

Statement of Qualifications SOQ 24-015

RESOLUTION NO. 144202
ROUTINE ENGINEERING SERVICES FOR
DRAINAGE PROJECTS

JUNE 21, 2024

Contact:

Don Lancaster, PE
Project Manager
1340 Poydras Street, Suite 1950
New Orleans, LA 70112
504-875-4662
Don.lancaster@neel-schaffer.com



June 21, 2024

Jefferson Parish Council
General Government Building
200 Derbigny Street, Suite 6700
Gretna, Louisiana, 70053

RE: SOQ 24-015 Resolution No. 144202 Routine Engineering Services for Drainage Projects

Neel-Schaffer, Inc. (NSI) is pleased to respond to SOQ 24-015 Routine Engineering Services for Drainage Projects. We are a large, multi-disciplined consulting engineering firm of with over 600 professional, technical, and support staff operating business throughout the southern and southeastern United States with Louisiana offices in New Orleans, Mandeville, Baton Rouge, and Lafayette. We have 47 staff members located in Louisiana offering the services of 24 registered Professional Engineers.

We have been recognized in the *Engineering News Record* "Top 500 Design Firms" listings since 1994 and ranked in the top 250. In addition, Neel-Schaffer has previously been named in the top 25 road and highway design firms in the nation by Roads & Bridges magazine.

Additionally, NSI employs a highly qualified team of professionals skilled in a variety of engineering disciplines that are fully capable of conducting the most complex engineering and design projects.

We routinely provide service on an "On Call" basis for our clients and have been selected for three consecutive CPRA IDIQ Coastal Contracts from 2013 to present. We currently are providing services to CPRA for a three-year multiple task order award contract. In addition, NSI has been selected repeatedly by LADOTD for on-going retainer contracts over the past eighteen years. This is an excellent indication of our firm's performance ability on public contracts and NSI's reputation as a consultant of choice by public agencies.

Our team includes **Eustis Engineering, LLC** providing Geotechnical Testing & Engineering Services as well as **BFM Corporation** providing Surveying.

Work under this contract will be performed in our New Orleans, LA office, located at 1340 Poydras Street, Suite 1950 with support provided by other Neel-Schaffer offices as required.

We look forward to the opportunity to be of service to Jefferson Parish.

Sincerely,

Nick Ferlito, Jr., PE, PTOE
Louisiana Area Manager

enclosure

engineers | planners | surveyors | environmental scientists | landscape architects

P: 504.875.4662

1340 Poydras Street, Suite 1950

New Orleans, LA 70112

www.neel-schaffer.com



TEC Professional Services Questionnaire

Project Name and Advertisement Resolution Number:		
SOQ 24-015 Routine Engineering Services for Drainage Projects <i>Resolution No. 144202</i>		
A. Firm Name & Address:		
 <p>1340 Poydras Street, Suite 1950 New Orleans, LA 70112</p>		
B. 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:		
Nick Ferlito, Jr., PE, PTOE <i>Senior Vice President / Louisiana Area Manager</i> 225.924.0235		
C. 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.		
Don Lancaster, PE <i>Vice President / Engineer Manager</i> 504-875-4662 Don.lancaster@neel-schaffer.com		
D. Please provide the number of employees whose primary function corresponds with each category:		
<u>6</u> Administrative ___ Architects (Licensed) ___ Chemical Engineers <u>24</u> Civil Engineers <u>2</u> Construction Inspectors ___ Ecologists ___ Electrical Engineers <u>4</u> Engineer Intern ___ Professional Land Surveyors	___ Estimators <u>1</u> Geologists ___ Geotechnical Engineers ___ Interior Designers ___ Landscape Architects ___ Land Surveyor ___ Mechanical Engineers ___ Environmental Engineers <u>8</u> Other (Planners, Tech Support)	___ Specification Writers <u>1</u> Structural Engineers ___ Graduate Engineers <u>1</u> Project Managers ___ Clerical ___ Grant/Funding Specialist ___ Sanitary Engineers <u>47</u> TOTAL
F. Is this submittal by a JOINT-VENTURE? Please check: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
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

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 <i>(Yes or No):</i>
1. Eustis Engineering, LLC 3011 28th Street Metairie, LA 70002	Geotechnical	YES
2. BFM Corporation 15 Veterans Memorial Blvd Kenner, LA 70062	Surveying	YES

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

47

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:

Don Lancaster, PE *Engineering Manager*

Project Assignment:

Senior Project Engineer

Name of Firm with which associated:



Years' experience with this Firm:

24 years (41 total)

Education: Degree(s)/Year/Specialization:

BS / 1982 / Civil Engineering

Active registration: Year first registered/discipline:

1987 / Professional Engineer - Civil, LA 22821

Other experience and qualifications relevant to the proposed Project:

Don has over 40 years of experience in civil engineering and project management. He manages Neel-Schaffer's offices in Mandeville and New Orleans, LA, as well as overseeing some of the company's largest design, bid and construction administration projects. He has extensive experience in program and project management for large and small municipal and port related projects that include programming, design, bidding and construction administration. His civil background includes ports; roads and bridges; streetscapes; structural; and water and wastewater. Don has extensive experience in preparing contract documents for construction projects. He has coordinated and worked with many local, state and federal agencies, including the Sewerage and Water Board of New Orleans, United States Corps of Engineers, Louisiana Department of Transportation and Development, the New Orleans Levee District, the Port of Gulfport, the Coastal Protection and Restoration Authority and numerous cities, parishes and counties.

RELEVANT EXPERIENCE

Brownsitch Road Widening, Hydrology Study Phase, Slidell, LA: The initial phase of the work includes extensive modeling of the watersheds north and south of I-12. These include the 436-acre W-14 Canal watershed, north of I-12 composed of 18 sub-basins currently directing water to Brownsitch Road; a 55 acre portion of the W-15 watershed north of I-12 and two sub-basins within the W-14 watershed south of I-12. The hydrology study establishes the capacity requirements of the Brownsitch Road drainage structure. The study also evaluates methods for providing storage and

TEC Professional Services Questionnaire

redirecting outfall flows north and south of I-12 to mitigate flooding concerns within the W-14 and W-15 drainage basins. Mr. Lancaster served as the Project Manager.

Wards 5 and 6 Drainage Study, Bay St. Louis, Mississippi: Project Manager for drainage analysis of Wards 5 and 6, consisting of six sub-watersheds and covering over 12 square miles, in order to develop a drainage master plan that will improve local drainage during significant storm events. Project developed an unsteady flow hydrologic and hydraulic model from survey data and Geodatabase (MIKE URBAN - EPA SWMM 5 format).

Tag Along Creek Drainage Analysis, St. Tammany Parish, LA: Project Manager, Responsible for engineering deliverables for a drainage analysis of Tag Along Creek, a tributary to Bayou Lacombe, for the purpose of determining causes of flooding and developing a solution to afford flood relief for residents of Cloverland Acres Subdivision.

Kenner Drainage Master Plan, City of Kenner, LA: Project Manager for involved in the preparation and update to the City of Kenner's drainage master plan. The plan included hydraulic modeling of the existing and proposed system, along with recommendations for phasing the work and estimates for the project costs. This master plan provided the City of Kenner with a tool for requesting State and Federal funds for drainage projects and resource for implementing drainage improvements.

St. Tammany Parish Coastal Protection Master Plan: Project lead for collaborative effort between St. Tammany Parish Government (STPG) and the St. Tammany Levee, Drainage and Conservation District (STLDLDCD), with funding from CPRA through an Intergovernmental Agreement. Neel-Schaffer's Team is assisting in this effort. The scope of services is divided into three tasks. Task I consist of collecting and organizing existing flood control assets and associated project data into a GIS data base. Task II is a gap analysis and Task III is a project feasibility analyses and engineering design.

Port of Gulfport Restoration, Gulfport MS: Project Manager for the planning, design, bidding, and construction management of the general engineering for this \$570 million restoration program. Supervise and oversee the engineering and support staff responsible for design of this program to elevate the Port of Gulfport site from its existing elevation of 10 feet above mean sea level (MSL) to 25 feet MSL, which will protect the Port from future storm surges. Work includes an 84-acre expansion of the West Pier by filling the water bottom; relocating tenant facilities; new construction and renovation to create an expandable, modern container terminal; and road and rail upgrades required to support the expanded modernized facility.

USACE South Claiborne Avenue Manifold Canal, New Orleans, LA: Design Engineer for large manifold canal that is part of the Southeastern Louisiana flood control. Designed the utility relocations, temporary and permanent traffic control measures, road reconstruction and prepared technical specifications.

Post Katrina Infrastructure Repairs, Bay St. Louis MS: Project Manager for the planning, design, bidding, and construction management of this program. Supervised the engineering and support staff responsible for design and construction administration of over \$65 million in water, sewer, gas distribution, roadway and sidewalk improvements.

Calcasieu Salinity Control - Joe's Cut & West Pass, CPRA, Calcasieu Parish, LA (RSIQ 2016-2019): Mr. Lancaster is NSI's Project manager overseeing and coordinating all aspects of the engineering project. As NSI team leader, develops and coordinates the work plan, civil design, project team meetings, and coordinates with sub-consultants.

Bayou Mandeville Maintenance Dredging, 3-Year Task Order Contract: Engineering. Officer-in-Charge for this task order contract which has included two task orders to date. One task order provides debris screen improvements at the Teche Vermilion Pump Station. The Bayou Mandeville Maintenance Dredging task includes dredging of a 1-mile-long preexisting access channel from Lake Lery into Bayou Mandeville with the disposal to supplement the Western Bank of Lake Lery.

Mandeville Lakefront Wetlands Restoration, Mandeville, LA: Project Manager for Lakefront Wetlands Restoration Project will prevent further degradation of the existing wetlands and restore a functioning wetlands ecosystem within the area. Storm water from the Galvez and Massena outfalls will be directed through created wetlands, improving water quality within Lake Pontchartrain.

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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Nick Ferlito, Jr., PE, PTOE <i>Louisiana Area Manager</i>
Project Assignment:
Project Principal
Name of Firm with which associated:

Years' experience with this Firm:
28 years (29 total)
Education: Degree(s)/Year/Specialization:
BS / 1993 / Civil Engineering MS / 1996 / Civil Engineering
Active registration: Year first registered/discipline:
1998 / Professional Engineer – Civil, LA #28001
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Ferlito joined Neel-Schaffer in 1996. He is a Senior Vice President and serves as Louisiana Area Manager, overseeing all responsibilities for the state.</p> <p>An ITE-certified Professional Traffic Operations Engineer, he has more than 30 years of experience and manages a wide range of traffic and transportation projects. He has served as a project manager for many intersection/corridor signal timing studies, signal design projects, safety studies and other traffic engineering related projects for public and private projects.</p> <p>Mr. Ferlito is experienced with numerous traffic engineering software packages, including HCS, CORSIM, SYNCHRO, Tru-Traffic (TSPPDraft), and SIDRA. He also completed the Naztec TS1/TS2 Controller 2-Day training course. He has also completed the NEPA and Transportation Decision Making course (2004), the Highway Safety Manual Workshop (2011) as well as LADOTD's Traffic Engineering Process and Report (TEPR) training.</p> <p>RELEVANT EXPERIENCE</p> <p>I-10 & I-12 College Drive Flyover Ramp Design-Build, Baton Rouge, LA: Project Manager for Interchange Modification Report, Transportation Management Plan (TMP) and ITR of MOT Plans for the proposed College Drive Ramp improvements. The IMR was prepared in accordance with DOTD's TEPR and FHWA Policy Points. The IMR analysis was performed using Vissim software. In addition, the TMP was prepared for the various maintenance of traffic phases. Analysis used in the TMP included HCS analysis for detour evaluations and Dynameq (Mesoscopic Modeling) for evaluating various MOT strategies. The project also includes signal modification plans at College Drive and the I-10 WB off ramp. (July 2020 – Present)</p> <p>US 80 Feasibility Study, Haughton, LA: Stage 0/Traffic & Safety Study (S.P. No. 44-10504, T.O. No. H.014044.1) Project</p>

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Manager for the preparation of a Stage 0 Report in support of safety improvements along US 80 corridor, specifically in the vicinity of Bellevue Road and Mid South Loop Road. All analysis performed in HCS for this study. The traffic study was performed in accordance with DOTD's TEPR.

Kansas Lane-Garrett Road Connector and I-20 Improvements, Monroe, LA: (S.P. No. H.004774.5 & H.007300.6) Project Manager/Traffic Lead for the preparation of a Level 4 Transportation Management Plan, review of MOT plans, design of temporary and permanent traffic signals and design of the relocation of DOTD ITS fiber optic trunk line.

I-49 South at Verot School Road, Lafayette, LA: (S.P. No. H.011235.5) Traffic Lead that performed Traffic QA/QC on the preparation of a Transportation Management Plan and design of temporary and permanent traffic signals.

MOVEBR Harding Boulevard at Interstate I-110: Project Manager for traffic engineering for intersection improvements for Harding Boulevard at I-110 to analyze the existing and projected future No Build conditions for operational and safety issues, and developed Tier 1 design solutions that mitigate those issues.

MOVEBR College Drive Enhancements: Project Manager for a traffic study that addressed pedestrian mobility and transit accommodations. The overall project plan incorporated planned LADOTD improvement projects at Interstate 10 which include a Design-Build project to modify the westbound offramp and other ramp terminal improvements implemented by the I-10 widening CMAR project.

MOVEBR N. Sherwood Forest Extension: Project Manager for design report for the extension of the existing North Sherwood Forest Drive from its current northern terminus at Greenwell Springs Road to the intersection of Joor Road at Mickens Road.

College Drive Enhancement Project (Perkins Road to I-10), Baton Rouge, LA (MOVEBR Project 19-EN-HC-0033): Project Manager for the Traffic Study component for the study of the College Drive corridor. The Traffic Study is being prepared in accordance with DOTD' TEPR and includes performing all analysis in Vissim to evaluate various alternatives. In addition to corridor improvements, a tiered analysis will be performed to evaluate various interchange alternatives for I-10 at College Drive. Dynameq will also be used to evaluate off system and connectivity alternatives within the study area.

LA 385 Feasibility Study, Lake Charles, LA: Stage 0/Traffic & Safety Study (S.P. No. 44-4402, T.O. No. H.012685.1) Developed a Stage 0 Report in support of safety improvements along with the LA 385 (Ryan Street) corridor between LA 3186 south of I-10 to Eddy Street north of I-10, including the LA 385 interchange with I-10. Traffic Engineering Manager

LA 6 Feasibility Study, Natchitoches, LA: Stage 0 / Traffic & Safety Study (S.P. 44-4402, T.O. No. H.012307.1) Prepared and coordinated a formal Stage 0, including a comprehensive safety analysis and traffic study for the purpose of analyzing existing and future conditions along the LA 6 corridor between Parish Road 542 west of I-49 to LA 3278 east of I-49, including the LA 6 interchange with I-49 to determine feasible alternatives that will preserve and enhance mobility and safety. Traffic Engineering Manager

District 05 Safety Investment Plan, DOTD District 05 (SPN 4400010504, Task No, H.014295.1). Project Manager for this study. Coordinated the evaluation of crashes on the state and local highway networks using variations in crash statistics to identify possible roadway issues and potential low-cost safety improvements.

IDIQ Contract for Safety Studies (44-10504) District 08 Safety Investment Plan: Developed a District-wide Safety Investment Plan for low cost improvements for HPSI locations, abnormal intersections, roadway departure locations and local roads. Crash history was evaluated at over 70 locations, countermeasures were identified and B/C analysis was performed using CMFs and estimated construction cost for potential low cost improvements at each location.

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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Mike Phillips, PE, CFM <i>Senior Project Manager</i>
Project Assignment:
Hydrology & Hydraulics
Name of Firm with which associated:

Years' experience with this Firm:
23 years (23 total)
Education: Degree(s)/Year/Specialization:
BS / 2000 / Civil Engineering
Active registration: Year first registered/discipline:
2009 / Professional Engineer - Civil, LA 34600
Other experience and qualifications relevant to the proposed Project:
<p>Mike joined Neel-Schaffer in 2000 and has 23 years of experience as a Project Engineer/Manager for municipal and DOT on-call contracts involving drainage and flooding problems that require responsiveness, technical expertise, and public relations capability. He manages Neel-Schaffer's hydrology & hydraulics discipline, providing services for clients throughout Neel-Schaffer's nine-state footprint.</p> <p>Mike has extensive experience performing drainage/flood damage inspections after flood events. He routinely performs complex and large-scale hydrologic & hydraulic modeling and flood control infrastructure improvement designs for municipal and private clients. He has managed and performed on-call contracts consisting of complex analyses for DOTs in Alabama, Georgia, and Tennessee, and the US Army Corps of Engineers (Memphis, Little Rock, and Vicksburg Districts).</p> <p>Mike has performed numerous high-profile FEMA Flood Insurance Study Updates and Map Revisions for municipalities and private clients. He is very familiar with FEMA National Flood Insurance Program Regulations; and he is an ASFPM Certified Floodplain Manager.</p> <p>Mike is proficient in the latest hydrologic & hydraulic computer models, including GIS-based applications for hydraulics & hydrology (steady and unsteady flow). He has extensive experience collecting drainage inventory and inspection data using hand-held GPS data collectors with mobile ArcGIS applications. He has extensive experience in plans and details preparation using Microstation and AutoCAD and is very proficient in the use of ArcGIS software.</p>
RELATED EXPERIENCE
<p>Mandeville Lakefront Wetlands Restoration: Lead Hydraulic Engineer responsible for hydrologic and hydraulic (H&H) modeling of alternatives for shoreline closure and marsh creation immediately east of Sunset Point Park. Existing canals south of Galvez Street and east of Massena Street were analyzed and alternatives were developed to route canal flows through the proposed cypress wetlands at various storm levels. Extensive coordination was required with coastal</p>

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engineering sub consultant in the exchange of data used for both H&H and wave height numerical modeling. Multiple options for horizontal alignment and cross-sectional geometry of proposed channels through the wetlands were analyzed, as well as options to incorporate a public walking trail through the wetland area.

