviewing existing and previous CPRA projects to identify previously permitted and approved marsh fill borrow areas in Lake Pontchartrain within 6 miles of the project's area. The scope of services included conducting a Magnetometer Survey throughout the site to identify any potential pipelines or other metallic obstructions. Services included surveying along four transects, parallel to the shoreline. A Hydrographic Survey of two 50-acre borrow pit locations was conducted. Cross Sections were taken at 250 ft. intervals within the borrow pits. ($68,300 (fee); 2022)

**Alexis Bay Marsh Creation Project, Venice, Plaquemines Parish, LA.** BFM provided multiple survey services for this marsh creation project, including elevations, locations, establishing control points, and plat preparation. The project, which specifically involved the creation of a terrace field in Alexis Bay near Venice, Louisiana, also included general topographic surveying services of the project's island location. Hydrographic surveying via airboat was a project element. ($8,625 (fee); 2015)

**Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 1, St. Charles Parish, LA.** BFM provided topographic and hydrographic surveying services for Segment 1 of the Upper Barataria Basin Risk Reduction (UBRR) Project; this involved the Davis Pond West Guide Levee in St. Charles Parish. ($19,147 (fee); 2019)

**Hydrographic/Reclamation Monitoring at Multiple Sites, Vermilion Parish, LA.** BFM provided topographic and hydrographic surveying services for ongoing reclamation monitoring at multiple sites, including Blue Hammock, Bay Goreau, Bay Goreau (West), and Hellhole Bay. GPS surveying services included elevations based on NAVD 1988 vertical (Geoid 12A epoch 2006.85), which utilized land-based laser scanning. Spot elevations were also provided. For the hydrographic surveying elements, BFM's dual frequency Z-boat took soundings in the same area (to show depth of silt and hard pan with a minimum water depth of 18 inches to show dual frequency); as the soundings got closer to the water's edge the surface of the silt was utilized to tie into the bank. Further, BFM plotted location of improvements within the designated limits of the survey. Deliverables included hardcopy, PDF, and AutoCAD DWG files. ($35,500 (fee); 2016)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**John Philip Thayer**
Procurement Director (Proposals & Project Management Support)

**Project Assignment:**

Project Management Support

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

16 years (joined BFM in 2008);
17 years total (2007)

*BFM Corporation, LLC | 2008 to present*
*Delle Land Surveying | 2007 to 2008*

**Education: Degree(s)/Year/Specialization:**

Certificate, 2015, Land Surveying Services
B.S., 2007, Physical Education, Trevecca Nazarene University

**Active Registration: Year first registered/discipline:**

N/A

**Other experience and qualifications relevant to the proposed Project:**

Phil Thayer serves as BFM's Procurement Director, providing proposal preparation and Project Management Support, having considerable experience in field surveying services, including ALTA/ as-built surveying, construction layout, boundary, topographic, cross-sections, GPS use, and numerous other surveying types.

**Lafitte Tidal Protection, Phase II, Lafitte Area Independent Levee District, Jefferson Parish, LA.** BFM's surveying services on the project included establishing horizontal & vertical control (referenced to established benchmark and LA State Plane Coordinate System, NAD 1983 2011), coordination of proposed bulkhead/I-wall centerline, and collection of spot elevation every 25 feet along the centerline. BFM also plotted collected data with centerline overlaid for reference purposes. Deliverables include hardcopy, PDF, and AutoCAD DWG files. ($23,220 (fee); 2017)

**Lac Des Allemands Shoreline Restorations, St. John the Baptist Parish, LA.** BFM provided surveying services for the project, which extended from Vacherie Canal southeast along the shoreline of Lac Des Allemands to Pointe Aux Herbes, a distance of approximately 11,000 feet. Surveying services included the research & review of any existing survey data and establishing a project baseline along the existing shoreline. Cross-sections extended from the baseline, 100 ft. in shore to 500 ft. off shore, every 300 ft. and perpendicular along the baseline. Hydrographic surveying included the mouth of the Vacherie Canal and mouth of Oil Well Canal, noting any significant features. Geotechnical borings were located (for plan identification). BFM further

# TEC Professional Services Questionnaire

Other experience and qualifications: **John Philip Thayer (continued)**

established control (for use by contractor during construction), and prepared drawings of the survey results to include a plan view of the survey and a profile view of each transect. ($38,399 (fee); 2010)

**Lake Pontchartrain Shoreline Projection and Enhancement Design Survey, St. Charles Parish, LA.** For the project, BFM provided topographic and hydrographic survey in the Labranche Wetlands area on the south shore of Lake Pontchartrain. The project begins at the easterly end of the previously constructed shoreline protection project east to the St. Charles-Jefferson Parish line. BFM also surveyed canals, sloughs and bayous that emptied into Lake Pontchartrain a minimum of 100 feet from the point of entry into the lake. Controls were established following the shoreline of Lake Pontchartrain for the entire project length. All sections taken were stationed along this baseline, which was based on the Louisiana State Plane Coordinate System, Lambert Grid, NAD 1983 (2007) as established by GPS observations. Elevations were established on each control point (based on NAVD 1988) and transects along the survey baseline taken at 300 ft. intervals (shorter intervals where necessary to define the shoreline). Transects extended 100 ft. inland to 500 ft. off the shoreline, with additional shots taken in-between to define it accurately. BFM further located existing weirs, dams or levees constructed across canals, sloughs or bayous, as well as any soil boring sites in the project area. ($32,295 (fee); 2010)