Brownsitch Road Widening Project, Slidell, LA: Project Engineer responsible for development and calibration of hydrologic and hydraulic models of the upper region of the W-14 Canal watershed that drains to the channel outfall alongside Brownsitch Road. Steady flow models were developed and used to analyze multiple scenarios for design of a subsurface box culvert to capture and convey watershed runoff into the W-14 Canal. Also, localized upstream drainage improvements were analyzed in an effort to reduce the size/cost of the proposed box culvert. The proposed roadway was proposed to be widened to 3-lane capacity and its profile raised to provide access for emergency vehicles during the 100-year storm event. Downstream impacts along the W-14 Canal were analyzed to assess downstream effects and several alternatives were presented to mitigate the increases in discharge.

South Central Drainage Master Plan (LA 1088 and LA 434 Corridor Studies): Project Engineer responsible for performing detailed watershed analyses and hydrologic models for Bayou Lacombe and Bayou Castine drainage basins north of I-12 (60 sq. mi. area). Conceptual engineering design was performed for seven proposed regional detention ponds, and utilization of an existing 60-acre borrow pit lake, to provide regional detention to accommodate future short-term (5-10 year) and long-term (10-20 year) development scenarios, while meeting Parish design requirements for future buildout within areas expected to experience significant growth. Detailed reports and cost estimates were prepared and incorporated into the Plan.

Tag Along Creek Drainage Analysis: Project Engineer responsible for performing an unsteady flow (EPA-SWMM 5) model of Tag Along Creek, a tributary to Bayou Lacombe, for the purpose of determining causes of residential and street flooding along Cloverland Drive and developing multiple alternatives to mitigate the flooding. Alternatives included dredging the existing 2.6-acre Sunrise Lake upstream of the Cloverland Acres Subdivision, constructing regional detention ponds north of N. Pontchartrain Drive, and constructing a bypass canal to divert flood flows to the north of the residential area. The diversion canal was determined to be the most viable option since it was the least expensive and offered 1.5-ft of reduction in the 10-year water levels in the existing creek channel and removed eleven homes from flooding in that event. Construction plans were developed in 2015 and the final model was updated according to the plans.

Cypress Creek and Black Creek Drainage Analyses, Jackson County, Biloxi, Mississippi: Project Hydraulics Engineer responsible for performing drainage analyses of Cypress Creek and Black Creek to determine cause(s) of flooding to homes and streets and provide solutions to alleviate flooding to the maximum extent practicable using the most cost-effective approach. An unsteady flow (EPA-SWMM 5) model of the creeks were developed to analyze existing conditions and multiple flood reduction alternatives. Detailed reports and cost estimates were prepared and presented to County Commissioners.

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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Sarah McEwen, PE, CFM <i>Water Resources Manager and Hydrology and Hydraulics Engineer</i>
Project Assignment:
<i>Hydrology and Hydraulics Engineer</i>
Name of Firm with which associated:

Years' experience with this Firm:
1 (11 total)
Education: Degree(s)/Year/Specialization:
BS / 2013 / Civil Engineering
Active registration: Year first registered/discipline:
Year / Professional Engineer – Civil, LA 42539
Other experience and qualifications relevant to the proposed Project:
<p>Ms. McEwen joined Neel-Schaffer in 2023 and has 10 years of experience as a Water Resources Manager and Hydrology and Hydraulics Engineer.</p> <p>Based in the firm's Jackson office, Sarah serves as the Central Region Hydrology and Hydraulics Discipline Lead. In this role, she is responsible for managing all hydrology, hydraulics, and drainage projects in Mississippi and Arkansas. She also is available to provide H/H Project Management and engineering design services for clients across the firm's nine-state footprint.</p> <p>Sarah has extensive experience in managing DOT projects with respect to bridge hydraulics, scour evaluations, internal technical reviews, and roadway hydraulics. She is experienced with hydrologic modification impact analysis as part of site design and erosion control measures.</p> <p>Sarah has a background in floodplain mapping and is a Certified Floodplain Manager. She has experience in HEC-HMS, HEC-RAS, HED-SSP, PCSWMM, HY-8, Hydraulic Toolbox, XPSWMM, ESRI ArcGIS, AutoCAD, SMS SRH2D, MicroStation, and GeoPak.</p> <p>RELEVANT EXPERIENCE</p> <p>Drainage Impact Analysis, Lake Charles, LA: Served as project engineer that updated the HEC-HMS, HEC-RAS model, and report with as-built information. Also analyzed the results of preconstruction to post construction hydrologic and hydraulic impacts on FEMA and other regulations. Proceeded to update report with design conditions and constructed as-builts for the purpose of submitting a LOMR to the parish for inclusion in the FEMA map revision. Successfully completed the LOMR submission and adoption to Calcasieu Parish. Current work includes evaluated potential plant pond reconfigurations for plant expansion and the drainage impacts within updated HEC-HMS modeling.</p>

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Maurepas Swamp Engineering and Support Services, St. John the Baptist Parish, LA: Mrs. McEwen served as a project engineer in charge of reviewing existing XPSWMM subsurface modeling of local drainage in St. Johns Parish into Maurepas Swamp. The existing modeling was reviewed and converted into a PCSWMM model and updated with publicly available data for use in an evaluation of a diversion. Task include opening the existing model which was created in a version that is no longer recognized by current software, use and convert the available existing data in a new model, review for any land use or development changes, and develop a plan for necessary field data to be collected to finalize the updated existing conditions model. Current tasks include evaluating the hydrologic routing around the proposed diversion, updating the HEC-RAS modeling to incorporate new design changes, converting steady HEC-RAS into Unsteady 1D/2D model, and designing hydraulic structures to ensure capacity throughout system to swamp.

Mid-Barataria Sediment Diversion: Project Engineer in charge of coordination with sub-consultants on weekly progress reports for submission to CPRA. Tasks include management and processing of data received from subconsultants. Other roles include reviewer of BODR report for technical approach and clarity. In addition, she led the scour evaluation of the bridge at a site with both riverine and coastal design factors evaluated for impact on the proposed structure including complex piers in a cohesive soil environment. Piers were evaluated using both HEC-18 and FLDOT methods due to the complex pier and cohesive soil conditions. A practical application of the scour methodology was used to replicate the most realistic scour conditions anticipated at the site.

Louisiana Watershed Initiative: Project Manager/Program Manager. 2019-2023. The Louisiana Office of Community Development retained consulting firms to provide project management, design guidance review, and overall facilitation and quality control of the Louisiana Watershed Initiative. Ms. McEwen served as the Project Manager for Task 1, which included leading a team to review current guidance/policies, summarize and present current data, develop a technical approach and guidance document for the Pilot Amite River model use and internal staff modifications. In addition, she served as the Project Manager for Task Order 12, which included project management of data and modeling activities. In this role she facilitated meetings between agency, consulting, and university stakeholders to support the development of technical guidance, oversees the 48 HUC 8 regional models, and decision support tools. Her technical background allowed her to advise and assist OCD on program decisions and support moving the multi-year schedule forward. In 2022, she took over as Program Manager, overseeing all Task Orders including Statewide Watershed Plan.

FEMA Hydrologic and Hydraulic Support Services, New Orleans, LA: General contract for support and served as the Engineer in Charge of review of engineering designs submitted for consideration of funding. Included review of geological, hydrologic, hydraulic, and groundwater design components for a site in New Orleans.

WR Grace Lake Charles Plant, Site Hydrology, Sulphur, LA: As Project Engineer, Sarah performed a hydrologic analysis for the refining facility using ArcGIS software and HEC-HMS. Analysis included various storm events along with considerations of changes to site water treatment, storage, and discharge. As project engineer, she also helped the client evaluate the hydraulic design submitted by another consultant for effectiveness with the site conditions. Additionally, she became the Deputy Project Manager for a supplemental agreement to evaluate the subsurface and surface drainage systems and develop construction plans of a conveyance channel.

Hydraulic Modification Impact Analysis for Wanhua Chemical Group, Romeville, LA: Project Engineer who generated predevelopment and post development hydrology for site, including detailed land use and soil group investigation, developed drainage area hydrographs, an unsteady HEC-RAS model to evaluate hydraulic routing through the proposed detention ponds, and hydraulic report with results of the pre-development and post-development analysis. This included iterative design on the outlet control structures of two ponds.

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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
<i>Leah Selcer, PE Civil Engineer</i>
Project Assignment:
<i>Hydrology and Hydraulics Engineer</i>
Name of Firm with which associated:

Years' experience with this Firm:
<i>4 (10 total)</i>
Education: Degree(s)/Year/Specialization:
<i>BS / 2014 / Civil Engineering</i>
Active registration: Year first registered/discipline:
<i>2019 / Professional Engineer - Civil, LA 43492</i>
Other experience and qualifications relevant to the proposed Project:
<p>Leah joined Neel-Schaffer's Baton Rouge office in 2020. With an extensive and diverse experience working for consulting firms on a variety of Civil Engineering projects, her focus is providing Coastal Engineering services for NSI clients.</p> <p>She has a broad range of project engineering and management experience, providing design, planning, and budgeting services for multiple projects. She is also experienced in preparing permits, plans and specifications, design calculations, reports, and presentations for a variety of civil engineering projects.</p> <p>She has assisted in the engineering and design of several complex civil, coastal and water resources projects for coastal ports, parish governments, LADOTD, CPRA, as well as private developers.</p> <p>RELEVANT EXPERIENCE</p> <p>Upper Terrebonne Basin Watershed Plan/EA, Upper Delta Soil & Water Conservation District: Ms. Selcer was the project engineer responsible for preparing a hydrologic and hydraulic analysis as part of the Watershed Plan and EA for the Upper Terrebonne Basin Watershed using HEC HMS for storm water runoff calculations and HEC RAS for required channel improvements. The total flood protection project area encompasses seven HUC 12 watersheds totaling approximately 225,072 acres.</p> <p>Petite Caillou Drainage Project, Terrebonne Parish, LA: Project Engineer. This project consisted of the design 450 cfs drainage pump station to reduce flooding due to excessive rainfall. Ms. Selcer performed site design of the pump station and the hydraulic calculations of the conveyance channel. Ms. Selcer prepared preliminary construction plans and estimate of probable cost.</p> <p>Elliot Jones Drainage Pump Station Project, Terrebonne Parish, LA: This project consisted of the design of a 1,000 CFS drainage pump station to reduce flooding due to excessive rainfall. Ms. Selcer performed site design of the pump station</p>

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and the hydraulic calculations of the conveyance channel using HEC RAS. Ms. Selcer performed hydrologic calculations to determine storm water runoff volumes.

Chacahoula-Gibson Drainage Project, Terrebonne Parish, LA: This project consisted of the design 1,000 cfs drainage pump station to reduce flooding due to excessive rainfall. Ms. Selcer performed site design of the pump station and the hydraulic calculations of the conveyance channel. Ms. Selcer prepared preliminary construction plans and estimate of probable cost.

Ellendale Flood Protection & Drainage Assessment: Project Manager/Civil Engineer. Prepared a report determining the feasibility of acquiring ownership of an existing levee that (a) protects Ellendale Subdivision and adjacent developments, whether now existing or as may be developed in the future and (b) ties into existing TPCG-maintained levees. Reviewed existing information to determine the existing levee typical sections and protection areas, then prepared recommendations and alternatives to determine the feasibility of drainage and protection improvements based on Parish criteria for the acceptance of this levee system. Recommendations and alternatives will also include opinions of probable cost.

Bayou Stumpy Watershed Phase 1, West Baton Rouge Parish, LA: Ms. Selcer was the project engineer responsible for preparing a hydrologic and hydraulic analysis for the Bayou Stumpy Watershed using HEC HMS for storm water runoff calculations and HEC RAS for required channel improvements for the approximately 13 mile long channel that drains a significant portion of northwestern West Baton Rouge Parish.

Upper Terrebonne Basin Watershed Plan/EA, Upper Delta Soil & Water Conservation District: Ms. Selcer was the project engineer responsible for preparing a hydrologic and hydraulic analysis as part of the Watershed Plan and EA for the Upper Terrebonne Basin Watershed using HEC HMS for storm water runoff calculations and HEC RAS for required channel improvements. The total flood protection project area encompasses.

Naval Air Station, Joint Reserve Base, Basin 1 Drainage Improvements, Belle Chasse, LA: Project Engineer. Ms. Selcer prepared construction documents for drainage improvements and was also responsible for the hydrologic and hydraulic analysis for the required improvements of closed drainage and open channel drainage system. Hydrologic and hydraulic analysis included the review of existing drainage basin boundary delineations, storm water modeling and runoff calculations to properly size closed drainage system and open drainage channels within the base property. She was responsible for the preparation of construction documents in conformance with Naval Facilities Engineering Command design standards and applicable La DOTD design standards.

On-Call Statewide Design Services, Five Bridge Replacement Projects, Statewide, AR: Neel-Schaffer was selected and contracted by ARDOT to develop and provide all final roadway plans, final bridge plans, and complete hydrologic and hydraulic analyses for 19 bridge replacements of hydraulic structures at multiple sites for 5 projects. Ms. Selcer served as a project engineer for all Hydrologic and Hydraulic design for all 5 projects. Work included the analysis and design of the primary bridge and culvert structure replacements, scour analysis and mitigation measures, as well as all roadside drainage design.

Zen-Noh Grain Facility Drainage Analysis and Recommendations: Project Engineer. The project involves preparation of an existing conditions drainage analysis for roadside drainage and site stormwater runoff and preparing recommendations for required improvements at the site located in St. James Parish. The existing conditions drainage analysis establishes a baseline summary of the current discharge from the site. The analysis will include the collection and review of existing drainage data and information, existing Parish/DOTD drainage maps, LIDAR maps, and topographical maps. Tasks for the existing drainage analysis include delineation of the existing drainage areas/watershed and existing drainage patterns, calculation of on-site & off-site runoff flows, and evaluation of existing on-site drainage systems capacity (utilizing StormCad, HydroWIN, or HEC). The drainage analysis and storm water discharge rates will be used to assess the flow capacities and prepare recommendations for improvements to the storm water drainage systems on-site and off-site needed to correct flooding deficiencies identified in this study.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Kyle Grantham, PE <i>Water Resources Engineer</i>
Project Assignment:
<i>Hydrology and Hydraulics Engineer</i>
Name of Firm with which associated:
 NEEL-SCHAFFER <i>Solutions you can build upon</i>
Years' experience with this Firm:
4 years (10 total)
Education: Degree(s)/Year/Specialization:
BS / 2013 / Civil Engineering
Active registration: Year first registered/discipline:
2019 / Professional Engineer – Civil, AL 38580
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Grantham joined Neel-Schaffer in 2020 and has ten years of experience as a Water Resources Engineer, including 2.5 with the Mississippi Department of Transportation.</p> <p>Based in the firm's Southaven (MS) office, Kyle is skilled in all aspects of Hydrology and Hydraulic Engineering design. He is a licensed Professional Engineer and a Certified Floodplain Manager.</p> <p>RELEVANT EXPERIENCE</p> <p>State of Missouri SEMA- Map Modernization, Risk MAP and Support Services: 03/2019-2/2020. Project Engineer. Developed HEC-RAS 2D rain-on-grid models for the Meramec, Gasconade and Bourbuese River Watersheds in Missouri. Involved in the hydraulic 2d model development for Zone A, Zone AE, and Floodway models.</p> <p>Chickasaw County (MS) Bridge Replacement: Project Engineer. Chickasaw County-SR 245-MDOT project 103352. Responsible for the design and analysis used to determine a hydraulic bridge recommendation. A multiple opening design using SRH-2D was used to recommend and replace four bridges along the same floodplain for Tallabinnela Creek.</p> <p>Lee County Bridge Replacement for MDOT: Project Engineer. Lee County-SR 245- MDOT Project 102426. Responsible for the design and analysis used to determine a hydraulic bridge recommendation. A multiple opening design using SRH-2D was used to recommend and replace two bridges along the same floodplain for Old Chiwapa Creek.</p> <p>USACE Louisville District, MMC Performance Center, CWMS, Louisville, KY: 05/2019-01/2020. Project Engineer. Developed and stabilized unsteady HEC-RAS model for the CWMS program for the Miami River Watershed (Louisville District). The model included areas along the Little Miami River and the East Fork Little Miami River.</p>

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Perry County (MS) Bridge Replacement: QA/QC Manager for the submittal of the conceptual and preliminary phase. Perry County-SR 42-MDOT project 107008. Responsible for the review and approval of the SRH-2D modeling. The project was a single bridge replacement project modeled using SRH-2D along the Tallahalla Creek floodplain.

MDOT SR 442 Bridge Replacement Leflore County, MS: Project Engineer. 573441006; 08/2018- 05/2020. Responsible for the QA/QC of the conceptual, preliminary, and final hydraulic design. A multiple opening design using SRH-2D was used to recommend and replace five bridges along the same floodplain.

SR 178 Bridge Replacement, Union County, MS: 573441004, 02/2018-10/2018. Project Engineer. Responsible for the conceptual, preliminary, and final hydraulic design for East Branch Lockes Creek crossing along SR 178. The site consists of a single bridge replacement with a railroad bridge 75 feet upstream. The crossing was modelled in SRH-2D and HEC-RAS to determine the best recommendation moving forward.

CSXT Railroad Bridge. West Point, KY: 01/2020-06/2020 Project Engineer. Developed 2D model utilizing SRH-2D to run a pier deflector and dredging analysis for Salt River to alleviate debris buildup along the railroad bridge piers.

Missouri State Emergency Management Agency, James River Watershed Detailed Study, Christian County, MO: 8/2018-1/2019. Project Engineer. Developed a first order detailed hydraulic model for James River. This included steady state modeling to develop and plot the floodplains due to a 10, 25, 50, 100, 100+, and 500-year rainfall event.