**Lower Lafitte Shoreline Stabilization at Bayou Rigolets, Segments AU1 and AU5, Jefferson Parish, LA.** BFM provided topographic and hydrographic surveying services for the project. ($33,370 (fee); 2010)

**Fifi Island Restoration Extension, Jefferson Parish, LA**. BFM provided topographic and hydrographic surveying services for the project. The scope of services involved mapping of property lines and existing servitudes for the railroad, cemetery, private residences, and a commercial establishment (Dive Shop) north of Airline Boulevard. The project also included preparation of a servitude document across the railroad property. ($10,210 (fee); 2011)

**Port of Manchac Soundings, Lake Pontchartrain, Manchac, Tangipahoa Parish, LA**. BFM provided surveying services for the project involving a centerline of channel soundings from Lake Pontchartrain to the Port of Manchac Harbor on North Pass. ($3,300 (fee); 2010)

**Alexis Bay Marsh Creation Project, Venice, Plaquemines Parish, LA.** BFM provided multiple survey services for this marsh creation project, including elevations, locations, establishing control points, and plat preparation. The project, which specifically involved the creation of a terrace field in Alexis Bay near Venice, Louisiana, also included general topographic surveying services of the project's island location. Hydrographic surveying via airboat was a project element. ($8,625 (fee); 2015)

**Goose Bayou Ridge Creation and Shoreline Protection Project, Goose Bayou at Cypress Bayou, LA.** BFM located the western shoreline of Goose Bayou from the Pen in Lafitte to its intersection with Cypress Bayou. Surveying services included cross sections every 300 feet extending 100 feet into the marsh and sounding out the centerline of Goose Bayou. ($25,325 (fee); 2009)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Dawn Hoffman**
Researcher/Archivist

**Project Assignment:**

Researcher/Archivist

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

15 years (joined BFM in 2009);
27 years total (1997)

*BFM Corporation, LLC | 2009 to present*
*Fluor Corporation | 2007 to 2009*
*Geographic Computer Technologies, LLC | 2000 to 2007*

**Education: Degree(s)/Year/Specialization:**

A.D., 1999, Computer-Aided Drafting, Southeast College of Technology
Certificate, 2003, Introduction to ArcGIS, Louisiana State University

**Active Registration: Year first registered/discipline:**

N/A

**Other experience and qualifications relevant to the proposed Project:**

Dawn Hoffman serves as BFM's primary researcher and has more than 25 years of experience in this field. She is extremely knowledgeable with researching in various parishes and cities.

**Pailet Basin Tidal Protection Levee, Town of Jean Lafitte, Jefferson Parish, LA.** BFM provided topographic and hydrographic surveying services for the project. Scope included establishing three static GPS observation points at major turns on the levee to ensure baseline is constrained to State Plane Coordinates; BFM also established a baseline along the centerline of the existing earthen levee (referenced to NAD 1983 2011). BFM set vertical control Temporary Benchmarks (TBM) which were referenced to horizontal control points (NAVD 1988 Geoid 12B). Plotted a cross section depicting the ground, edge of water, top and toe of earthen levee, and levee centerline at typical widths of 100 feet. Located visible above-ground utilities as well as underground utilities with visible surface evidence (where available, BFM obtained record drawings from relevant agencies to further plot utilities), as well as existing wall, center of pumps, and discharge pipes at the existing pump station. Trees and large shrubbery & etc. were located and described. Existing improvements (such as sheds, piers, and buildings) and trees were included in general location surveying. Deliverables included hardcopy, PDF, and AutoCAD DWG files. ($150,000 (fee); 2018)

**Fisher Basin Alignment Extension (Fisher/Lafitte Tidal Protection Alignment), Jefferson Parish, LA.** BFM provided topographic, bathymetric, and boundary surveying services for the project. The scope of services included extension of the project baseline along the shoreline of Bayou Barataria and towards LA45. The topographic survey was executed with sufficient intermittent shots to

establish grade, and located all topographic features that could interfere with the proposed floodwalls and levee. Cross sections were also taken, with hydrographic surveys continuing out into the water and terminating at the thalweg. Overall, the surveying and mapping included sufficient topographic surveys and cross sections necessary to design, layout, access, construct, and perform the work. ($12,197 (fee); 2015)

**Lafitte Tidal Protection, Phase II, Lafitte Area Independent Levee District, Jefferson Parish, LA.** BFM's surveying services on the project included establishing horizontal & vertical control (referenced to established benchmark and LA State Plane Coordinate System, NAD 1983 2011), coordination of proposed bulkhead/I-wall centerline, and collection of spot elevation every 25 feet along the centerline. BFM also plotted collected data with centerline overlaid for reference purposes. Deliverables include hardcopy, PDF, and AutoCAD DWG files. ($23,220 (fee); 2017)