U.S. Fish and Wildlife Service, Dam Inspections for Chautauqua National Wildlife Refuge (Havana, Illinois) and Muscatatuck NWR, (Seymour, IN): 07/2019-06/2020. Project Engineer. Performed five low-hazard dam inspections for Muscatatuck NWR and three low-hazard dam inspections for Chautauqua NWR. The dams were assessed and rated based on several factors. Responsibilities included oversight of EIT and development of dam reports.

State of Alabama ADECA OWR- Base Level Engineering: Hydraulic Lead for the Middle Tombigbee Chickasaw Watershed. Developed first order detailed hydraulic models for Choctaw, Clarke, Hale, Marengo, and Sumter counties in Alabama. Responsible for budget, project engineer and training of junior engineers.

ARDOT 030412: Bridge Replacements Along SR 70, Sevier County, AR: Engineer for H&H Design. Neel-Schaffer was selected to develop and provide *final roadway plans, final bridge plans and a hydraulic analysis* for this project that includes the replacement of hydraulic structures at three sites along SR 70 near the Oklahoma state line. Mr. Grantham designed the *roadway hydrology and two large box culverts* in HEC-RAS. Hydraulic Toolbox 5.0, ArcMap 10.8, and HEC-RAS 5.0.7 were used for this H&H analysis.

PO-184: St. Tammany Storm Surge Risk Reduction Project: Project Engineer. Feasibility evaluation of alternative alignments for flood protection for the eastern side of Slidell and conceptual planning and engineering for the required alignment features. The project also included hydrologic and hydraulic considerations and conceptual modeling for two drainage pump stations are required along proposed levee segment to manage the rainfall captured within the flood protection systems during gate closure events to address inland or upstream flooding. Conceptual level of analysis was performed for the sizing of these pump stations.

St. Tammany Parish, Louisiana, Sustainable Growth Pilot Study: Developed preliminary 2D HEC-RAS model for the existing conditions along Little Creek, Ponchitolawa Creek, Bayou Tete L' Ours, and Upper Bayou Chinchuba within St. Tammany Parish. The approximate mesh area developed for the analysis was roughly 4,500 acres with approximately 57 structures modeled, including pipe/box culverts, bridges, and weirs. Proposed pond alternatives were incorporated upstream of Bayou Tete L' Ours to reduce hydraulic impacts and to mitigate flooding along Bayou Tete L' Ours. This effort included mesh development, proposed pond, and channel survey terrain development. Software used for this project includes HEC-RAS version 6.2, HEC-HMS 4.9, QGIS, ARC-MAP 10.8, and SMS version 13.1.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Amber Cutcliff, PE, CFM <i>Hydraulics Engineer</i>
Project Assignment:
Hydraulics Engineer
Name of Firm with which associated:

Years' experience with this Firm:
22 years (22 total)
Education: Degree(s)/Year/Specialization:
BS / 2001 / Civil Engineering
Active registration: Year first registered/discipline:
2020 / Professional Engineer – Civil, LA 44388
Other experience and qualifications relevant to the proposed Project:
<p>Mrs. Cutcliff joined Neel-Schaffer in 2002 and currently serves as a Hydraulics Engineer based in our Jackson office. She has 22 years of civil engineering experience and has previously served as a Project Engineer/Manager for numerous transportation, aviation, and civil design projects.</p> <p>In addition to Professional Engineering licensure, Amber is an ASFPM Certified Floodplain Manager (CFM). She is proficient in the use and application of HEC-RAS, Bentley Culvert Master, Flow Master, StormCAD, HY-8 Culvert Hydraulic Analysis Program, and ArcGIS. Her experience includes hydrology, roadway and bridge hydraulics, and subsurface drainage analysis and restoration.</p>
RELEVANT EXPERIENCE
<p>Roy Cumbest Bridge Replacement, Jackson County, MS: H&H Design Engineer responsible for performing hydraulic and scour analysis of existing and proposed bridges over the Pascagoula River at Wade-Vancleave Road. The new bridge is approximately 1,350 feet long with 12 spans over the main river channel. HEC-RAS software was used to model existing and proposed bridges. HEC-18 procedures were used to perform scour analysis and HEC-23 procedures were followed to determine and design scour countermeasures. The bridge is located in a FEMA Special Flood Hazard Area, Zone AE, therefore the proposed bridge was designed to meet No-Rise criteria.</p>
<p>Ceres Boulevard Extension, Warren County, MS: H&H Design Engineer responsible for performing hydraulic and scour analysis of proposed bridge location over Crouches Creek for CERES Industrial Park development. HEC-RAS software was used to model proposed bridge conditions. HEC-18 procedures were used to perform scour analysis. The bridge was located in a FEMA Special Flood Hazard Area, therefore the proposed bridge was designed to meet one-foot rise criteria.</p>
<p>Stateline Road Bridge Replacement, Olive Branch, MS: Design Engineer responsible for performing hydraulic and scour analysis of existing and proposed bridge over Grants Creek at Stateline Road. HEC-RAS software was used to model existing and proposed bridges and HEC-18 procedures were used to perform scour analysis and HEC-23 procedures were</p>

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followed to evaluate the need for scour countermeasures. The bridge was located in a FEMA Special Flood Hazard Area, therefore the proposed bridge was designed to meet No-Rise criteria.

US 49 Forrest County Safety Improvements, Forrest County, MS: H&H Design Engineer responsible for performing hydraulic and hydrologic analysis of drainage structures within the project limits for both existing and proposed project conditions. Proposed project conditions included cross drain extensions and cross drain pipe networks which combined south and north bound lane crossings.

SR 601/30th Avenue, Gulfport, MS: H&H Design Engineer responsible for hydraulic and hydrologic analysis of project area including roadway drainage system. Responsible for performing hydraulic analysis of existing and proposed box culvert under 30th Avenue at Brickyard Bayou. HEC-RAS software was used to model existing and proposed box culvert locations. Culvert was located in a Special Flood Hazard Area, therefore the proposed culvert was designed to meet No-Rise criteria.

ARDOT 030412: Bridge Replacements Along SR 70, Sevier County, AR: Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at three sites along SR 70 near the Oklahoma state line. Mrs. Cutcliff analyzed roadway hydraulic culvert design for the project.

ARDOT 061614: Bridge Replacements Along SR 86, Prairie County, AR: Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 86 near SR 38 in Prairie County. Mrs. Cutcliff is currently involved in the roadway hydraulic design.

ARDOT 040788: Bridge Replacements Along SR 64, Crawford County, AR: Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 64 near Mulberry in Crawford County. Mrs. Cutcliff analyzed the roadway hydrology and performed hydraulic culvert design.

ARDOT 101054: Bridge Replacements Along SR 230, Lawrence and Craighead Counties, AR: Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans, hydraulic analysis and a geotechnical report for this project that includes the replacement of hydraulic structures at 10 sites along SR 230 between Alicia and Bono in Lawrence and Craighead counties. Mrs. Cutcliff analyzed roadway hydraulic culvert design for the project.

SR 19 from SR 492 to Philadelphia, MS: Project Engineer. Provided hydraulic analysis and drainage design for discharge rates, pipe sizes and lengths, flow lines based on Chapter 7 of the MDOT design manual.

University of Mississippi Research Park, Oxford, MS: Project Engineer responsible for design of roundabout that incorporated two existing roadways with entrance to Research Park. Project included design of proposed roundabout and transitions to existing roadway, site hydrology, hydraulic analysis and design.

JSU Campus Union Building Site Development, Jackson, MS: Design Engineer. Provided hydraulic analysis for project including pre and post construction discharge for project area and design of subsurface drainage system for the site.

Hawkins Field Airport Drainage Rehabilitation, Jackson, MS: Design Engineer. Performed evaluation of existing subsurface drainage system and designed necessary repairs and improvements to the existing system based on finding of the evaluation.

Jackson Medgar Evers International Airport Subsurface Storm Water Assessment, Jackson, MS: Project Engineer. Performed evaluation of existing subsurface drainage system; and prepared a report including recommendations and cost estimates for necessary repairs and maintenance to the system.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
<i>Colby Curtis, PE Water and Resource Engineer</i>
Project Assignment:
<i>Hydrology and Hydraulics Engineer</i>
Name of Firm with which associated:
 NEEL-SCHAFFER <i>Solutions you can build upon</i>
Years' experience with this Firm:
<i>1 year (4 total)</i>
Education: Degree(s)/Year/Specialization:
<i>BS / 2020 / Civil Engineering</i>
Active registration: Year first registered/discipline:
<i>2024 / Professional Engineer - Civil, LA 49117</i>
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Curtis joined Neel-Schaffer's New Orleans office in July 2023 and serves as an Engineer Intern in the Water Resources Group.</p> <p>Prior to joining Neel-Schaffer, he worked for three years at the United States Army Corps of Engineers in the Hydraulics Branch for both the Vicksburg and New Orleans District offices.</p> <p>RELATED EXPERIENCE</p> <p>St. Tammany Parish Grande Maison Subdivision Drainage: Addressing subdivision flooding issue in Mandeville, LA. Contributed writing Existing Data Memo, Modeling Report, prepared client presentation, reviewed HEC-RAS and PCSWMM model, and created plan sheets for proposed alternatives.</p> <p>East Baton Rouge Parish Port Hudson-Pride Road Bank Scour: Near the crossing of the Comite River, the Port Hudson-Pride Road was experiencing erosion, weakening bank stabilization along the north side of the road. To mitigate this, developed a HEC-RAS 2D model to analyze velocities in the bend in the existing condition as well as testing multiple river training structures in the model to provide the client with the most stable and cost-effective option. Calculated rip rap Gradations and design parameters for a potential bendway weir.</p> <p>New Orleans Department of Public Works DeSaix Bridge Replacement: Design of a replacement bridge in Bayou St. John, City of New Orleans. Obtained needed permitting to begin construction phase of project. Reviewed submittals and RFIs, checked monthly quantities usage, updated meeting notes, created invoice letters for contractors and subconsultants.</p> <p>St. Tammany Parish Pelican Park Water Well and Tank: The park experienced a pump failure at an existing well during the Aug 2023 drought. Built an InfoWater Pro Water System model to evaluate their current system as well as the benefits</p>

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of adding another well. The model also evaluated installing fire hydrants and increasing the system's pipe size.

Bossier City, LA Jimmie Davis Bridge: Internal technical review of the Drainage Calculations for the proposed ditches, culverts, inlets, and storm drains.

Murphy, TX Maxwell Creek No Rise Study: The city is adding two pedestrian bridges on either side of East FM 44 road at the crossing of Maxwell Creek as well as low crossing a half mile downstream. A hydraulic analysis was performed to document any increase in water surface elevation and mitigate this increase in the stream due to these added obstructions to meet the FEMA required No Rise condition.

Haltom City, TX Huddleston Street No Rise Study: The city is repaving Huddleston Street as well as adding curb and gutter, inlets and storm drains, and sidewalks on either side. The street crosses Stream WB4, which flows through a culvert. A hydrologic and hydraulic analysis was performed to document the changes in runoff and mitigate any increase in water surface elevation in the stream to meet the FEMA required No Rise condition.

New Orleans Sewerage and Water Board Saltwater Intrusion: The saltwater wedge moving up the Mississippi River posed a threat to the City of New Orleans' drinking water as it receives its supply from two intakes on both banks. Helped with preliminary design plans, permitting for the Algiers Intake, and with the initial pipe layout options for the Carrollton Intake in a tight timeframe to meet the Sewerage and Water Board's urgent needs.

City of New Orleans Green Infrastructure Toolkit: Performed an audit and made revisions to the City's standard details, specifications, toolkit calculator, and general guidance document. The details and specifications of focus for NSI's effort were porous concrete pavement, edge restraints, cleanouts, and pavers for sidewalks, alley ways, and parking lanes.

McComb, MS, Donna Heights Drainage: Addressing subdivision flooding issue in McComb, MS. Calculated hydrologic runoff and hydraulic routing. Built HEC-RAS model to reflect existing conditions and to propose alternative solutions to problem.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Dishili Young, PE, PTOE <i>Vice President/Engineer Manager</i>
Project Assignment:
Road Drainage
Name of Firm with which associated:

Years' experience with this Firm:
7 years (22 total)
Education: Degree(s)/Year/Specialization:
BS / 2002 / Civil Engineering MS / 2018 / Civil Engineering
Active registration: Year first registered/discipline:
Year / Professional Engineer – Civil, LA #
Other experience and qualifications relevant to the proposed Project:
<p>Ms. Young joined Neel-Schaffer in 2017 and serves as the firm's Louisiana Transportation Lead.</p> <p>Based in the firm's Baton Rouge office, she has more than 20 years of progressive experience in transportation planning, engineering, and program and project management.</p> <p>Ms. Young is proficient in engineering design, including preliminary and final roadway alignment design, plan production, and construction cost estimating.</p> <p>Her experience includes design-build widening projects on Interstate 10 and Interstate 12, road design projects, environmental studies, and numerous feasibility studies. She has assisted with the conceptual design development, public outreach, and sections of the environmental document for EAs and environmental impact statements. She has experience in bridge scour analysis, drainage design, and cost estimating.</p> <p>She also has experience working on FEMA projects that include activities such as cost-benefit analysis for Hazard Mitigation Grant Program grant applications, site evaluations for damages due to flooding, scope development, and funding for the repair and reconstruction of flood-damaged roadways and culverts. She has also assisted with FEMA work for bridge repairs.</p> <p>Ms. Young is experienced in InRoads XM, MicroStation V8, HEC-RAS, LADOTD Hydraulics Software, AutoCAD 2012 and Civil 3D 2012.</p> <p>RELEVANT EXPERIENCE</p> <p>Streetscape Improvements US 71 (Barksdale Blvd), Bossier Parish, LA: Project includes approximately 1.5 miles of sidewalk and drainage improvements along US 71 (Barksdale Blvd). Project Manager</p>

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Ham Reid at LA 3092 Intersection Improvements, Calcasieu Parish, LA: Ms. Young served as engineer of record for this project which will construct a roundabout at the intersection of LA 3092 and Ham Reid road. The roadway and drainage design was completed in accordance with LADOTD guidelines and includes signage. It is anticipated that NSI will provide the CE&I services for this project. Project Manager. 32

Southcity Parkway Extension, Lafayette, LA: This project will construct a new 1.7 – mile, 4 lane median divided corridor between US 167 (Johnston Street) with Kaliste Saloom Road. It includes signage, a new bridge crossing of the Vermillion River. The roadway and drainage design is being completed in conformance with LADOTD guidelines. Ms. Young is managing the engineering effort for this project.

I-12 Widening Design-Build (O’Neal Ln. to Pete’s Hwy), Baton Rouge, LA: (January 2009 - November 2011) Ms. Young served as Engineer for this project during her employment with Volkert. This project involved the widening of I-12 towards the existing median and construction of two bridges across the Amite River. Ms. Young assisted in the development of the horizontal and vertical geometry, drainage design and assisted in the establishment of the design criteria. She assisted with the completion of roadway plans, construction cost estimates, Amite River Bridge scour analysis, signage plans and maintenance of traffic plans. Ms. Young assisted with coordination with LADOTD and assisted with the engineering support during construction.

LA 1/I-10 Connector Project, West Baton Rouge Transportation Authority, West Baton Rouge Parish, LA: Ms. Young reviewed horizontal and vertical alignments, typical sections, calculations for clearance, sight distance and drainage for conformance with the applicable guidelines. She provided technical guidance and support to the Engineer of Record.

South Harrell’s Ferry Road Improvements, Baton Rouge, LA: (March 2007-August 2008). This project involved the reconstruction, realignment and widening of South Harrell’s Ferry Road to a median divided corridor. Ms. Young completed a comprehensive review and analysis of the preliminary vertical and horizontal alignment. She assisted in completing adjustments to the preliminary alignments to comply with the applicable design criteria. She also assisted with the creation of a HEC-RAS model for a major drainage crossing and bridge alternative. She revised the subsurface drainage using LADOTD hydraulics software for the entire corridor when the vertical alignment was changed to adhere to new standards. Ms. Young completed the Design Report for all tasks completed under this project.

I-10 Widening Design-Build (Siegen Ln to Highland Rd), Baton Rouge, LA: Ms. Young served as Engineer and managed portions of the civil design for this project. This project involved the widening of I-10 from four lanes to six, bridge reconstruction (I-10 over Wards Creek and I-10 over KCS Bridge), and drainage improvements along the corridor. In addition to assisting with the roadway design, Ms. Young completed the H&H analysis and scour analysis for the Wards Creek Bridge. She also assisted with the drainage design along the interstate corridor.

Roadway Improvements Phase II, Ascension Parish, LA: Ms. Young assisted with the final roadway design plans and drainage design utilizing LADOTD hydraulics software. She assisted in the maintenance of traffic plans, bidding and design support during construction operations.

LA 89 at Chemin Metairie Parkway, Youngsville, LA: This project will provide a new two-lane connector roadway with drainage between Chemin Metairie Parkway and LA 89.

Velascco Crossing, Youngsville, LA: This project will provide a new two-lane connector roadway with drainage between Chemin Metairie Parkway and the Existing Velascco Crossing.

E. Milton Ave Improvements, Lafayette Parish, LA: This project will widen an existing Roundabout at E. Milton Ave./Chemin Metairie Rd intersection from single lane to multi-lane and widen and overlay E. Milton Ave. and Chemin Metairie Rd. in Youngsville, LA. Roadway and Drainage Design.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Chance Shuckrow, PE <i>Project Engineer</i>
Project Assignment:
Road Drainage
Name of Firm with which associated:

Years' experience with this Firm:
10 years (10 total)
Education: Degree(s)/Year/Specialization:
BS / 2014 / Civil Engineering
Active registration: Year first registered/discipline:
Year / Professional Engineer – Civil, LA #42746
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Shuckrow joined Neel-Schaffer in of 2014 and has nearly 10 years of experience in the design of roadways, freeways, signalized and roundabout geometry intersections.</p> <p>Based in the firm's Baton Rouge (LA) office, Chance has worked in the design of drainage, horizontal and vertical profiles, and corridors. He has also worked in cost estimating of projects and in the preparation of roadway design plans.</p> <p>RELEVANT EXPERIENCE</p> <p>I-49 South at Verot School Road], Lafayette Parish, LA (SPN H.011235.5): Served as designer on project, working in roadway design, drainage design, and development of plans. Also coordinated between multiple design firms (i.e. bridge design, road design, hydraulics, etc.). This project constructed 2.4 miles of mainline freeway, bridges, and an interchange at the intersection of I-49 South/US 90 and Verot School Road. Work included a major bridge design and a roundabout at the relocated intersection of Verot Rd and South Collage Rd. This project also included new line and grade layouts.</p> <p>I-20 at LA 544 Overpass Replacement, Lincoln Parish, LA: This project will replace the existing LA 544 bridge crossing and interchange with a new bridge and roundabouts. Mr. Shuckrow is designing the drainage and assisting with the roadway design review.</p> <p>Southcity Parkway Extension, Lafayette Parish, LA: Served as Engineer of Record and oversaw layout of roadway, drainage design, design of horizontal and vertical profiles, modeling, and development of plans. Also coordinated between different design groups (i.e. bridge design, road design, hydraulics, etc.). This is not a state project.</p> <p>Move Ascension Project No. MA-18-03: LA 73 Turn Lanes at Brown Road/ LA 73 Turn Lanes at Oakland Drive: Served as designer on project, working mainly on drainage design for two separate turn lane projects. Worked included delineating</p>

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existing drainage and design of new structures.

Bossier/Webster Parish Disaster Recovery: Assisted in design of roadway and drainage improvements to multiple sites located throughout Bossier and Webster Parishes, as a result of flooding caused by heavy rains in early 2016. This is a FEMA project.

E. Milton Ave. Improvements, Youngsville, LA: This project will widen the existing roundabout at the intersection of E. Milton Ave. and Chemin Metairie Rd. from a single-lane to a multi-lane roundabout, as well as provide corridor improvements along E. Milton Ave. Technical lead on drainage design and QA/QC on line and grade, roadway design.

W. Broussard Roundabout at Duhon Rd. (LA 724): This project will construct a roundabout and required drainage improvements. Includes roundabout. Completed the horizontal and vertical alignments (line and grade). Technical lead and engineer of record.

Ham Reid Road at Lake Street Intersection Improvements, Calcasieu Parish, LA: Project includes the final design of a multilane roundabout. Completed the roundabout design, drainage design, and developed plans.

Juban Road (LA 1026) Widening for Livingston Parish Government, Livingston, LA: Final design for reconstruction of Juban Rd as a four-lane median divided roadway with multilane roundabouts intersections and a shared use path. Completed vertical and horizontal alignments and modeled the project with Bentley software, assisted with the drainage design and preparation of plans.

IDIQ Contract for Design of Safety Projects (Districts 02, 61 & 62): This project will provide safety improvements for four parishes within three Districts. The tasks included under this project are Stage 0 Feasibility Studies, Planning/Environmental, preliminary and final design and construction related engineering. Mr. Shuckrow is providing civil design support. Mr. Shuckrow has completed the drainage design, developed plans for the drainage maps, drainage plan and profile sheets and reviewed the plans for the other portions of the project.

I-10 at I-12 College Drive Design-Build Project, LA: This project will improve the I-10 @ College Drive exit by removing the weave that exist when I-10 westbound traffic crosses over several lanes to access the College Drive exit ramp. The westbound lanes for I-12 will be realigned to more closely match the eastbound I-12 travel lanes. Mr. Shuckrow is providing the independent design review for the roadway design.

LA 89 at Chemin Metairie Parkway, Youngsville, LA: This project will provide a new two-lane connector roadway with drainage between Chemin Metairie Parkway and LA 89.

Velascco Crossing, Youngsville, LA: This project will provide a new two-lane connector roadway with drainage between Chemin Metairie Parkway and the Existing Velascco Crossing.

E. Milton Ave Improvements, Lafayette Parish, LA: This project will widen an existing Roundabout at E. Milton Ave./Chemin Metairie Rd intersection from single lane to multi-lane and widen and overlay E. Milton Ave. and Chemin Metairie Rd. in Youngsville, LA. Roadway and Drainage Design.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Daniel Saliba, PE <i>Water Resources Engineer</i>
Project Assignment:
Water Resources Engineer
Name of Firm with which associated:
 NEEL-SCHAFFER <i>Solutions you can build upon</i>
Years' experience with this Firm:
4 years (13 total)
Education: Degree(s)/Year/Specialization:
BS / 2011 / Civil Engineering
Active registration: Year first registered/discipline:
2019 / Professional Engineer – Civil AL #38884
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Saliba joined Neel-Schaffer in 2020 and has over 10 years of experience as a Water Resources Engineer.</p> <p>Based in the firm's Atlanta office, Daniel has extensive experience in developing HEC-RAS hydraulic models for steady and unsteady analysis, developing comprehensive watershed hydrology with HEC-HMS, creating 2D hydraulic models in urban areas, and performing floodplain analyses and mapping for coastal counties.</p> <p>His experience includes three years with the Alabama Department of Environmental Management.</p> <p>RELEVANT EXPERIENCE</p> <p>Black Branch Creek Drainage Studies, Chatsworth, GA: Project Engineer responsible for development of 1D hydraulic model for Black Branch Creek for the purpose of analyzing impacts of potential drainage improvements between North 2nd and North 4th Avenues. Work was performed for the Georgia Department of Transportation in 2020.</p> <p>Town Branch Drainage Study, Fort Oglethorpe, GA: Project Engineer responsible for development of 1D hydraulic model for Town Branch for the purpose of analyzing impacts of widening/lengthening two multi-barrel box bridges at State Route 146 and Fant Drive. Work was performed for the Georgia Department of Transportation in 2020.</p> <p>Overall Creek and Puckett Creek Map Revision, Murfreesboro, TN: Project Engineer responsible for development of 1D hydraulic models of Overall Creek and Puckett Creek using field-run survey and LiDAR ground surface data. Multiple flood profiles and the regulatory floodway were modeled with HEC-RAS and inundation areas were mapped with ArcGIS software to produce updated delineations in support of a FEMA Letter of Map Revision request.</p> <p>Floodplain Development for State of Alabama Water Resources: Project Engineer. Modeled 1D hydraulic analysis streams for approximate and detailed studies on multiple watersheds across the state. Developed hydrology using USGS</p>

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regression, gage analysis , and rainfall data. Developed Flood Insurance Study Reports for multiple counties in the state. Provided hydraulic and hydrologic reports to coincide with updated study procedures and assumptions.

Coastal Analysis, Baldwin County and Mobile County, AL: Project Engineer. Generated floodplains for coastal analysis using run-up and ADCIRC data for coastal counties in Alabama. Berm and ground conditions were considered and analyzed to model storm events for the coast. Ensured that the riverine modeling properly tied into the coastal studies.

LOMR/CLOMR Reviews for State of Alabama: Assistant Project Manager. Worked with clients to review and approve LOMRs and CLOMRs on behalf of FEMA. Helped train communities and colleagues on the LOMR process. Provided bi-weekly updates to clients regarding the status of ongoing projects and budgets.

NRCS Dam Breach Analysis, Alabama: Project Engineer. Performed unsteady state hydraulic analysis. Developed hydrographs for dam breach analysis for dams. Implemented unsteady state hydraulic analysis to simulate dam breach simulations and prepare reports explaining impacts and loss of life calculations. Taught guest lecture at the University of Alabama to graduate hydrology class regarding the Alabama Safe Dams program and the impacts of Earth dam breaches.

Missouri 2D Analysis for Digital Floodplains: Design Engineer. Used regression equations to develop hydrology to support 2D hydraulic analysis. Using RAS mapper, developed flow grids to develop 2D mesh that would provide accurate inundation maps.

Nutrient Criteria Development for Alabama Lakes: Project Engineer. While employed by the Alabama Department of Environmental Management, Mr. Saliba analyzed data to aid in the development of Nutrient Criteria. Performed site visits to collect field data for analysis. Data was then analyzed to determine ranges for each lake in Alabama and a new criteria was set to prevent permitted discharges from affecting the lakes. Worked to update streams in the state to the appropriate water quality standards designation using field data and field site assessment. Held meetings with the Region 4 EPA office to develop standards for the region. Participated in the Gulf of Mexico Alliance to ensure discharges into the Gulf were in limits established by the Alliance.

GDOT MS4 Program Embedded Staff with Office of Design Policy & Support: Water Resources Consultant. Served as an embedded staff within the GDOT ODPS. Tasks include review and responses from Stormwater Report inbox, review assigned project reports and plans. Attend progress meetings and project meetings. Contribute to MS4 policy and procedure revisions. Support GDOT professionals on DOT stormwater policy compliance and data collection and modeling for litigation. (02/22-04/23).

Bridge Replacement over Spears Creek, Richland, SC: Project Engineer responsible for development of 1D hydraulic model for Spears Creek for the purpose of analyzing impacts of replacing a box culvert with a single span bridge at Church Road. Work was performed for the South Carolina Department of Transportation in 2022. Project ongoing.

No-Rise for Greenway along Smith-Rocky Branch, Richland, SC: Project Engineer responsible for development of 1D hydraulic model for Rocky Branch for the purpose of analyzing impacts of a pedestrian greenway that was being constructed in the floodway. The design was optimized to ensure a no rise was achieved. Work was performed for Richland County in 2022. Project ongoing.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Jay Coleman, PE <i>Project Engineer</i>
Project Assignment:
Hydrology and Hydraulics Engineer
Name of Firm with which associated:

Years' experience with this Firm:
5 years (7 total)
Education: Degree(s)/Year/Specialization:
BS / 2017 / Civil Engineering
Active registration: Year first registered/discipline:
2024 / Professional Engineer – Civil, TN #128885
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Coleman joined Neel-Schaffer in 2019 and has seven years of engineering experience, including one year with the Mississippi Department of Transportation in the Bridge Hydraulics and Roadway Hydraulics sections.</p> <p>Based in the firm's Nashville office, Jay is part of the firm's Hydraulics and Hydrology group and works on a wide variety of H&H modeling projects and basin master plans.</p> <p>Jay also has experience assisting in the development of both 1-Dimensional and 2-Dimensional hydraulic models in HEC-RAS and SMS in support of roadway design and stormwater capital improvement projects.</p> <p>RELEVANT EXPERIENCE</p> <p>Spence Creek Watershed Master Plan - Murfreesboro, TN: Engineer Intern. Hydrologic and hydraulic modeling for the Spence Creek Watershed Management Plan using HEC-HMS and HEC-RAS. FEMA floodplain and floodway mapping were completed using ArcGIS software. Infrastructure improvement alternatives in frequently flooded areas were analyzed and preliminary designs were performed. Developed technical report.</p> <p>Allen Drainage Basin Storm Water Master Plan - Memphis, TN: Engineering Intern. Performed basin modeling services for this 5000-acre urbanized watershed. Services included storm water infrastructure inventory, detailed drainage investigations, GIS analysis and geoprocessing for modeling parameter calculations, and detailed hydrologic/hydraulic modeling using GIS-based unstead flow hydrologic and hydraulic software InfoSWMM, which is based on the EPA's SWMM5 computational engine.</p> <p>GDOT On-Call Special Drainage Studies, Statewide, GA: Engineer Intern. As part of an On-Call Contract, performed detailed hydrologic and hydraulic analyses and designs to solve drainage/flooding problems along multiple GDOT roadways. Services included site reconnaissance, agency coordination, coordination of topographic surveys, hydrologic</p>

TEC Professional Services Questionnaire

and hydraulic modeling, and recommendations of infrastructure improvements to solve flooding problems. Software packages utilized include ArcGIS, StormCAD, PondPack, Microstation, and GeoPAK.

City of Springfield, TN Phase II MS4 Permit Assistance: Engineer Intern. Developed a GIS field inventory database of stormwater infrastructure attributes to collect information for inlets, ditches, outfalls, culvert size, type, and length, condition of structure and receiving channel, georeferenced photographs, and illicit discharge observations. The database has been used in the City's GIS system to support Phase II MS4 permit compliance requirements.

TDOT I-75/I-24 Interchange Improvements - Chattanooga, TN: Engineer Intern. Performed hydrologic and hydraulic analysis for bridge replacements over South Chickamauga and Spring Creek. Services included site reconnaissance, hydrologic and hydraulic modeling, and technical reports. HEC-RAS was used to model the existing and proposed bridges.

Rankin Branch Drainage Basin Master Plan - Gallatin, TN: Engineer Intern. Performed GIS analysis and hydrologic and hydraulic model development in support of a detailed watershed study and Drainage Basin Master Plan. The purpose of the study was to identify potential areas to construct regional detention ponds in order to provide flood relief and prepare for future development in the rapidly developing corridor along GreenLea Boulevard. HEC-HMS was used to model the watershed runoff, and HEC-RAS was used to model channel hydraulics, cross drain culverts, bridges, and inline structures through detention ponds to analyze existing flooding and model the effects of the proposed improvements on the current FEMA Special Flood Hazard Areas.

Figurs Drive and Battle Avenue Drainage Improvements, Franklin, TN: Project Engineer. Performed detailed hydraulic modeling and design for a municipal drainage improvement project to solve frequent structural and roadway flooding problems. Tasks included detailed modeling of a diversion structure and high flow bypass culvert, and development of construction plans to be used for contract bid. The project is in the process of gaining approval for funding by City Council.

Anthony to Center Street Drainage Improvement Project, Gallatin, TN: Project Engineer. Performed detailed hydraulic calculations and design of a new closed storm sewer system that receives runoff from public roadways and private properties. The new closed system will be over 2,500 feet and runs along property lines before draining to an open channel that discharges to East Camp Creek. When constructed, the project will solve flooding problems for several residential properties and roadways. The project is currently under review at the City and will be funded for construction during this budget year.

Temple Hills Community Storm Water Infrastructure Inventory and Condition Assessment – Williamson County, TN: Engineer Intern. Performed field reconnaissance, inventory, and condition assessment for 500-acre residential and golf community. Developed collection database, researched development plans, organized field efforts, and assisted in performing the inspection and assessment. Prepared GIS maps and condition reports for submission to the Homeowner Association Board and Golf Club Manager.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
MD Mamunur Rashid, Ph.D. PE <i>Senior Project Manager</i>
Project Assignment:
Water Resource Engineer
Name of Firm with which associated:

Years' experience with this Firm:
1 year (24 total)
Education: Degree(s)/Year/Specialization:
BS / 1995 / Civil Engineering MS / 1998 / Environmental Engineering PhD / 2003 / Environmental Engineering
Active registration: Year first registered/discipline:
2017 / Professional Engineer – Civil, TX #125834
Other experience and qualifications relevant to the proposed Project:
<p>Dr. Rashid has over 22 years of diversified civil engineering experience in water resources engineering, hydrologic & hydraulics (H&H) studies, roadway drainage, stormwater master planning and stormwater management, water/wastewater engineering, and environmental engineering areas. His involvement in over 30 drainage projects includes, H&H impact evaluation, H&H design, and modeling, cross-drainage structure analysis, scour analysis, floodplain analysis, water quality management plan, stormwater best management practices (BMPs), and modeling storm sewer, drainage ditch and retention ponds.</p> <p>In water resources engineering, Dr. Rashid's experience includes probable maximum flood routing through an artificial lake, total maximum daily load (TMDL) implementation plan, water conservation planning and water management; groundwater well planning, design, and source protection, and groundwater modeling, to name a few. In water and wastewater engineering areas, Dr. Rashid's experiences include water and wastewater master planning, water and wastewater treatment system planning, onsite system evaluation and design, sewerage system evaluation and planning, and water rights analyses.</p> <p>Dr. Rashid's environmental experience, include the development and approval of permitting documents for state and federal agencies (i.e., Texas Commission on Environmental Quality, Utah Division of Water, U.S. Army Corps of Engineers, U.S. Fish and Wildlife, Federal Aviation Administration, and the U.S. Department of Agriculture). The environmental experience includes preparing permitting document for landfill design, studies to identify historical and archaeological sites, studies to identify threatened and endangered species, studies on traffic impact analysis, reports on biological assessment of threatened and endangered species, and preparing an application for loans and/or grants for developing community water systems.</p> <p>Dr. Rashid has worked on projects for a variety of clients including but not limited to, the California Department of</p>

TEC Professional Services Questionnaire

Transportation (Caltrans), Southwest Consortium for Environmental Research and Policy (SCERP), U.S. EPA, Texas Department of Transportation (TxDOT), Dallas Area Rapid Transit Authority (DART), U.S. Customs & Border Protection (CBP), and Harris County Flood Control District (HCFCD). His work for other clients includes water, sewer, and drainage districts, counties, cities, and State agencies in Utah, California, Indiana, and Texas. Dr. Rashid worked for consulting firms and the government in the following capacities: technical support engineer, project engineer, associate engineer, planner, design engineer, senior planning engineer, senior engineer, project manager, and senior project manager.

In addition to consulting and government, Dr. Rashid has academic experience in teaching and research in the U.S. He has taught over 35 college-level courses and has published several articles as principal author. These articles have appeared in various journals, e.g., J. of American Water Works Association, Water Environment Research, ASCE J. of Water Resource Planning and Management, ASCE J. of Environmental Engineering, J. of Environmental Management, J. of Water Air and Soil Pollution, J. of New England Water Works Association, and Environmental Monitoring and Assessment. Additionally, he has presented at conferences and published articles in conference proceedings

RELEVANT EXPERIENCE

US 96 SUPER 2, SEGMENT 22 (San Augustine County) and 26 (Sabine County) DRAINAGE REPORT, TxDOT, TX. (Lead Drainage Engineer). This study includes a hydrologic and hydraulic (H&H) analysis of the existing conditions and proposed improvements of US 96. This study includes delineation of drainage areas, preparing H&H models (HEC-HMS, HEC-RAS, Hydraulic Toolbox, and HY-8), and hydraulic evaluation of Easley Creek bridge, Ayish Creek bridge and 40 cross-drainage structures.