**Marsh Island (Lafreniere Park), Metairie, Jefferson Parish, LA.** BFM Corporation provided bathymetric and topographic surveying services for the Marsh Island project at Lafreniere Park in Jefferson Parish, Louisiana. The survey encompassed the island and surrounding waters up to and including the sidewalk. Cross sections of the island and surrounding waters were cut after the topographic and hydrographic surveying was completed. ($9,568 (fee); 2016)

**SLFPA-E Levee Certification Phase 2 Survey - 40 Arpent & Maxent Levees, Orleans & St. Bernard Levee Systems, Orleans Parish, LA.** BFM surveyed the centerline of the 40 Arpent "Back" Levee (in excess of 124,000 lf on a 100 ft grid). Control points were established utilizing RTK GPS. In addition, each pump station was surveyed and all grade breaks/roads were obtained along the centerline of the levee. The old shrimp building at Violet Canal was also located as part of the survey. Surveys included utility locations (based on field evidence, investigation, and available utility records) as well as foundation of above-ground utility poles, wet wells, and pipeline crossings. Bathymetry information was incorporated into cross-section point file and combined with ground survey; this information was further converted to the same elevations as the levee profile work. Additional cross sections were surveyed to support detailed geotechnical analysis; locations were coordinated with the geotechnical engineer of record for the project. These cross sections extended 100 ft from the toe of the levee in both directions and included bathymetry of the lake, wetland, or canal, depending on location, and extended until depth of the body was determined. ($166,500 (fee; 2013)

**Tchefuncte Marsh Shoreline Protection Project (Magnetometer & Hydrographic Survey), St. Tammany Parish, LA.** BFM provided Magnetometer & Hydrographic surveying services for the Tchefuncte Marsh Shoreline Protection Project. Prior to field work, BFM reviewed the Prime's design work plan (September 2021), reviewing existing and previous CPRA projects to identify previously permitted and approved marsh fill borrow areas in Lake Pontchartrain within 6 miles of the project's area. The scope of services included conducting a Magnetometer Survey throughout the site to identify any potential pipelines or other metallic obstructions. Services included surveying along four transects, parallel to the shoreline. A Hydrographic Survey of two 50-acre borrow pit locations was conducted. Cross Sections were taken at 250 ft. intervals within the borrow pits. ($68,300 (fee); 2022)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Anthony Watson**
CADD Technician (AutoCADD Drafting Services)

**Project Assignment:**

CADD Technician (AutoCADD Drafting Services)

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

13 years (joined BFM in 2011);
33 years total (1991)

*BFM Corporation, LLC | 2011 to present*
*Krebs LaSalle Lemieux / GEC | 2008 to 2011*
*Doug Connally and Associates Land Surveying (Dallas, TX) | 1995-2008*
*Electrician | 1991 to 1995*
*City of Plano TX (Part-Time Drafting Services) | 1991*

**Education: Degree(s)/Year/Specialization:**

*Coursework - CAD, Avatech Solutions, Los Colinas, TX*

**Active Registration: Year first registered/discipline:**

*N/A*

**Other experience and qualifications relevant to the proposed Project:**

Anthony Watson has experience as a draftsman/survey technician, having started his career as an intern with the Surveying Department of the City of Plano, Texas. His experience through the years includes manual and computer-aided drafting for a wide range of projects, ranging from small lot surveys to subdivisions to municipal treatment and private industrial plants. He has experience in all facets of surveying (boundary, topographic, ALTA/ACSM, plan & profile, etc.) in both drafting and field environments.

**Lafitte Tidal Protection, Phase II, Lafitte Area Independent Levee District, Jefferson Parish, LA.** BFM's surveying services on the project included establishing horizontal & vertical control (referenced to established benchmark and LA State Plane Coordinate System, NAD 1983 2011), coordination of proposed bulkhead/I-wall centerline, and collection of spot elevation every 25 feet along the centerline. BFM also plotted collected data with centerline overlaid for reference purposes. Deliverables include hardcopy, PDF, and AutoCAD DWG files. ($23,220 (fee); 2017)

**Fisher Basin Alignment Extension (Fisher/Lafitte Tidal Protection Alignment), Jefferson Parish, LA.** BFM provided topographic, bathymetric, and boundary surveying services for the project. The scope of services included extension of the project baseline along the shoreline of Bayou Barataria and towards LA45. The topographic survey was executed with sufficient intermittent shots to establish grade, and located all topographic features that could interfere with the proposed

floodwalls and levee. Cross sections were also taken, with hydrographic surveys continuing out into the water and terminating at the thalweg. Overall, the surveying and mapping included sufficient topographic surveys and cross sections necessary to design, layout, access, construct, and perform the work. ($12,197 (fee); 2015)