US 77 Bypass Drainage Study, Kleberg County, TxDOT, TX. This study includes an H & H analysis of the existing conditions and for the proposed improvements of US 77 from 0.28 Miles North of FM 2280 to 0.24 Miles south of Salado Creek. This study includes delineation of drainage areas, identifying cross drainage structures, and identifying major outfalls.

Estimation of Probable Maximum Precipitation (PMP) & modeling of Probable Maximum Flood (PMF) using HMR 52. This project involved developing hydro-meteorological modeling of PMF utilizing HEC-HMS and simulation of precipitation-runoff and routing process, which was used for the assessment of a dam in South Carolina.

Stormwater Master Planning for the City of Oak Point, TX. (Lead Engineer/Project Manager). This project involves establishing a process to assess stormwater infrastructure, evaluating existing and potential flood and erosion risks, and developing engineering solutions to mitigate these risks. The project tasks include identifying problem areas, evaluating current design and development criteria, H & H modeling of existing and post-project drainage conditions, developing Capital Improvement Program (CIP), and providing recommendations for system improvement, infrastructure replacement, and cleaning and maintenance plans for the drainage system. Additional project tasks include recommending stormwater utility fees, stormwater reuse plans, and developing regulations on impervious surfaces.

Cost Estimates and Contract Documents, Watermain Replacement for the City of Denison, TX. The project task involves preparing planning-level cost estimates and contract documents for the proposed water main replacement. (Lead Engineer).

Still Creek Tributary B Flood Hazard Study, as part of FEMA Letter of Map Revision (LOMR) Submittal, City of Bryan, TX. (Lead Engineer/Project Manager). This project involves the development of the H&H model, preparing FEMA permitting documents, developing a flood study report, and submitting it to FEMA.

Alazan Creek Flood Hazard Study, as part of FEMA Letter of Map Revision (LOMR) Submission, San Antonio Housing Authority. (Lead Engineer/Project Manager) This project involves the evaluation and development of the H&H model, preparing FEMA permitting documents, developing a flood study report, and submitting it to FEMA.

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:	
<p style="text-align: center;">Kingwood Regional Drainage Study <i>Harris County, Texas</i></p> <p>Harris County Flood Control District William Conlan William.Conlan@hcfcd.hctx.net</p>	<p>Neel-Schaffer was contracted by Harris County Flood Control District (HCFCD) with an interlocal agreement with the Lake Houston Redevelopment Authority TIRZ Number 10, City of Houston, for the Kingwood Drainage Study to create a Watershed Plan to identify strategies for mitigation of existing flooding problems and address future improved drainage infrastructure required to achieve 100-year channel level-of-service for over 32 miles of channels within the Kingwood Area study limits which encompasses over 25 square miles.</p> <p>The work includes calculation of hydrologic parameters utilizing GIS software, development of a high level 1D/2D SWMM model to analyze the overland flow paths and drainage trends in the Kingwood Area, development of hydrologic and steady-state and unsteady state hydraulic models utilizing HEC-HMS and HEC-RAS, determination of existing level-of-service and floodplain boundaries, determination of potentially flooded structures utilizing the Harris County Structure Inventory Tool, development of improvement alternatives including detention mitigation to bring all streams to a 100-year level-of service, and preparation of meeting materials for Community Engagement to present the results of the study and receive community input.</p>	
Completion Date <i>(Actual or estimated):</i>	Estimated Cost:	
2020	Entire Project: \$700,000	Work for which Firm was Responsible: \$700,000

PROJECT NO. 2

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p style="text-align: center;">South Central Drainage Area Master Plan <i>Central St. Tammany Parish</i></p> <p>St. Tammany Parish Department of Engineering Elizabeth deEtte Smythe (985) 8928-2552 edsmythe@stpgov.org</p>	<p>St. Tammany Parish, north of Interstate 12, consists mostly of undeveloped land managed for timber production. The Parish has committed to a master plan process for this area, including the development of a master drainage plan. Neel-Schaffer provided engineering services in support of short-term (5-10 year) and long-range (10-20 year) development scenarios.</p> <p>NSI developed ArcGIS geodatabase using latest available land use, soils data, and LiDAR data for use in determining run-off parameters such as runoff curve numbers and travel times (basin lag times). Neel-Schaffer used this information and developed hydrologic and hydraulic models for Bayou Lacombe and Bayou Cain drainage basins north of I-12 (60 sq. mi. area) utilizing HEC-HMS and HEC-RAS software. Neel-Schaffer also provided conceptual engineering for detention ponds to support short-term (5-10 year) development scenario; determined areas that required collection of field topographic</p>	

TEC Professional Services Questionnaire

PROJECT NO. 2		
	and hydrographic survey data and directed surveyor in collection of data. Neel-Schaffer provided a drainage analysis report which presented conceptual layout and design of proposed regional detention ponds, cross drain culverts, and channels. The report included Opinions of Probable Construction Cost and provided an analysis of potential environmental constraints using GIS-based habitat models for wetlands and species of concern.	
Completion Date <i>(Actual or estimated):</i>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2010	\$139,000	\$139,000

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>St. Tammany Sustainable Growth Pilot Study <i>St. Tammany Parish, LA</i></p> <p>St. Tammany Parish Department of Engineering Elizabeth deEtte Smythe (985) 8928-2552 edsmythe@stpgov.org</p>	<p>The St. Tammany Parish Sustainable Growth Pilot Project is an engineering design contract to study and develop recommendations for St. Tammany Parish as it considers future development within the Parish. St. Tammany Parish has selected an area within the western portion of the Parish as a pilot location to study for sustainable growth. The area selected currently is undeveloped natural forests and wetlands.</p> <p>As an initial phase of the study, the project team was tasked with characterizing wetlands and other sensitive environments within the project study area and develop a natural environment report. The project team performed desktop research to identify and refine probable wetlands and other environmentally sensitive habitats. These desktop sources include the NRCS soil maps and the National Wetland Inventory map. In addition, the project team developed a sampling plan within the drainage basins of the study to ground truth the desktop collection of soil and wetland data. The Natural Environment Report summarized the estimated area of wetlands as well as the approximate type and quality of them.</p> <p>The second phase of the project is to model the existing watersheds and proposed project changes associated with the developments. From the H&H modeling effort, recommendations for development to address existing flooding concerns in addition to future conditions will be provided to St. Tammany Parish.</p> <p>The final phase of the project will be to provide recommendations both from a regulatory and modeling perspective as to how to allow for growth while incorporating the natural environments.</p>	
Completion Date <i>(Actual or estimated):</i>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2022	\$125,000	\$125,000

TEC Professional Services Questionnaire

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p style="text-align: center;">Watershed Study and Drainage Design for Brownsitch Road Widening Project <i>Slidell, LA</i></p> <p style="text-align: center;">St. Tammany Parish Department of Engineering Elizabeth deEtte Smythe (985) 8928-2552 edsmythe@stpgov.org</p>	<p>St. Tammany Parish commissioned Neel-Schaffer, Inc. (NSI) to perform the design for the widening of Brownsitch Road. The widening will involve the design for a major drainage structure integral with the roadway. The initial phase of the work includes extensive modeling of the watersheds north and south of I-12. These include the 436-acre W-14 Canal watershed north of I-12 composed of 18 sub-basins currently directing water to Brownsitch Road; a 55 acre portion of the W-15 watershed north of I-12 and two subbasins within the W-14 watershed south of I-12. The hydrology study will establish the capacity requirements of the Brownsitch Road drainage structure. The study also evaluates methods for providing storage and redirecting outfall flows north and south of I-12 to mitigate flooding concerns within the W-14 and W-15 drainage basins.</p> <p>Services provided by Neel-Schaffer on this project included:</p> <ul style="list-style-type: none"> • Conducted Field investigation; • Determined areas that required collection of field survey data and directed surveyor in collection of data; • Reviewed existing hydrology models for applicability; • Developed GeoDatabase using latest available land use, soils data, and LiDAR data for use in calculating runoff curve numbers and travel times (basin lag times); • Developed hydrologic (HEC-HMS) and hydraulic (HEC-RAS) models from survey data and GeoDatabase; • Developed conceptual layouts and designs of proposed drainage alternatives, including analysis of detention storage; • Provided conceptual plans (15% design) for the widening of Brownsitch Road; • Developed Opinions of Probable Construction Cost; • Prepared Statewide Flood Application <p>Our contract also includes the final design for all improvements recommend in the initial study.</p>	
<p style="text-align: center;">Completion Date <i>(Actual or estimated):</i></p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2014	\$191,000	\$191,000

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Concordia Parish Watershed Study & Drainage Improvements <i>Concordia Parish, LA</i></p> <p>Concordia Parish Police Jury Kevin Friloux kfriloux@conppj.org 318-336-7151</p>	<p>NSI determined needs for topographic and bathymetric surveying in support of the modeling; developed a Digital Elevation Model (DEM) of the portions of the parish to be modeled including both LiDAR and survey data; utilized the DEM to create cross sections for use in the development of a HEC-RAS model of each stream; developed a detailed HEC-RAS model; determined the stormwater discharges at all pertinent points in the system for the 5-year, 10-year, and 25-year storm events; calibrated the existing condition model to a recent storm event; modified the calibrated model to reflect proposed changes including installation of culverts to the Tensas River Levee, reversal of flow direction in Brushy Bayou, and new bridges over Caney and Brushy Bayous.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2016	\$107,000	\$107,000

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Drainage Analysis, Rock Creek & South Kolbe Dr. Subdivisions <i>Cypress, TX</i></p> <p>Harris County, TX Brennan Cook, PE, CFM Brennan.Cook@eng.hctx.net 719-274-3900</p>	<p>After Harvey Harris County engaged Neel Schaffer to perform a drainage analysis of two subdivisions, Rock Creek and South Kolbe Drive, in Cypress, Texas. The Rock Creek Subdivision is developed around the HCFCU Unit (Channel) L122-00-00, and this channel passes through the middle of the neighborhood. Neel-Schaffer, Inc. (NSI) was authorized to perform a Drainage Analysis to identify drainage infrastructure inadequacies and develop a preliminary design for drainage improvements to reduce the risk of ponding and flooding as a result of future heavy storm events. A hydrologic analysis was performed to determine the peak flows using theoretical rainfall (NOAA Atlas 14). Initially, the analysis of the flooding within the subdivision was focused on the area east of the channel which experienced flood damages during Hurricane Harvey. The capacity of the storm sewer system was analyzed utilizing a state-of-the-art 1D/2D hydraulic model (PCSWMM). The simulation results showed that the storm sewers and roadway have adequate capacity. Consequently, a hydraulic analysis of the neighborhood and surrounding areas was performed utilizing a 2D hydraulic model (HEC-RAS). Based on the results of the analysis, several recommendations for drainage improvements were made based on the modeling efforts. Model results showed that the proposed improvements will reduce the overland peak flow and ponding depths, thereby reducing flooding of the roadway and private properties.</p> <p>The neighborhood located in the vicinity of South Kolbe Drive contains buildings and homes within the Cypress Chase subdivision that experienced structural flooding during Hurricane Harvey and the 2016 "Tax Day" storm event. NSI was authorized to perform a Drainage Analysis to identify drainage infrastructure inadequacies and develop a preliminary design for storm sewer improvements to reduce the risk of</p>	

TEC Professional Services Questionnaire

PROJECT NO. 6		
	<p>ponding and flooding as a result of future heavy storm events. A hydrologic analysis was performed to determine the peak flows using theoretical rainfall (NOAA Atlas 14). Due to flat topography and complex drainage patterns, a state-of-the-art hydraulic modeling package (PCSWMM 2D) was utilized to not only simulate the movement of water in the 1-dimensional elements such as pipes and channels, but also simulate the motion of water on the land surface in two dimensions. The simulation results were utilized to propose drainage improvement solutions that were hydraulically efficient and cost-effective. The proposed improvement yielded ponding reductions from 3 to 9 inches along the roadway and private properties.</p>	
Completion Date <i>(Actual or estimated):</i>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2023	\$98,000	\$98,000

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Tag Along Creek Drainage Study <i>Lacombe, LA</i></p> <p>St. Tammany Parish Department of Engineering Elizabeth deEtte Smythe (985) 8928-2552 edsmythe@stpgov.org</p>	<p>Homes within the lower reaches of the Tag Along Creek Drainage Basin would experience flooding during significant rainfall events. St. Tammany Parish commissioned Neel-Schaffer to perform a watershed analysis, consisting of 23 sub-basins and covering over 1,350 acres, in order to develop a drainage master plan that will improve local drainage during significant storm events. Conceptual solutions provided to the Parish included a diversion channel, detention ponds in the upper reaches of the basin, and expansion of an existing lake.</p> <p>Firm's Responsibilities:</p> <ul style="list-style-type: none"> Conducted field investigation and interviews with major property owners; Reviewed existing hydrology models for applicability; Developed GeoDatabase using latest available land use, soils data, and LiDAR data for use in calculating runoff curve numbers and travel times (basin lag times); Developed unsteady flow hydrologic and hydraulic model from survey data and GeoDatabase (MIKE URBAN - EPA SWMM 5 format); Field investigation to determine potential affects to biological resources; Determined areas that required collection of field survey data and directed surveyor in collection of data; Developed drainage analysis report; Developed conceptual layout and design of proposed alternatives; and Developed Opinions of Probable Construction Cost. 	
Completion Date <i>(Actual or estimated):</i>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2015	\$ 261,000	\$ 261,000

TEC Professional Services Questionnaire

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p style="text-align: center;">ARDOT On-Call Design Services, Multiple Projects <i>Various</i></p> <p style="text-align: center;">Arkansas Department of Transportation Mike Fugett mike.fugett@ardot.gov 225-686-2689</p>	<p>Since the first contract was signed, Neel-Schaffer has developed a strong partnership with ARDOT. Neel-Schaffer began working for the Arkansas Department of Transportation in 2019, Neel-Schaffer has completed numerous roadway/bridge replacement design contracts and now has several projects in various stages of completion. Five of the projects are work orders from a 2019-2021 Master Contract and the others are from a work order from the 2022-2024 Master Contract that was recently awarded.</p> <ul style="list-style-type: none"> • ARDOT #101054: SR 230 Bridge Replacements: 10 structures along SR 230 between Alicia and Bono in Lawrence and Craighead Counties. Four of the sites are proposed to be replaced with prestressed concrete girder bridges and six sites will be replaced with concrete box culvert bridges. Contract cost: \$2,005,613. • ARDOT #040780: SR 186 Bridge Replacements: Two structures along SR 186 near Altus in Franklin County. Both sites are proposed to be replaced with concrete box culvert bridges. Contract cost: \$361,000 • ARDOT #040788: SR 64 Bridge Replacements: Two structures along SR 64 near Mulberry in Crawford County. Contract cost: \$850,940. • ARDOT #030412: SR 70 Bridge Replacements: Three structures along SR 70 near Oklahoma State Line in Sevier County on US 70 over Cane Creek, Mud Creek and Rolling Fork Creek. Contract cost: \$934,408. • ARDOT #061614: SR 86 Bridge Replacements: Two structures along SR 86 near SR 38 in Prairie County. Contract cost: \$787,657. <p>NSI is performing all roadway, hydrology and hydraulic, and bridge design in house for all projects.</p> <p>Additionally, Neel-Schaffer has led and performed the complete Hydrology and Hydraulic modeling and design as well as the Scour analysis and design in-house. This effort included the analysis and design of the primary bridge and culvert structure replacements as well as all roadside drainage (i.e. cross drains, side drains, ditches, urban drainage design, etc.). Neel-Schaffer used HEC-HMS and HEC-RAS 1D/2D for all projects.</p> <p>The final product for each project generally consists of a hydrology and hydraulic design and report for the primary bridge/culvert replacement, hydrology and hydraulic design and report for the roadside drainage, and a design and report for the scour analysis for the primary bridge/culvert structures. The hydrology and hydraulic design are completed for two of the five projects, and the design for the remaining three are ongoing.</p>	
Completion Date <i>(Actual or estimated):</i>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Various	\$6,575,000	\$6,575,000

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p style="text-align: center;">Stormwater Master Plans <i>Memphis, TN</i></p> <p style="text-align: center;">City of Memphis Evan Boulanger, PE evan.boulanger@memphistn.gov (901) 636-6700</p>	<p>In 2014, 2015, and 2016, the City of Memphis, Tennessee selected Neel-Schaffer on three separate contracts as part of a city-wide ten-year program aimed at developing storm water master plans for high priority watersheds in the City.</p> <p>Services included performing storm water infrastructure field surveys, analyzing rainfall, flow, and stage gage data, developing detailed hydrologic/hydraulic modeling, model calibration and verification, and development of preliminary drainage improvement recommendations for a total of five urbanized drainage basins covering over 15 square miles. Proposed drainage improvements included regional detention ponds, channel improvements, major cross-drain improvements, flow diversions, closed street drainage collection systems, and flood protection berms. All hydrologic and hydraulic modeling was completed using ArcGIS-based InfoSWMM modeling software. The collected survey data and modeling information was integrated into a GIS database that was used to build the comprehensive InfoSWMM model.</p> <p>Capital improvement projects were prioritized, and the selected improvements were modeled systematically in the InfoSWMM Scenario Manager. Based on model results, recommended capital improvements to storm water infrastructure were presented to the City for approval. Final reports included construction cost estimates, conceptual layouts, and pre- and post-improvement floodplain inundation maps.</p>	
<p style="text-align: center;">Completion Date <i>(Actual or estimated):</i></p>	<p>Estimated Cost:</p>	
<p style="text-align: center;">2018</p>	<p>Entire Project:</p> <p style="text-align: center;">\$650,000</p>	<p>Work for which Firm was Responsible:</p> <p style="text-align: center;">\$650,000</p>