**Tchefuncte Marsh Shoreline Protection Project (Magnetometer & Hydrographic Survey), St. Tammany Parish, LA.** BFM provided Magnetometer & Hydrographic surveying services for the Tchefuncte Marsh Shoreline Protection Project. Prior to field work, BFM reviewed the Prime's design work plan (September 2021), reviewing existing and previous CPRA projects to identify previously permitted and approved marsh fill borrow areas in Lake Pontchartrain within 6 miles of the project's area. The scope of services included conducting a Magnetometer Survey throughout the site to identify any potential pipelines or other metallic obstructions. Services included surveying along four transects, parallel to the shoreline. A Hydrographic Survey of two 50-acre borrow pit locations was conducted. Cross Sections were taken at 250 ft. intervals within the borrow pits. ($68,300 (fee); 2022)

**The Westshore Enhancements Storm Surge Protection Project (Phase 1 & 2), Ascension Parish, LA.** BFM provided Boundary and Route Topographic & Hydrographic Surveying for the project in Ascension Parish, LA; as established, the project was executed in two phases. BFM executed a Route Topographic Survey; the full scope plan & profile included all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work. ($477,340 (fee); 2023)

**Bayou Segnette Fronting Protection/New Pump Station, Westwego, Jefferson Parish, LA.** BFM's surveying services included establishment of vertical control for a new pump station. Total Station services were utilized for the project. ($3,435 (fee); 2012)

**Pailet Basin Tidal Protection Levee, Town of Jean Lafitte, Jefferson Parish, LA.** BFM provided topographic and hydrographic surveying services for the project. Scope included establishing three static GPS observation points at major turns on the levee to ensure baseline is constrained to State Plane Coordinates; BFM also established a baseline along the centerline of the existing earthen levee (referenced to NAD 1983 2011). BFM set vertical control Temporary Benchmarks (TBM) which were referenced to horizontal control points (NAVD 1988 Geoid 12B). Plotted a cross section depicting the ground, edge of water, top and toe of earthen levee, and levee centerline at typical widths of 100 feet. Located visible above-ground utilities as well as underground utilities with visible surface evidence (where available, BFM obtained record drawings from relevant agencies to further plot utilities), as well as existing wall, center of pumps, and discharge pipes at the existing pump station. Trees and large shrubbery & etc. were located and described. Existing improvements (such as sheds, piers, and buildings) and trees were included in general location surveying. Deliverables included hardcopy, PDF, and AutoCAD DWG files. ($150,000 (fee); 2018)

**Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 3, Lafourche Parish, LA.** BFM's scope of services included all topographic & hydrographic surveying as directed; magnetometer surveying was utilized to determine the presence of pipelines within the subject survey area. BFM established as client-supplied baseline and Temporary Benchmarks (TBM). Provided cross sections along Bayou Des Allemands and located elements & existing improvements within the designated limits of survey, as well as above- & below-ground utilities. As-built data was also considered. ($118,873 (fee); 2019)

# TEC Professional Services Questionnaire

**KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**

**Name & Title:**

**Curtis "Jay" Barrios**
Survey Crew Chief

**Project Assignment:**

Survey Crew Chief

**Name of Firm with which associated:**

BFM CORPORATION, LLC
Professional Land & Hydrographic Surveying

**Years' experience with this Firm:**

34 years (joined BFM in 1990);
39 years total (1985)

*BFM Corporation, LLC | 1990 to present*
*Benson Mercedes Benz | 1989 to 1990*
*SECO Electric | 1987*
*Frishhertz Electric | 1986 to 1987*
*Plain Construction | 1985 to 1986*

**Education: Degree(s)/Year/Specialization:**

*High School Diploma*

**Active Registration: Year first registered/discipline:**

*American Traffic Safety Service Assn. – Traffic Flagger*
*Basic OSHA Training Class Completion*
*Transportation Work Identification Card (TWIC)*

**Other experience and qualifications relevant to the proposed Project:**

Jay Barrios' surveying experience includes boundary, hydrographic, and topographic. He has been the Survey Crew Chief for thousands of projects and is one of the more experienced surveyors in the area. Further, Mr. Barrios has been involved on major transmission projects for Entergy and South Central Bell (AT&T).

**Lafitte Tidal Protection, Phase II, Lafitte Area Independent Levee District, Jefferson Parish, LA.** BFM's surveying services on the project included establishing horizontal & vertical control (referenced to established benchmark and LA State Plane Coordinate System, NAD 1983 2011), coordination of proposed bulkhead/I-wall centerline, and collection of spot elevation every 25 feet along the centerline. BFM also plotted collected data with centerline overlaid for reference purposes. Deliverables include hardcopy, PDF, and AutoCAD DWG files. ($23,220 (fee); 2017)

**Lake Pontchartrain Shoreline Projection and Enhancement Design Survey, St. Charles Parish, LA.** For the project, BFM provided topographic and hydrographic survey in the Labranche Wetlands area on the south shore of Lake Pontchartrain. The project begins at the easterly end of the previously constructed shoreline protection project east to the St. Charles-Jefferson Parish line. BFM also surveyed canals, sloughs and bayous that emptied into Lake Pontchartrain a minimum of

100 feet from the point of entry into the lake. Controls were established following the shoreline of Lake Pontchartrain for the entire project length. All sections taken were stationed along this baseline, which was based on the Louisiana State Plane Coordinate System, Lambert Grid, NAD 1983 (2007) as established by GPS observations. Elevations were established on each control point (based on NAVD 1988) and transects along the survey baseline taken at 300 ft. intervals (shorter intervals where necessary to define the shoreline). Transects extended 100 ft. inland to 500 ft. off the shoreline, with additional shots taken in-between to define it accurately. BFM further located existing weirs, dams or levees constructed across canals, sloughs or bayous, as well as any soil boring sites in the project area. ($32,295 (fee); 2010)

**Fisher Basin Alignment Extension (Fisher/Lafitte Tidal Protection Alignment), Jefferson Parish, LA.** BFM provided topographic, bathymetric, and boundary surveying services for the project. The scope of services included extension of the project baseline along the shoreline of Bayou Barataria and towards LA45. The topographic survey was executed with sufficient intermittent shots to establish grade, and located all topographic features that could interfere with the proposed floodwalls and levee. Cross sections were also taken, with hydrographic surveys continuing out into the water and terminating at the thalweg. Overall, the surveying and mapping included sufficient topographic surveys and cross sections necessary to design, layout, access, construct, and perform the work. ($12,197 (fee); 2015)

**Fifi Island Restoration Extension, Jefferson Parish, LA.** BFM provided topographic and hydrographic surveying services for the project. The scope of services involved mapping of property lines and existing servitudes for the railroad, cemetery, private residences, and a commercial establishment (Dive Shop) north of Airline Boulevard. The project also included preparation of a servitude document across the railroad property. ($10,210 (fee); 2011)

**Pailet Basin Tidal Protection Levee, Town of Jean Lafitte, Jefferson Parish, LA.** BFM provided topographic and hydrographic surveying services for the project. Scope included establishing three static GPS observation points at major turns on the levee to ensure baseline is constrained to State Plane Coordinates; BFM also established a baseline along the centerline of the existing earthen levee (referenced to NAD 1983 2011). BFM set vertical control Temporary Benchmarks (TBM) which were referenced to horizontal control points (NAVD 1988 Geoid 12B). Plotted a cross section depicting the ground, edge of water, top and toe of earthen levee, and levee centerline at typical widths of 100 feet. Located visible above-ground utilities as well as underground utilities with visible surface evidence (where available, BFM obtained record drawings from relevant agencies to further plot utilities), as well as existing wall, center of pumps, and discharge pipes at the existing pump station. Trees and large shrubbery & etc. were located and described. Existing improvements (such as sheds, piers, and buildings) and trees were included in general location surveying. Deliverables included hardcopy, PDF, and AutoCAD DWG files. ($150,000 (fee); 2018)

**The Westshore Enhancements Storm Surge Protection Project (Phase 1 & 2), Ascension Parish, LA.** BFM provided Boundary and Route Topographic & Hydrographic Surveying for the project in Ascension Parish, LA; as established, the project was executed in two phases. BFM executed a Route Topographic Survey; the full scope plan & profile included all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work. ($477,340 (fee); 2023)

# TEC Professional Services Questionnaire

**L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this project. Please include and and all work performed for Jefferson Parish. Please attach additional pages if necessary.**

| PROJECT NO. 1 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Pailet Basin Tidal Protection Levee,** Town of Jean Lafitte, Jefferson Parish, Louisiana<br><br>**APTIM**<br>2424 Edenborn Avenue Suite 450<br>Metairie LA 70001<br><br>**Gene S. Gillen, P.E.,** 504-832-4881<br>info@aptim.com | BFM provided topographic and hydrographic surveying; scope included establishing three static GPS observation points at major turns on the levee to ensure baseline is constrained to State Plane Coordinates; also established a baseline along the centerline of the existing earthen levee. Set vertical control TBMs and plotted a cross section depicting the ground, edge of water, top and toe of earthen levee, and levee centerline at typical widths of 100 feet. Located utilities, existing wall, center of pumps, and discharge pipes at the existing pump station. Existing improvements (sheds, piers, buildings) and trees were included in general location surveying. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| June 2018 | N/A | $150,000 (fee) |

| PROJECT NO. 2 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Upper Barataria Basin Risk Reduction (UBRR) Project, Segment 3,** Lafourche Parish, Louisiana<br><br>**Greenup Industries, LLC**<br>2200 Veterans Memorial Blvd Ste 114<br>Kenner LA 70062<br><br>**Rodney Greenup, Jr.,** 225-283-4843<br>rodney@greenupind.com | BFM's scope of services included all topographic & hydrographic surveying as directed; magnetometer surveying was utilized to determine the presence of pipelines within the subject survey area. BFM established as client-supplied baseline and Temporary Benchmarks (TBM). Provided cross sections along Bayou Des Allemands and located elements & existing improvements within the designated limits of survey, as well as above- & below-ground utilities. As-built data was also considered. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| July 2019 | N/A | $118,873 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 3 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **The Westshore Enhancements Storm Surge Protection Project (Phase 1 & 2)**, Ascension Parish, Louisiana<br><br>**Burk-Kleinpeter, Inc.**<br>4176 Canal Street<br>New Orleans LA 70119<br><br>**David Boyd, P.E.**, 504-483-6271<br>dboyd@bkiusa.com | BFM provided Boundary and Route Topographic & Hydrographic Surveying for the project in Ascension Parish, LA; as established, the project was executed in two phases. BFM executed a Route Topographic Survey; the full scope plan & profile included all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| October 2023 | N/A | $477,340 (fee) |