PROJECT NO. 10		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Drainage Basin Study: Wards 5 & 6 <i>Bay St. Louis, MS</i></p> <p style="text-align: center;">City of Bay St. Louis William B. "Buddy" Zimmerman bzimmerman@baystlouis-ms.gov 228-304-1202</p>	<p>Wards 5 and 6 were recently annexed into the City of Bay St. Louis following Hurricane Katrina. These areas were severely impacted by Hurricane Katrina. The areas are also impacted by local storm events. The City of Bay St. Louis commissioned Neel-Schaffer (NSI) to perform a watershed analysis of Wards 5 and 6, consisting of six sub-watersheds and covering over 12 square miles. The intent of the study was to identify best practices, including remedial maintenance programs and proposed infrastructure that will improve local and regional drainage during significant storm events.</p> <p>NSI performed a drainage infrastructure field inventory utilizing handheld GPS, and interviews with affected residents; determined areas that required collection of detailed field survey data and directed surveyor in collection of data; developed Geo-Database using latest available land use, soils data, and</p>	

TEC Professional Services Questionnaire

PROJECT NO. 10		
	<p>LiDAR data for use in calculating runoff curve numbers and travel times (basin lag times).</p> <p>DHI's MIKE URBAN and EPA-SWMM 5 software within the ArcGIS environment, was used to model the existing complex drainage system of canals in the watershed. An unsteady flow analysis was required as opposed to a conventional one-dimensional HEC-RAS analysis due to the presence of the Bay and the interconnectivity of the canals. Conceptual solutions were modeled and a Master Plan report was provided to the City. Proposed projects included flow diversions using concrete weir structures, channel improvements, multiple culvert/bridge replacements, and one large, regional detention pond.</p> <p>NSI also developed a storm water management ordinance, presented multiple drainage improvement alternatives to the City, and assisted in selecting the most cost-effective solutions.</p>	
Completion Date <i>(Actual or estimated):</i>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2010	\$250,000 (fee)	\$250,000 (fee)

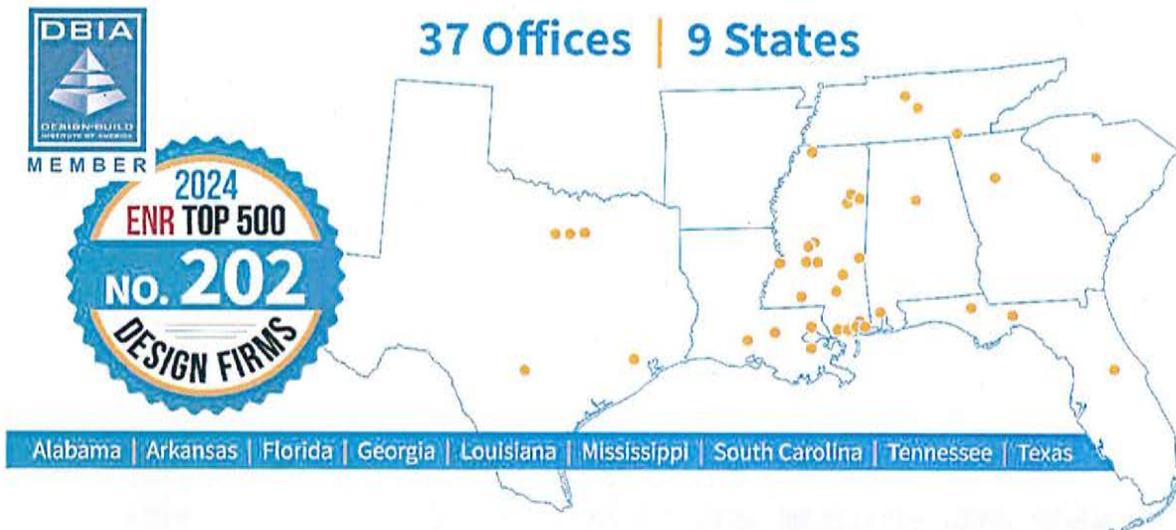
TEC Professional Services Questionnaire

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.		

TEC Professional Services Questionnaire

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



Neel-Schaffer is a multi-disciplined engineering and planning firm that was founded in 1983 and today is one of the largest private, employee-owned firms in the South, with nearly 500 employees working out of 37 offices across nine states. A multi-disciplined engineering and planning firm, it encompasses a group of specialized companies with offices in Louisiana, Mississippi, Alabama, Florida, Georgia, Kentucky, Tennessee, and Texas. We provide engineering, emergency management, landscape architecture, environmental, surveying, geotechnical, strategic planning, and community development services to clients throughout the Southeast and Southwest.

Engineering News-Record has listed Neel-Schaffer among the Top 500 Design Firms in the United States annually since 1994, ranking 202 in 2024. Our corporate structure emphasizes local service, with a regional touch. It allows our engineers, geologists, biologists, technicians, and project managers to maintain deeply local connections with clients in the many communities we serve, while having the resources of a much larger regional firm at their disposal. This allows us to provide a full-service approach to program development, design, and construction management for your project.

PROFESSIONAL TRAINING AND EXPERIENCE

Neel-Schaffer provides comprehensive flood plain management, hydraulic and hydrologic engineering and modeling, coastal, flood protection, and drainage planning and engineering services throughout Southeastern United States. We are nationally recognized for excellence in water resources engineering, flood control, planning, and environmental analysis. Our combined multi-disciplinary capabilities enable us to analyze and categorize floodplain and coastal problems, suggest and evaluate alternative solutions, engage with the public and all project stakeholders to ensure the desired results, determine environmental and socioeconomic effects, recommend a course of action which best meets the needs of both the natural and human environments, and ultimately design, administer and monitor solutions to the problems.

Our water resources staff includes engineers, planners, environmental specialists, economists, scientists, and GIS specialists who effectively solve floodplain challenges for a variety of federal, state, municipal and private clients.

With a strong local presence, represented by Louisiana offices in Mandeville, Baton Rouge, New Orleans, and Lafayette our firm knows the local market and the expectations of the community for which we live and work.

TEC Professional Services Questionnaire

Neel-Schaffer is proficient and experienced in a variety of water resources projects. Our firm has provided local, state and federal agencies with the expertise and experience in flood plain management, flood control, storm water management/modeling studies, hydrologic and hydraulic (H&H) analyses, and Flood Insurance study updates and map revisions. In the last 30 years, we've built on this experience by investing heavily in talented professionals who are well-versed in H&H modeling, analyses, engineering and design. All of this allows us to deliver innovative studies and plans that reflect state-of-the-art practices and meet the needs of the communities we serve.

Stormwater management carries complex planning and funding challenges for municipalities. Our experts are very familiar with various storm water funding sources and grant mechanisms. Neel-Schaffer has developed and utilized unique approaches for gaining public and political support for storm water initiatives such as user fee implementation and use of low impact and green infrastructure practices for new and significant redevelopment.

KEY PERSONNEL

Nick Ferlito, Jr., PE, PTOE joined Neel-Schaffer in 1996. He is a Senior Vice President and serves as Louisiana Area Manager, overseeing all responsibilities for the state. An ITE-certified Professional Traffic Operations Engineer, he has more than 30 years of experience and manages a wide range of traffic and transportation projects. He has served as a project manager for many intersection/corridor signal timing studies, signal design projects, safety studies and other traffic engineering related projects for public and private projects. Mr. Ferlito is experienced with numerous traffic engineering software packages, including HCS, CORSIM, SYNCHRO, Tru-Traffic (TSPPDraft), and SIDRA. He also completed the Naztec TS1/TS2 Controller 2-Day training course. He has also completed the NEPA and Transportation Decision Making course (2004), the Highway Safety Manual Workshop (2011) as well as LADOTD's Traffic Engineering Process and Report (TEPR) training.

Don Lancaster, PE manages Neel-Schaffer's Mandeville office and has 39 years of experience in civil engineering and project management. He is the Civil Design Manager for Neel-Schaffer's Louisiana offices and serves as the manager for Neel-Schaffer's current work as part of the \$570 million Port of Gulfport (MS) Restoration project. The design is completed and construction on new port facilities will be completed in September 2018. Prior to joining Neel-Schaffer in 2003, Mr. Lancaster was Design Manager for a national firm overseeing the Sewerage and Water Board of New Orleans' Sewer System Evaluation and Rehabilitation Program (SSERP) and the Sewerage and Water Board's (S&WB) Sewer System Rehabilitation for Hurricane Katrina Emergency Recovery Efforts. Soon after joining Neel-Schaffer, he managed the design and construction of over \$55 million of roadway, water, sewer and gas system repairs to Bay St. Louis (MS) infrastructure. This effort was funded by FEMA and is intended to restore the City infrastructure that was severely damaged in Hurricane Katrina.

Michael Phillips, PE, CFM has over 20 years of experience performing all types of complex flood control and large-scale storm water management/modeling studies, as well as reviewing studies of the same nature for municipal clients. He has managed and performed H&H analyses for multiple districts of the US Army Corps of Engineers and numerous large, high profiles FEMA Flood Insurance Study Updates and Map Revisions. He is very familiar with FEMA regulations and proficient in the latest hydrologic and hydraulic steady and unsteady flow modeling programs.

Sarah McEwen, PE, CFM joined Neel-Schaffer in 2023 and has 10 years of experience as a Water Resources Manager and Hydrology and Hydraulics Engineer. Based in the firm's Jackson office, Sarah serves as the Central Region Hydrology and Hydraulics Discipline Lead. In this role, she is responsible for managing all hydrology, hydraulics, and drainage projects in Mississippi and Arkansas. She also is available to provide H/H Project Management and engineering design services for clients across the firm's nine-state footprint. Sarah has extensive experience in managing DOT projects with respect to bridge hydraulics, scour evaluations, internal technical reviews, and roadway hydraulics. She is experienced with hydrologic modification impact analysis as part of site design and erosion control measures. Sarah has a background in floodplain mapping and is a Certified Floodplain Manager. She has experience in HEC-HMS, HEC-RAS, HED-

TEC Professional Services Questionnaire

Leah Selcer, PE has ten years of engineering experience. She has a broad range of project engineering and management experience, providing design, planning and budgeting, permits, plans and specifications, design calculations, reports and presentations for a variety of projects. Ms. Selcer has assisted in the engineering and design of several complex civil, water resources, and coastal projects for coastal ports, parish governments, the LaDOTD and the CPRA. Her experience includes hydrologic and hydraulic calculations and studies using water modeling software, USACE HEC Software (HEC-RAS and HEC-HMS), LADOTD HYDR 2009 (All programs), CulvertMaster, HydroCAD, HYDROWIN, and Civil3D Hydraulic Analysis Programs.

Kyle Grantham, PE, CFM joined Neel-Schaffer in 2020 and has eight years of experience as a Water Resources Engineer, including 2.5 with the Mississippi Department of Transportation. Based in the firm's Southaven (MS) office, Kyle is skilled in all aspects of Hydrology and Hydraulic Engineering design. He is a licensed Professional Engineer and a Certified Floodplain Manager.

Amber Cutcliff, PE, CFM has over 20 years of experience as a Professional Engineer and Certified Floodplain Manager. Her experience includes H&H Engineering and Hydraulic modeling on a variety of projects and studies.

SIZE OF FIRM

Neel-Schaffer has over 600 professional and technical employees, including planners and engineers with specialization in roadway and bridge design. We have 47 staff members located in Louisiana offering the services of 24 registered Professional Engineers.

CAPACITY FOR TIMELY COMPLETION

Neel-Schaffer has a current monthly billing capacity in excess of \$5 million. As the following chart indicates, we can easily assimilate additional projects into our current workload.

PAST PERFORMANCE

In its performance rating of Neel-Schaffer, the US Army Corps of Engineers, Vicksburg District, concluded that we "consistently produced well organized, well-engineered, professional work." The rating also noted "their engineers and managers were a pleasure to work with. Their spirit of cooperation was a major asset to the contract. They not only met the specifics of their work orders but also were anxious to meet any reasonable desires of the Government representatives. This was especially noteworthy in maintaining milestone dates when government-furnished data was not available when specified and by beating several of their submission dates. Neel-Schaffer, Inc. is highly recommended for future work..."

In addition, NSI has been selected repeatedly by LADOTD for on-going retainer contracts over the past 12 years. We think this is an excellent indication of our performance ability on public contracts and our reputation as a consultant of choice by public agencies. We are currently working under three active retainer contracts with LADOTD. We also hold a retainer contract with the City of New Orleans Department of Public Works, The Sewerage and Water Board of New Orleans, the CPRA to provide Engineering Services for Coastal Restoration Projects, the Lafayette MPO to provide Roundabout Feasibility Studies, and Ascension Parish in support of their MOVE Ascension transportation program.

To continue improving our services, Neel-Schaffer recently surveyed our clients. We received over 100 responses to our survey involving mostly public clients and were pleased to find that the vast majority are satisfied with our commitment and performance and will more than likely retain our company again. Below is a summary:

- 92% are "likely" or "very likely" to recommend Neel-Schaffer
- 94% rated Neel-Schaffer as "easy" or "very easy" to do business with
- 95% are "satisfied" or "very satisfied" that Neel-Schaffer's deliverables meet your needs

TEC Professional Services Questionnaire

- 96% are "satisfied" or "very satisfied" with Neel-Schaffer's project management capabilities
- 91% rated the overall value you receive from Neel-Schaffer as "good" or "very good"

LOCATION OF PRINCIPLE OFFICE

Our New Orleans LA office, located at 1340 Poydras Street, Suite 1950 will undertake the design for required improvements with support provided by other Neel-Schaffer offices as required.

ANALYSIS OF WORK RESULTING IN LITIGATION

Neel-Schaffer has not previously worked for Jefferson Parish; and we have never entered litigation with Jefferson Parish or other public sector clients.

PRIOR SUCCESSFUL COMPLETION OF PROJECTS

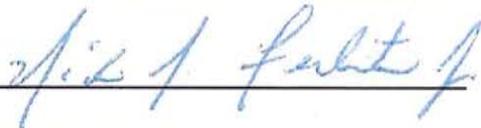
NSI employs a highly qualified team of professionals skilled in a variety of coastal science and coastal engineering disciplines. Our multi-disciplinary approach allows for a more holistic blend of experience and services to meet every client's coastal needs.

Our local presence ensures our work is informed and coordinated with the issues, governance, and opportunities unique to that region. As a result, we have been able to form effective partnerships with government agencies, non-profits, and other private companies, administering coastal initiatives to meet their needs and those of communities.

Neel-Schaffer routinely provides services on an *on-call* basis for our clients. We currently are providing services to CPRA for a three-year multiple task order award contract. We also hold four on-call contracts with LADOTD to provide various services. Our St. Tammany Coastal Master Plan is performed as a Task Order contract and most of our work on Corps of Engineers projects has been performed under task order contracts.

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

Signature: _____



Print Name: Nick Ferlito Jr., PE, PTOE

Title: Louisiana Area Manager

Date: June 21, 2024

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:																													
SOQ 24-015, Resolution No. 144202 Routine Engineering Services for Drainage Projects																													
B. Firm Name & Address:																													
Eustis Engineering L.L.C. 3011 28 th Street, Metairie, Louisiana 70002																													
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:																													
Gwendolyn P. Sanders, P.E. / President / 504-834-0157 / gsanders@eustiseng.com																													
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.																													
Gwendolyn P. Sanders, P.E. / President / 504-834-0157 / gsanders@eustiseng.com																													
E. Please provide the number of employees whose primary function corresponds with each category:																													
<table style="width: 100%; border: none;"> <tr><td style="width: 33%;">7 Administrative</td><td style="width: 33%;">Estimators</td><td style="width: 33%;">Specification Writers</td></tr> <tr><td>Architects (Licensed)</td><td>2 Geologists</td><td>Structural Engineers</td></tr> <tr><td>Chemical Engineers</td><td>17 Geotechnical Engineers</td><td>3 Graduate Engineers</td></tr> <tr><td>Civil Engineers</td><td>Interior Designers</td><td>Project Managers</td></tr> <tr><td>Construction Inspectors</td><td>Landscape Architects</td><td>11 Clerical</td></tr> <tr><td>Ecologists</td><td>Land Surveyor</td><td>Grant/Funding Specialist</td></tr> <tr><td>Electrical Engineers</td><td>Mechanical Engineers</td><td>Sanitary Engineers</td></tr> <tr><td>5 Engineer Intern</td><td>Environmental Engineers</td><td>47 Other</td></tr> <tr><td>Professional Land Surveyors</td><td></td><td>92 TOTAL</td></tr> </table>	7 Administrative	Estimators	Specification Writers	Architects (Licensed)	2 Geologists	Structural Engineers	Chemical Engineers	17 Geotechnical Engineers	3 Graduate Engineers	Civil Engineers	Interior Designers	Project Managers	Construction Inspectors	Landscape Architects	11 Clerical	Ecologists	Land Surveyor	Grant/Funding Specialist	Electrical Engineers	Mechanical Engineers	Sanitary Engineers	5 Engineer Intern	Environmental Engineers	47 Other	Professional Land Surveyors		92 TOTAL		
7 Administrative	Estimators	Specification Writers																											
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Electrical Engineers	Mechanical Engineers	Sanitary Engineers																											
5 Engineer Intern	Environmental Engineers	47 Other																											
Professional Land Surveyors		92 TOTAL																											
F. Is this submittal is a JOINT-VENTURE? Please check: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>																													
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. Not applicable.

2.

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

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. Not Applicable.		
2.		
3.		

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

We estimate 16 individuals will be needed to complete the geotechnical services associated with projects under this advertisement. This includes a three-member drill crew as well as laboratory, clerical, and engineering staff. More employees can be added, as necessary, to complete any 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., 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:

Gwendolyn P. Sanders, P.E. / President and Project Principal

Project Assignment:

Project Principal / Limited Liability Corporation Member

Name of Firm with which Associated:

Eustis Engineering L.L.C.