| PROJECT NO. 4 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Abita River Regional Detention Pond Expansion**, St. Tammany Parish, Louisiana<br><br>**CSRS Inc.**<br>6767 Perkins Road, Suite 200<br>Baton Rouge LA 70808<br><br>**Scott Hoffeld**, 225-769-0546<br>scott.hoffeld@csrsinc.com | BFM provided topographic and hydrographic surveying for the project, whose Limits of Survey consisted of Parcel A3-A, a portion of Lambert Investments Minor Subdivision, in St. Tammany Parish. BFM established two temporary benchmarks (TBMs) along Harrison Avenue near the project site, with the vertical datum referenced to NAVD 1988. Surveying services included location of the existing pond, adjoining swales and culverts, and two ditches which exist within the remainder of Parcel A3-A. Spot elevations were taken at 200 ft. intervals on land and 50 ft. within the limits of the pond. Deliverables included detailed indelible prints showing plan & profile views with cross-sections along with digital files. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| July 2019 | N/A | $68,400 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 5 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Tchefuncte Marsh Shoreline Protection Project (Magnetometer & Hydrographic Survey),** St. Tammany Parish, Louisiana<br><br>**Volkert, Inc.**<br>7967 Office Park Blvd 2nd Floor<br>Baton Rouge LA 70809<br><br>**Matt Salmon, P.E.,** 214-478-4754<br>matt.salmon@volkert.com | BFM provided Magnetometer & Hydrographic surveying services for the Tchefuncte Marsh Shoreline Protection Project. Prior to field work, BFM reviewed the Prime's design work plan (September 2021), reviewing existing and previous CPRA projects to identify previously permitted and approved marsh fill borrow areas in Lake Pontchartrain within 6 miles of the project's area. The scope of services included conducting a Magnetometer Survey throughout the site to identify any potential pipelines or other metallic obstructions. Services included surveying along four transects, parallel to the shoreline. A Hydrographic Survey of two 50-acre borrow pit locations was conducted. Cross Sections were taken at 250 ft. intervals within the borrow pits. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| June 2022 | N/A | $63,800 (fee) |

| PROJECT NO. 6 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Lafitte Tidal Protection, Phase II, Lafitte Area Independent Levee District,** Jefferson Parish, Louisiana<br><br>**BCG Engineering & Consulting, Inc.**<br>9619 Interline Avenue, Suite A<br>Baton Rouge LA 70809<br><br>**David T. Dodgen,** 225-924-3116 | BFM's surveying services on the project included establishing horizontal & vertical control (referenced to established benchmark and LA State Plane Coordinate System, NAD 1983 2011), coordination of proposed bulkhead/I-wall centerline, and collection of spot elevation every 25 feet along the centerline. BFM also plotted collected data with centerline overlaid for reference purposes. Deliverables include hardcopy, PDF, and AutoCAD DWG files. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| June 2017 | N/A | $23,220 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 7 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Fisher Basin Alignment Extension (Fisher/Lafitte Tidal Protection Alignment),** Jefferson Parish, Louisiana<br><br>**Brown Cunningham Gannuch**<br>3012 26th Street<br>Metairie LA 70002<br><br>**Ann L. Springston, P.E.,**<br>504-454-3866<br>aspringston@ardurragroup.com | BFM provided topographic, bathymetric, and boundary surveying services for the project. The scope of services included extension of the project baseline along the shoreline of Bayou Barataria and towards LA45. The topographic survey was executed with sufficient intermittent shots to establish grade, and located all topographic features that could interfere with the proposed floodwalls and levee. Cross sections were also taken, with hydrographic surveys continuing out into the water and terminating at the thalweg. Overall, the surveying and mapping included sufficient topographic surveys and cross sections necessary to design, layout, access, construct, and perform the work. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| April 2015 | N/A | $12,197 (fee) |

| PROJECT NO. 8 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Marsh Island (Lafreniere Park),**<br>Metairie, Jefferson Parish, Louisiana<br><br>**Mathes Brierre Architects**<br>201 St. Charles Avenue, Suite 4100<br>New Orleans LA 70170-4100<br><br>**Scott Evans, AIA,** 504-586-9303<br>talfortish@mathesbrierre.com | BFM Corporation provided bathymetric and topographic surveying services for the Marsh Island project at Lafreniere Park in Jefferson Parish, Louisiana. The survey encompassed the island and surrounding waters up to and including the sidewalk. Cross sections of the island and surrounding waters were cut after the topographic and hydrographic surveying was completed. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| February 2016 | N/A | $9,568 (fee) |