Years' Experience with This Firm:

31

Education: Degree(s)/Year/Specialization:

Master of Science / 1992 / Civil Engineering

Bachelor of Science / 1990 / Civil Engineering

Active Registration: Year First Registered/Discipline:

Louisiana: 1997 / Civil Engineering

Mississippi: 2003 / Engineering

Texas: 2020 / Civil Engineering

Other Experience and Qualifications Relevant to the Proposed Project:

Mrs. Sanders began her professional career with Eustis Engineering L.L.C. in 1993. Over the past 31 years, she has worked her way up through the ranks of the engineering department including Associate Engineer, Project Engineer, Project Manager, and Engineering Manager. She has been on Eustis Engineering's Board of Directors since 1997. In 2020, Mrs. Sanders became Eustis Engineering's first woman president after previously serving as a Vice President and Executive Vice President. As President, she is responsible for day-to-day business operations including quality, safety, marketing, and long-term strategic growth. She also actively participates in the engineering design and review processes.

Considering her experience with Eustis Engineering, a leading Gulf Coast geotechnical firm, Mrs. Sanders has extensive experience in soft soils and working on projects in coastal Louisiana. She has been directly and indirectly involved in numerous projects throughout the Gulf Coast area, particularly in Jefferson Parish. Mrs. Sanders has been involved in and managed every aspect of a geotechnical engineering project; namely, developing appropriate scopes of work for projects, planning and coordinating field investigations, assigning laboratory testing, performing geotechnical engineering analyses, preparing detailed reports with engineering analyses and recommendations, reviewing reports prepared by other professionals, and consulting with clients. Much of her work experience has dealt with identifying soil properties, developing criteria for design of foundations, and determining an appropriate foundation to support the structure under consideration.

In 2017, Mrs. Sanders served as program advisor for the Deep Foundations Institute's 42nd annual conference. She has twice been named one of the 50 Women of the Year by New Orleans CityBusiness, first in 2017 and again in 2021. She is currently serving as an associate member of the ASCE Standards Committee for the Design of Foundations. She has a keen eye for detail and is a stickler for quality. Her work ethic, combined with her communication skills, translates to Mrs. Sanders' ability to deliver successful geotechnical engineering projects to her clients.

Over the years, Mrs. Sanders has been involved with more than 2,800 projects in some capacity, including the following contained within this submittal:

- **Jefferson Parish – Department of Public Works**, Proposed Pump Station, West Esplanade at the 17th Street Canal, Jefferson Parish, Louisiana, Eustis Engineering Project No. 24427

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:

Gwendolyn P. Sanders, P.E. / President and Project Principal

- **Jefferson Parish** – Veterans Boulevard, Pump Stations, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 23396.00, .01, & 24426
- **Southeast Louisiana Flood Protection Authority – East**, East Jefferson Levee District, Gabrielle Subdivision Runoff Control Piping, Near the Duncan Canal Pump Station, Kenner, Louisiana, Eustis Engineering Project Nos. 22537, 23474, & 24245
- **Jefferson Parish** – Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana, Eustis Engineering Project No. 24281
- **Jefferson Parish** – Bonnabel Canal, Pomona Street to Nero Street, Metairie, Louisiana, Eustis Engineering Project No. 23387

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
James J. Hance, P.E. / Senior Project Manager and Vice President (Finance)
Project Assignment:
Senior Project Manager / Limited Liability Corporation Member
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
20
Education: Degree(s)/Year/Specialization:
Master of Business Administration / 2011 / Business Administration Master of Science / 2003 / Civil Engineering (Geotechnical) Bachelor of Science / 1998 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2004 / Civil Engineering Mississippi: 2012 / Engineering Texas: 2010 / Civil Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>For 3 years, Mr. Hance was a Staff Engineer and Assistant Project Manager on numerous design and construction phase projects in the Washington, D.C. metropolitan area. His duties included management of field technicians who performed concrete, asphalt, and soils testing as well as foundation construction observations of spread footings, mats, drilled shafts, augercast piles, driven steel H-piles, tiebacks, and underpinning piers.</p> <p>After relocating to Austin, Texas, to eventually pursue graduate studies in engineering, Mr. Hance acted as an Assistant Project Engineer for several design phase projects. These projects involved retention and stream bank stabilization applications. The types of systems designed included mechanically stabilized earth (MSE), single and multi-tiered walls and slopes utilizing geogrid reinforcement, and the use of geosynthetic materials in engineering applications such as erosion control solutions for open channel flow conditions. Mr. Hance was a graduate research assistant at the University of Texas at Austin where he published his master's thesis in association with a Master of Science in Civil Engineering degree: <i>Assessment of Seafloor Slope Stability Based on a Database of Published Submarine Slope Failures</i>.</p> <p>Mr. Hance has spent the past 20 years with Eustis Engineering, L.L.C. and has worked on many projects for Jefferson Parish. During his tenure at Eustis Engineering, he has earned four promotions: Project Engineer (July 2004), Project Manager (November 2007), Vice President (August 2011), and Chief Financial Officer (August 2012). Mr. Hance manages geotechnical services associated with commercial, industrial, environmental, and civil works projects. His responsibilities include managing a wide variety of design and construction phase projects (public and private sectors), management of staff engineers and development of their skill assets, developing scopes of work and appropriate fees for new projects with clients, participating in business development and marketing ventures, and negotiating contracts.</p> <p>Some of his experience relative to this submittal includes the following:</p> <ul style="list-style-type: none">• Jefferson Parish – Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana, Eustis Engineering Project No. 23819• Jefferson Parish – Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana, Eustis Engineering Project No. 24160• Jefferson Parish – Hoey's Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 21458 & 22532.00, .01

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Benjamin M. Cody, P.E. / Principal Engineer
Project Assignment:
Project Manager
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
21
Education: Degree(s)/Year/Specialization:
Master of Science / 1999 / Civil Engineering Bachelor of Science / 1996 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2002 / Civil Engineering Mississippi: 2007 / Engineering Texas: 2014 / Civil Engineering Florida: 2001 / Engineering Alabama: 2003 / Engineering Arkansas: 2014 / Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>From 1993 to 1994, Mr. Cody first worked with Eustis Engineering as a part-time laboratory soil technician while obtaining his undergraduate degree. After leaving Eustis Engineering in 1994, Mr. Cody worked as an engineering technician with the Sewerage & Water Board of New Orleans and as a student laboratory coordinator at Tulane University's Department of Civil Engineering. Mr. Cody also assisted in teaching the introductory soil mechanics laboratory sessions. For more than a year, he then worked as a graduate research assistant at Tulane University while pursuing his Master's degree. At that time, he was responsible for the design, construction, and implementation of the bench scale testing system in contaminated soil remediation.</p> <p>From 1998 until 2001, Mr. Cody worked for engineering firms in Florida. He performed such duties as soil evaluation and engineering recommendations for projects of varying sizes including multi-story structures, bridges, and roadways. He performed Phase I environmental site assessments as well as geotechnical sensor installation.</p> <p>In 2001, he returned to the New Orleans area and to Eustis Engineering as a Project Engineer. He now serves as a Principal Engineer with the firm. Since his return, Mr. Cody has performed a wide variety of engineering services including geotechnical project management, engineering design, engineering during construction, and dynamic pile testing. Private sector projects have varied from small private or commercial structures to multi-story high-rise structures, storage tanks, and other industrial facilities. Public projects have included general infrastructure, roads and bridges, port facilities, government buildings and facilities, schools, utilities, and hurricane protection system improvements.</p> <p>Some of Mr. Cody's project experience, shown in this submittal, includes the following:</p> <ul style="list-style-type: none">• Jefferson Parish – Department of Public Works, Proposed Pump Station, West Esplanade at the 17th Street Canal, Jefferson Parish, Louisiana, Eustis Engineering Project No. 24427• Jefferson Parish – Veterans Boulevard, Pump Stations, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 23396.00, .01, & 24426

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Benjamin M. Cody, P.E. / Principal Engineer

- **Jefferson Parish** – Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana, Eustis Engineering Project No. 23819
- **Southeast Louisiana Flood Protection Authority – East**, East Jefferson Levee District, Gabrielle Subdivision Runoff Control Piping, Near the Duncan Canal Pump Station, Kenner, Louisiana, Eustis Engineering Project Nos. 22537, 23474, & 24245
- **Jefferson Parish** – Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey’s Cut, Metairie, Louisiana, Eustis Engineering Project No. 24281
- **Jefferson Parish** – Hoey’s Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 21458 & 22532.00, .01
- **Jefferson Parish** – L & A Road Improvements, Dakin Street to Earhart Expressway, Jefferson Parish, Louisiana, Eustis Engineering Project No. 24196

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Sean G. Walsh, P.E. / Engineering Manager and Vice President (Engineering)
Project Assignment:
Project Manager
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
11
Education: Degree(s)/Year/Specialization:
Master of Science / 2010 / Civil Engineering Bachelor of Science / 2007 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2013 / Civil Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>For his first 5 years after graduation, Mr. Walsh was a Project Engineer on numerous projects in New York and the New Orleans metropolitan area where he gained experience in civil, geotechnical, and geo-environmental engineering projects for a variety of public and private clients.</p> <p>Since joining Eustis Engineering in 2012 as a Project Engineer, Mr. Walsh has been responsible for developing and managing engineering package preparations (e.g., engineering design and analysis, reporting, developing construction and permit drawings, contract specifications, cost estimates, and design reporting) for a diverse range of design and analysis projects including deep foundations, excavation support systems, utility foundations, slope stabilization, solid waste closure systems, levee inspection/safety, and seepage modeling.</p> <p>Mr. Walsh was promoted to Project Manager in 2017, Engineering Manager in 2019, and Vice President in 2020. Mr. Walsh is also a graduate of the 2017 New Orleans Regional Leadership Institute (NORLI), a 1-year training program designed to help shape community leaders.</p> <p>During his employment with Eustis Engineering, Mr. Walsh has provided engineering services on more than 900 projects. Mr. Walsh has risen to the level of Vice President and Engineering Manager, in which he is responsible for personnel resource allocation, the overall engineering schedule, and execution of engineering services. Mr. Walsh also functions as a mentor to the engineering staff.</p> <p>A large portion of Mr. Walsh's experience, before and after joining Eustis Engineering, involved development of design and construction recommendations associated with flood protection systems in southeastern Louisiana. Mr. Walsh has served as the project engineer and project manager responsible for the development and implementation of geotechnical exploration programs; development of soil testing laboratory programs; and interpretation of the results to evaluate strength, compressibility, and general soil characterization. Mr. Walsh used these data for geotechnical designs comprising pile capacity curves; bearing capacity analyses; cantilever retaining analyses; anchored retaining wall analyses; temporary retaining structure design; time-settlement projections for earthen levees with lift schedules; soil pressure profiles; structural and earthen levee under seepage analyses; levee and bank stability by Spencer's Method of Slices and Method of Planes; reinforced embankment design; stability analyses of flood protection walls (e.g., T-walls, I-walls, L-walls, and braced 'A-Frame' walls); downdrag and settlement analyses; settlement induced bending moments (SIBM) in foundation piles; piping analyses; uplift analyses; heave analyses; three-dimensional modeling of fill and structural load placements for predictions of time-rate settlements of foundation systems; and</p>

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Sean G. Walsh, P.E. / Engineering Manager and Vice President (Engineering)

numerical modeling of soil-structure interaction (SSI) of flood protection structures by the finite element method (FEM).

Mr. Walsh has also worked on many local government projects in towns and cities including New Orleans, Golden Meadow, and Kentwood; numerous projects in Jefferson, Orleans, St. Bernard, St. Charles, and Plaquemines Parishes; several Port Commissions (e.g., Baton Rouge, New Orleans, South Louisiana); the Sewerage & Water Board of New Orleans; etc.

Regardless of the types of projects engineered for these agencies, his responsibilities have remained the same; namely, defining the project philosophy; developing and maintaining the schedule; providing status reports to clients; controlling expenditures; overseeing project personnel; and reviewing the project design for compliance with engineering principles, company standards, and client requirements. He is hands-on in coordinating activities concerned with technical developments and in resolving engineering design/test problems.

Mr. Walsh's skills over the past 16 years in the industry have developed exponentially with the variety of projects that have crossed his desk. Regarding this submittal, Mr. Walsh has been directly involved with the following projects:

- **Gretna City Park** – Proposed Water Capacity Improvements, 910 Gretna Boulevard, Gretna, Louisiana, Eustis Engineering Project No. 24290
- **Jefferson Parish** – Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana, Eustis Engineering Project No. 23819
- **Jefferson Parish** – Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana, Eustis Engineering Project No. 24160
- **Jefferson Parish** – Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana, Eustis Engineering Project No. 24281
- **Jefferson Parish** – Bonnabel Canal, Pomona Street to Nero Street, Metairie, Louisiana, Eustis Engineering Project No. 23387

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Lawrence W. Rome, C.E.T. / Operations Manager and Vice President (Operations)
Project Assignment:
Operations Manager / Limited Liability Corporation Member
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
29
Education: Degree(s)/Year/Specialization:
Associate of Applied Sciences / 1998 / Safety
Active Registration: Year First Registered/Discipline:
LA Driller's License /2013
Other Experience and Qualifications Relevant to the Proposed Project:
Accreditations / Affiliations / Certifications American Society of Certified Engineering Technicians Confined Space Entry Certification Greater New Orleans Industrial Education Council Safety Training Medic First Aid and CPR Course 2015 HAZMAT Certification, 49 CFR 172, Subpart H, Nuclear Gauges International Code Council: Soils Special Inspector National Institute for Certification in Engineering Technologies: Level I: Construction Materials Testing, Asphalt Level II: Construction Materials Testing, Concrete Level IV: Construction Materials Testing, Soils Level II: Geotechnical Engineering Technology, Construction Level III: Geotechnical Engineering Technology, Generalist Level IV: Geotechnical Engineering Technology, Exploration Level IV: Geotechnical Engineering Technology, Laboratory Level III: Transportation Engineering Technology, Highway Materials 10-Hour OSHA Training Transportation Workers Identification Card (TWIC) Registered Well Driller for the States of Louisiana and Mississippi Professional Experience After joining Eustis Engineering in 1994, Mr. Rome has worked in several departments throughout our firm. He began as a laboratory technician, performing simple testing such as grain size analyses, Atterberg liquid limits and plastic limits, and unconfined compression shear. Mr. Rome has become involved in more complex testing procedures such as permeability and consolidation tests. His capabilities have expanded to include lime stabilization studies, California Bearing Ratio tests, hysteresis, direct shear tests, swelling pressure and percent swell tests, consolidated undrained triaxial shear tests, relative density tests, and compaction tests.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Lawrence W. Rome, C.E.T. / Operations Manager and Vice President (Operations)

Mr. Rome is thoroughly familiar with the performance of the following types of testing.

- Atterberg limits
- Consolidated drained triaxial shear tests
- Consolidation tests
- Direct simple shear
- Hydrometer
- Moisture content of soil and rock
- Particle size analysis of soils and aggregates
- Pocket penetrometer
- Settlement column testing of dredged materials
- Soil constants
- Standard and modified compaction
- Torvane shear tests
- Unconsolidated undrained triaxial shear tests
- Unit weight
- Moisture density relationships of soil-cement mixtures
- Molded sand triaxial test using Mississippi Department of Transportation specifications
- U.S. Army Corps of Engineers' New Orleans District Classification System
- CBR of laboratory compacted soils
- Consolidated undrained triaxial shear tests
- Direct shear
- Flexible wall permeability test
- Miniature vane shear
- Organic content
- Percent finer than U.S. Standard No. 200 sieve
- Relative density tests
- Sieve analyses
- Specific gravity of soils
- Swell pressure tests
- Unconfined compressive strength of soil
- Unified Soil Classification System
- Visual classification of soils

In early 1998, Mr. Rome joined the Drilling Department as a soil technician, assisting the drilling crew as a wrenchman. In November 1998, Mr. Rome became a driller for Eustis Engineering. In this capacity, he performed sampling operations using 3-in. diameter Shelby tubes and 5-in. diameter U.S. Army Corps of Engineers' (USACE's) fixed piston sampling. He is quite familiar with splitspoon, pitcher, Osterberg, Denison, and hollow stem auger sampling operations. He also performs down hole vane shear testing. He is competent in the installation of piezometers, monitoring wells, inclinometers, and pore pressure transducers. Mr. Rome has drilled to depths in excess of 300 feet utilizing 5-in. fixed piston samplers, and in excess of 400 feet for 3-in. diameter Shelby tube sampling. Mr. Rome has drilled from various types of equipment including pontoons, cargo buggies, shallow draft elevating boats, barges, and pull boats using CME, Diedrich, and Failing drill rigs. Mr. Rome has also served as a Quality Assurance/Quality Control inspector for drilling operations for FFEB JV. This included ensuring as many as 22 drill crews were performing sampling operations in strict compliance with USACE specifications.

In the early 2000s, Mr. Rome attended the University of Missouri at Rolla for Advanced Soil Mechanics training. In 2005, he began serving as Operations Manager overseeing the laboratory department's daily objectives, reviewing calculations, and developing new skills in laboratory personnel, as well as other duties. In the drilling department, he oversees up to five drilling crews which involves ordering parts, looking at prospective sites, making crew schedules, lining up subcontract equipment, and ensuring the highest quality samples are obtained by drill crews and subcontractors. Mr. Rome also serves as a driller or soil technician when his experience is required, or to train new employees.