# TEC Professional Services Questionnaire

| PROJECT NO. 9 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Alexis Bay Marsh Creation Project,** Venice, Plaquemines Parish, Louisiana<br><br>**Manchac Consulting Group, Inc.**<br>2137-A Quail Run Drive, Suite A<br>Baton Rouge LA 70808<br><br>**Daniel Duhon,** 225-448-3972 | BFM provided multiple survey services for this marsh creation project, including elevations, locations, establishing control points, and plat preparation. The project, which specifically involved the creation of a terrace field in Alexis Bay near Venice, Louisiana, also included general topographic surveying services of the project's island location. Hydrographic surveying via airboat was a project element. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| February 2015 | N/A | $8,625 (fee) |

| PROJECT NO. 10 | | |
|---|---|---|
| **Project Name, Location, and Owner's contact information:** | **Nature of Firm's Responsibility:** | |
| **Lower Lafitte Waterline Stakeout,** Jefferson Parish, Louisiana<br><br>**CB&I**<br>2424 Edenborn Avenue Suite 450<br>Metairie LA 70001<br><br>**Gene S. Gillen, P.E.,** 504-832-4881<br>gene.gillen@cbi.com | BFM provided surveying services associated with the location of a 16 inch plastic waterline in the Barataria Waterway as part of the Lower Lafitte Shoreline Stabilization project. BFM provided stakeout surveying for the project, staking the water line every 50 feet (with 4 ft. wooden stakes). Certain areas were very deep and the line was not accurately located in this area. BFM set markers where approximate locations were based on the areas where the line was found. | |
| **Completion Date (Actual or estimated:)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| January 2017 | N/A | $38,205 (fee) |

# TEC Professional Services Questionnaire

**M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.**

| Parties: | | Status/Result of Case: |
|---|---|---|
| Plaintiff: | Defendant: | |
| 1. *BFM Corporation is not currently, nor has it previously been involved, in litigation with Jefferson Parish.* | | |
| 2. | | |
| 3. | | |
| 4. | | |

**N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.**

**BFM CORPORATION, LLC**
**Professional Land & Hydrographic Surveying**

## CRITERIA 1 | PROFESSIONAL TRAINING AND EXPERIENCE

Established in 1982, **BFM Corporation, LLC, Professional Land & Hydrographic Surveying,** provides services to public & private concerns throughout Louisiana and the Gulf South. For over 40 years, BFM has provided surveying services covering all facets of engineering, construction, and forensics; topographic, and hydrographic, as well as drone-based surveying and high-definition laser scanning.

**BFM Corporation is a majority Woman-Owned Business Enterprise (WBE) as well as a Hudson Initiative certified Small & Emerging Business and Small Entrepreneurship in Louisiana.**

Our capabilities include the following and more:

- Topographic Surveying
- Drone Surveying
- Photogrammic & LiDAR and 3D Laser Scanning
- Bathymetric / Hydrographic Surveys
- Property, Boundary, and Right-of-Way Surveys
- Maps, Cross-Sections, & Data Sets; Benchmarks

# TEC Professional Services Questionnaire

**N. continued.**

- Construction-Related Surveying and Builder's Package Surveys
- American Land Title Association (ALTA) Surveys

BFM's project work routinely involves **extensive records and related research** as an element of successful completion, as well as coordination with the client, agency or department. BFM has the personnel to make sure this is done correctly and expeditiously.

Our **Survey Field Crews** are equipped with Leica Viva and Leica Captivate Data Collectors, as well as Leica GPS Smart Antennas. Each GPS unit is linked to the Leica SmartNet Network, giving each crew the ability for Real Time Kinematic Positioning (RTK), derived from the Global Navigation Satellite System (GNSS). Furthermore, each crew is outfitted with Leica TS series robotic total stations, simplifying and expediting projects. BFM can also use in-house drones and 3D scanners to further analyze sites and projects. BFM's crews are trained to use this equipment to its full potential to maximize accuracy and efficiency in the field.

BFM offers **Drone Surveying Services**, featuring a DJI Matrice 600 Pro drone outfitted with a Sony A7R3 42-megapixel camera, Pixhawk Triggering System, VMAP PPK system, and an A3 Pro Flight Controller. It can capture 50 acres of land allowing BFM to quickly & accurately capture data and facilitates quicker field work to produce highly accurate and precise surveying information. Deliverables feature Clean Point Cloud, 3D Mesh, Orthomosaic, and AutoCAD DWG Topographic.

BFM's **3D modeling capabilities** allow us to process & model for any design purpose. High-definition scanner data is processed using software from Leica and Autodesk. BFM is working on non-traditional survey deliverables, including virtual tours, live walkthroughs, detailed pipe rack modeling, and modeling for use with Autodesk Revit Architecture.

When needed, BFM provides **bathymetric surveying** to handle **any hydrographic surveying tasks.** For large rivers and bodies of water, we are equipped with Teledyne Odom Hydro Solutions' Hydro Trac Single Beam Echo Sounder. For smaller bodies of water, BFM uses an SL20 Remote Controlled Boat equipped with CEE Scope Dual Channel Echo Sounder. We use Hypack Software to process collected data. Further, BFM can execute multi-beam scans, side scans and magnetometer surveys upon request.

**Please refer to our projects included in Item L and in our personnel listings in Item K for specific type project examples and an overview of our surveying experience with this project type.**

## CRITERIA 2 | **SIZE OF FIRM**

As noted, BFM has the manpower and equipment to execute any surveying task within the reasonable time set forth by the contract or project engineer. BFM has no issue with meeting the project deadlines set forth by our clients, both municipal and private. It is our continual goal to keep this reputation solid. Further, we establish base costs and fees for our services, and work with our clients to meet all project budgets.

# TEC Professional Services Questionnaire

**N. continued.**

As noted in **item E** of this form, BFM currently has a **full-time staff of two dozen people,** including **two Registered Professional Land Surveyors, Survey Field Crew Personnel,** and **AutoCAD drafting personnel,** as well as **complete administrative and support staff**.

## CRITERIA 3 | **CAPACITY FOR TIMELY COMPLETION**

BFM has the manpower and equipment to execute any surveying task within the reasonable time set forth by a contract or project engineer. It is our goal to keep this reputation solid. We establish base costs and fees for our services, and work with our clients to meet all project budgets. Our workload and scheduling, and proximity to the project site, will allow for quick assignment of personnel to any directed project.

BFM Corporation's **Ralph P. Fontcuberta, Jr., PLS,** Executive Vice President, is a **Louisiana-Registered Professional Land Surveyor (since 1974)** and meets or exceeds any minimum requirements for any surveying project. He has been **providing surveying services in Louisiana for over 50 years** and brings an almost incalculable wealth of experience in the region to any project, especially in Southeast Louisiana.

**Chad M. Poché, P.E.,** Executive Vice President, brings **more than 25 years of experience** to assist in completing projects on time and within budget. He has been a consulting geotechnical engineer for more than 20 years in South Louisiana and has been the geotechnical engineer of record for thousands of projects.

**Gary J. Lambert, Jr., PLS,** Vice President is a **registered Professional Land Surveyor** and provides Project Management & Drafting Oversight and is the first point of contact for clients on technical matters. He meets with engineering, architectural, and government officials to discuss various project needs.

Our personnel included **multiple survey crews** and a **fully-staffed drafting department** to handle any project needs; they are thoroughly trained and extensively familiar with the region and needs of various types of surveying projects.

## CRITERIA 4 | **PAST PERFORMANCE ON PARISH CONTRACTS**

BFM Corporation has provided **surveying services in Jefferson Parish since 1982,** both **directly to Parish agencies and as a consultant to firms serving the Parish**. The firm has executed many hundreds of projects in the Parish, including both direct Parish projects and State agency projects (CPRA, Louisiana DOTD, etc.), not to mention the scores of surveying projects for private individuals and industry.

As noted, Mr. Fontcuberta has **over half a century of professional land surveying experience,** including over 40 years with BFM. **He has provided professional surveying services for thousands of projects for and throughout Jefferson Parish.**

# TEC Professional Services Questionnaire

**N. continued.**

## CRITERIA 5 | LOCATION OF THE PRINCIPAL OFFICE

**BFM has called Jefferson Parish home office location since the firm's inception in 1982;** our principal office is located in Jefferson Parish at 15 Veterans Memorial Boulevard in Kenner.

## CRITERIA 6 | LEGAL STATEMENT

BFM Corporation is **not involved in litigation with Jefferson Parish** nor with any of our clients, as is noted in Item M of this form.

## CRITERIA 7 | PRIOR SUCCESSFUL COMPLETION OF PROJECTS

For over 40 years, BFM Corporation has completed thousands of projects throughout Jefferson Parish and Southeast Louisiana, both to municipal and various private clients, similar to the project at hand, not to mention other drainage projects in a wide range of sizes, from small lot to Parish-wide endeavors. **Multiple examples of this work are included throughout this form in both the Personnel Résumés section (Item K) and Representative Project Work (Item L).** Further, BFM has worked with virtually every municipality in the region. We enjoy a high repeat-business rate with all our clients. We offer the following specific references for contact:

**Mark R. Drewes, P.E., Director, Jefferson Parish Public Works Department**
(504-736-6783 | JPPW@jeffparish.net)

**Neil Schneider, CCM, P.E., Director, Capital Projects, Jefferson Parish Public Works Dept.**
(504-736-6783 | JPPW@jeffparish.net)

**José A. Gonzales, CAO, City of Kenner**
(504-468-4090 | jgonzalez@kenner.la.us)

**Angela DeSoto, P.E., Director of Engineering, Jefferson Parish**
(504-736-6511 | ADeSoto@jeffparish.net)

**Sid Trouard, P.E., Program Manager, Jefferson Parish Sewerage Capital Improvement Program**
(504-736-6386 | STrouard@jeffparish.net)

**Ben Lapine, Acting Director, Department of Drainage, Jefferson Parish**
(504-736-6661 | JPSewerage@jeffparish.net)

Our professional work history is exemplary. We strive to provide on-time and technically thorough project deliverables at the budget set by our clients.

**O. To the best of my knowledge, the foregoing is an accurate statement of facts.**

**Signature:** _____ **Print Name:** Chad M. Poché, P.E.

**Title:** Executive Vice President **Date:** June 25, 2024