In 2013, Mr. Rome added the CMT Department under his operational duties in addition to his operational duties within the lab and drilling departments. Mr. Rome works closely with the operations supervisor for CMT, overseeing the department's daily objectives, reviewing reports, reviewing invoices, addressing staffing needs, fleet management, as well as other duties.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Lawrence W. Rome, C.E.T. / Operations Manager and Vice President (Operations)

Mr. Rome has direct involvement with the following projects related to this submittal:

- **Jefferson Parish** – Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana, Eustis Engineering Project No. 23819
- **Jefferson Parish** – Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana, Eustis Engineering Project No. 24160

PROJECT NO. 01

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Department of Public Works Proposed Pump Station West Esplanade at the 17th Street Canal Jefferson Parish, Louisiana Eustis Engineering Project No. 24427 </p> <p align="center"> Contact Information: Jefferson Parish Through ECM Consultants, Inc. Suite 200 1301 Clearview Parkway Metairie, Louisiana 70001 Sunina Shrestha, P.E. @ 504-885-4080 </p>	<p>Jefferson Parish proposed a pump station at the intersection of the 17th Street Canal and West Esplanade Avenue in Metairie, Louisiana. The pump station would be built on the west bank of the canal.</p> <p>The pump station was planned to have approximate dimensions of 50' x 36' with a sump depth of approximately 18 feet. A new 78" x 122" arch-shaped reinforced concrete pipe would feed collected drainage water to the pump station. A new generator pad with approximate plan dimensions of 16' x 37' would be located southwest of the pump station.</p> <p>Discharge pipes, 32 inches in diameter, would be installed from the pump station, extending over the levee and floodwall to discharge stormwater from the pump station into the 17th Street Canal. The discharge pipes were to be pile-supported on the land and flood sides of the levee and floodwall.</p> <p>Eustis Engineering performed engineering analyses based on data obtained from previous subsurface explorations at the site supplemented by those in the project area.</p> <p>The scope of service for this project included compiling and updating geotechnical analyses from previous reports that were still applicable to the pump station plans. These previous analyses included deep-seated global stability analyses, seepage potential evaluation, and estimates of pile load capacities for various types and sizes of piles.</p> <p>We performed supplemental deep-seated global stability analyses to provide an alternative analysis as part of the Safety Assurance Review (SAR) required by the U.S. Army Corps of Engineers for the construction permit application. We also furnished supporting documentation for temporary retaining structure design as well as seepage and heave analyses. Finally, we generated recommendations for general site preparation and foundation construction procedures.</p>	
<p align="center">Completion Date (Actual or Estimated)</p> <p align="center">09/2021 (A)</p>	Estimated Cost:	
	<p>Entire Project:</p> <p align="center">Unknown</p>	<p>Work for Which Firm Was Responsible:</p> <p align="center">\$25,500</p>

PROJECT NO. 02

Project Name, Location, and
Owner's Contact Information:

Nature of Firm's Responsibility:

Jefferson Parish
Veterans Boulevard
Drainage Pump Stations
Jefferson Parish, Louisiana
Eustis Engineering Project Nos.
22024, 22631, 23396.00-.01, and 24426.00-.01

Contact Information:
Jefferson Parish Through
ECM Consultants, Inc.
Suite 200
1301 Clearview Parkway
Metairie, Louisiana 70001
Sunina Shrestha, P.E. @ 504-885-4080

Two new drainage pump stations are proposed on the north and south sides of Veterans Memorial Boulevard at the 17th Street Canal. Each of these pump stations will discharge into the 17th Street Canal. Due to a planned bike path along the hurricane protection floodwall, these discharge pipes will need to penetrate the flood protection. As a result, plans called for the replacement of portions of the existing West 17th Street Canal I-walls (which cannot be penetrated and still comply with the U.S. Army Corps of Engineers' [USACE] guidelines) with T-walls. Both pump stations would require demolition of approximately 20 feet of existing concrete I-wall for installation of the new T-wall in order to accommodate a discharge pipe through each wall. Access gates will also be provided as part of the floodwall modifications. For additional data at the site, Eustis Engineering L.L.C. used soil boring and laboratory test data contained in our own files from prior explorations as well as data obtained through a Freedom of Information of Act request to the USACE.

Due to the modifications to the flood protection, a safety assurance review (SAR) was conducted by an independent reviewer. The SAR included a review of the plans and specifications as well as design reports and calculations. Comments from the SAR were incorporated into the permit package submitted to the review agencies. The project plans have civil, structural, mechanical, and electrical components. Engineering analyses for the evaluation of the proposed T-wall to support the construction permit application and the SAR followed the USACE's Hurricane and Storm Damage Risk Reduction System Design Guidelines, dated June 2012. Global and local stability analyses were performed to evaluate the design and construction of the T-wall, including temporary flood protection (TFP) and temporary retaining structures (TRS). Stability analyses were also performed to address construction dewatering requirements for the pump station excavation with respect to the existing and proposed flood protection.

Our work to support the design included estimates of allowable axial pile load capacity for piles supporting the T-wall foundations as well as the pump station and discharge pipes. We also performed analyses to evaluate the potential for seepage and heave during and after construction for the proposed features. New generator pads were located adjacent to each pump station to house controls outside the new intake excavation.

Eustis Engineering is currently performing Engineering During Construction (EDC) services as required by the SAR. To date, we have responded to contractor requests for information (RFIs) and have performed submittal reviews. The EDC submittal reviews include the test pile program (TPP) plan, TRS and TFP methods, and sequences

PROJECT NO. 02

PROJECT NO. 02		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	proposed by the contractor. We evaluated the results of the TPP to confirm the design pile capacity as well as installation criteria. We will review the results of geotechnical instrumentation to monitor the excavation and dewatering, including piezometers and inclinometers.	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
04/2025 (E)	Unknown	\$109,826 (to date)

PROJECT NO. 03

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:					
<p style="text-align: center;"> Gretna City Park Proposed Water Capacity Improvements 910 Gretna Boulevard Gretna, Louisiana Eustis Engineering Project No. 24290 </p> <p style="text-align: center;"> Contact Information: Gretna City Park Through Waggoner & Ball Architects, APC 2200 Prytania Street New Orleans, Louisiana 70130 Andy Sternad @ 504-524-5308 </p>	<p>Open-air pavilion and pedestrian bridge structures were anticipated as part of the Gretna City Park upgrades. The pavilion structure would consist of an approximate 25' x 30' timber frame structure.</p> <p>In the field, Eustis Engineering's drill crew completed nine undisturbed soil borings, varying in depth from 10 to 75 feet below the existing ground surface. Additionally, our personnel performed two infiltration tests on site using the Compact Constant Head Permeameter (Amoozemeter®) procedure. Following the field investigation, our Metairie laboratory conducted natural water content, unconfined compression shear, and one-point unconsolidated undrained triaxial compression shear tests to inform the engineering design.</p> <p>Engineering analyses and recommendations included the following:</p> <ul style="list-style-type: none"> • slope stability analyses; • site preparation recommendations including drainage (both during construction and permanent) and subgrade preparation. • fill selection as well as its recommended compaction and its estimated settlement; • estimates of load capacity for treated ASTM D25 quality timber piles, as well as settlement estimates; • pile installation recommendations; • pavement design; and • material recommendations including components of the pavement itself and the use of geotextiles. <div style="text-align: center;">  </div>					
<p style="text-align: center;">Completion Date (Actual or Estimated)</p> <p style="text-align: center;">04/2020 (A)</p>	<p style="text-align: center;">Estimated Cost:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th data-bbox="672 1640 1081 1703" style="width: 50%;">Entire Project:</th> <th data-bbox="1081 1640 1487 1703" style="width: 50%;">Work for Which Firm Was Responsible:</th> </tr> </thead> <tbody> <tr> <td data-bbox="672 1703 1081 1736" style="text-align: center;">Unknown</td> <td data-bbox="1081 1703 1487 1736" style="text-align: center;">\$13,250</td> </tr> </tbody> </table>		Entire Project:	Work for Which Firm Was Responsible:	Unknown	\$13,250
Entire Project:	Work for Which Firm Was Responsible:					
Unknown	\$13,250					

PROJECT NO. 04

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center">Jefferson Parish Jung and Falcone Lift Station Upgrades (K-1.1-3) New Sanitary Sewer Lift Station Marrero, Louisiana Eustis Engineering Project No. 23819</p> <p align="center">Contact Information: Jefferson Parish Through Principal Engineering, Inc. Suite 19 1011 North Causeway Boulevard Mandeville, Louisiana 70471 Jeneva Hinojosa, E.I. @ 985-624-5001</p>	<p>The new lift station was to consist of a fiberglass wet well and fiberglass valve pit. The wet well was to be approximately 6 feet in diameter and 18 feet in depth. The valve pit was to be approximately 6 feet in diameter and 8 feet in depth. Site improvements were to include a gravity sewer line installed approximately 12 feet below grade and a force main approximately 4 feet below grade.</p> <p>Our field investigation included the drilling of one soil boring to a depth of 80 feet below the existing ground surface using one of our truck-mounted rigs. Once in our laboratory, samples selected by our engineering staff were subjected to soil mechanics laboratory tests including visual classification, natural water content, unit weight, unconfined compression shear, and one-point unconsolidated undrained triaxial compression shear.</p> <p>Using these data, our staff performed engineering analyses and developed recommendations for the project documented in a report including:</p> <ul style="list-style-type: none"> • recommendations for site preparation encompassing temporary and permanent drainage, dewatering and pressure relief of excavations, and ways to limit lateral movement; • methods for excavation, base preparation, and bedding associated with the sanitary gravity sewer line, wet well, and valve box; • estimates of lateral earthen pressures; • recommendations for material placement and compaction of backfill for the force main and sanitary sewer line; • allowable soil bearing value recommendations for the wet well and valve box; • allowable pile load capacities, in compression and tension, for treated ASTM D25 quality timber piles; and • settlement estimates for both ground-supported and pile-supported project features. 	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">06/2018 (A)</p>	<p align="center">Unknown</p>	<p align="center">\$4,900</p>

PROJECT NO. 05

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center">Southeast Louisiana Flood Protection Authority - East East Jefferson Levee District Gabrielle Subdivision Runoff Control Piping Near the Duncan Canal Pump Station Kenner, Louisiana Eustis Engineering Project Nos. 22537, 23474, and 24245</p> <p align="center">Contact Information: Southeast Louisiana Flood Protection Authority – East 6001 Stars and Stripes Boulevard Suite 225 New Orleans, Louisiana 70126 Chris Humphreys @ 504-262-8922</p>	<p>This project began with proposed pipeline rerouting at Pump Station No. 4, near Duncan Canal Pump Station, in Kenner, Louisiana. Eustis Engineering used existing geotechnical data obtained from previous projects at the site to perform global stability analyses to evaluate the existing hurricane protection levee and floodwall during and after construction of the proposed pipeline. Slope stability analyses for the proposed trench/excavation for the installation of the pipe followed the criteria provided in the U.S. Army Corps of Engineers' (USACE) Hurricane and Storm Damage Risk Reduction System Design Guidelines and were performed using the Spencer's Method of Slices coded within SLOPE/W. The slope stability analyses were performed for the T-wall and proposed protected side excavation for pipeline installation. We also computed Lane's Weighted Creep Ratio to evaluate piping potential into the excavation as the result of seepage during a high-water event.</p> <p>Using data obtained from these calculations, we provided construction recommendations for the contractor's use on the project.</p> <p>Fleming Construction Company, L.L.C., was contracted to install a 40-in. PVC drainage pipe in the proposed excavation. They provided construction drawings delineating the configuration of a Temporary Retaining Structure (TRS). In order to ensure the contractor's TRS design met the requirements of the construction permit, including review by the USACE, Eustis Engineering was retained to evaluate these drawings and provide comments. Subsequently, we provided clarification, revised calculations to accommodate plan changes, and responded to further queries and comments as needed.</p> <p>When this review process was completed and construction commenced, Eustis Engineering provided additional geotechnical services on this project, sampling earthwork and subjecting the samples to laboratory testing including compaction, Atterberg liquid and plastic limits testing, and the percent passing the No. 200 sieve. We also evaluated the results of monitoring operations performed by the contractor to confirm the TRS was behaving as predicted and within permit requirements.</p>	
<p align="center">Completion Date (Actual or Estimated)</p> <p align="center">05/2020 (A)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
	Unknown	\$32,200

PROJECT NO. 06

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center">Jefferson Parish Proposed Pump Station Blanchard Lane Grand Isle, Louisiana Eustis Engineering Project No. 24160</p> <p align="center">Contact Information: Jefferson Parish Through GIS Engineering, L.L.C. 197 Elysian Drive Houma, Louisiana 70363 Kyle Galloway @ 985-219-1000</p>	<p>Plans called for the pump station to be supported on timber or concrete piles. Three reinforced concrete inlet pipes were planned and two 24-in. diameter discharge pipes would be connected to the pump station. Each of the discharge pipes would be connected to a vertical pump with an electric motor housed on an elevated platform above the pump station. The pump station would have approximate plan dimensions of 14' x 16.33'. A design alternative, consisting of a grade-supported pump station (without pile support), was also evaluated as part of our investigation.</p> <p>In the field, one undisturbed boring was drilled for the project extending to a depth of 150 feet below the existing ground surface. In the laboratory, soil mechanics laboratory tests included visual classification, natural water content, unit weight, unconfined compression shear, and unconsolidated undrained triaxial compression shear tests.</p> <p>Engineering analyses and recommendations included the following:</p> <ul style="list-style-type: none"> • recommendations for groundwater management; • site preparation recommendations including excavation preparation and development of a working platform/bedding as well as a sealant slab; • recommended construction materials including geotextile fabric as well as structural fills and their compaction; • minimum requirements for temporary retaining structures; • dewatering and pressure relief associated with a working platform; • allowable soil bearing values for the pump station, net applied soil pressure, and settlement of the mat/slab-supported pump station; • consideration of hydrostatic uplift pressures; • lateral earthen pressures; • estimated allowable load capacities for various sizes of treated ASTM D25 quality timber piles and square, precast concrete piles; • estimated pile settlement due to sustained structural loads; and • pile installation recommendations. 	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
08/2019 (A)	Unknown	\$14,465

PROJECT NO. 07

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:					
<p align="center"> Jefferson Parish Proposed Drainage Improvements Geisenheimer Canal Between Loumor Ditch and Hoey's Cut Metairie, Louisiana Eustis Engineering Project No. 24281 </p> <p align="center"> Contact Information: Jefferson Parish Through Design Engineering, Inc. Suite 205 3330 West Esplanade Avenue Metairie, Louisiana 70002 John Holtgreve, P.E. @ 504-836-2155 </p>	<p>Drainage improvements were planned for a portion of Geisenheimer Drainage Canal between Loumor Ditch and Hoey's Cut in Metairie, Louisiana. A new box culvert would be installed north of and parallel to the existing Geisenheimer Drainage Canal over a distance of approximately 2,800 linear feet. The purpose of this project was to increase flow capacity. Tie-ins in the form of junction boxes would be required at three locations including the new and existing Loumor Ditch, Woodvine Ditch, and at Hoey's Cut. The existing covered canal generally consisted of an 8' x 15' box culvert supported by timber piles. A section of the Hoey's Cut covered canal indicated a 9.5' x 25' structure comprising concrete sheetpiles as the sidewalls. The new structure was planned to be an 8' x 12' box culvert supported at grade.</p> <p>Eustis Engineering had previously performed geotechnical explorations for prior project phases. To supplement these historic data, Eustis Engineering performed four cone penetration tests (CPTs) to a depth of 60 feet each below the existing ground surface. The CPTs were made with a track-mounted cone penetrometer rig. This exploration scope was selected to expedite the project schedule and keep field costs contained.</p> <p>Geotechnical engineering recommendations for the project included site preparation, managing drainage during and after construction, identifying demolition of existing features interfering with new construction, and the need for a temporary retaining structure (TRS) for excavations.</p> <p>Eustis Engineering analyzed at least one concept of a TRS considering application of factors of safety to the sheetpile penetration or to the soil design parameters. Other considerations for the TRS included recommendations for construction sequence; excavation; dewatering; lateral movement and soil subsidence; preparation of the excavation base; the bridge lift and bedding; sealant slab; and material selection and compaction for structural, non-structural, and embankment fill.</p> <p>Our personnel also analyzed earth and water pressures associated with the box culvert as well as the use of a grade-supported culvert base slab. Analyses associated with the slab included allowable soil bearing values, net applied pressure intensity, and settlement estimates. Differential settlement was considered in association with pavements, the existing pile-supported box culvert, and underground utilities.</p>					
<p align="center">Completion Date (Actual or Estimated)</p> <p align="center">03/2020 (A)</p>	<p align="center">Estimated Cost:</p> <table border="1" data-bbox="581 1648 1490 1743"> <thead> <tr> <th data-bbox="581 1648 1079 1711">Entire Project:</th> <th data-bbox="1079 1648 1490 1711">Work for Which Firm Was Responsible:</th> </tr> </thead> <tbody> <tr> <td align="center" data-bbox="581 1711 1079 1743">Unknown</td> <td align="center" data-bbox="1079 1711 1490 1743">\$12,100</td> </tr> </tbody> </table>		Entire Project:	Work for Which Firm Was Responsible:	Unknown	\$12,100
Entire Project:	Work for Which Firm Was Responsible:					
Unknown	\$12,100					

PROJECT NO. 08

**Project Name, Location, and
Owner's Contact Information:**

Nature of Firm's Responsibility:

Jefferson Parish
Hoey's Canal Drainage Improvements
(Phases II and III)
Deckbar Avenue to Labarre Road and
Labarre Road to Causeway Boulevard
Jefferson Parish, Louisiana
Eustis Engineering Project Nos.
21458, 22532, and 22532.01

Contact Information:
Jefferson Parish Through
Linfield, Hunter & Junius, Inc.
3608 18th Street
Metairie, Louisiana 70002
Robert Nockton, P.E. @ 504-833-5300

Eustis Engineering has performed multiple geotechnical explorations dating back to 1966 along Hoey's Canal for various modifications and improvements. Phases II and III of the proposed drainage improvements along Hoey's Canal included the deepening and lining of the canal using sheetpile walls and concrete slope paving for the upper slopes of the canal. Phase II extended from Deckbar Avenue (LA Highway 3139) to the railroad crossing near Labarre Road in Jefferson Parish, Louisiana. This portion of the drainage improvements was approximately 1,715 feet long and was a continuation of an earlier phase of the project that extended from Deckbar Avenue to Betz Avenue (approximately 805 feet long) tying into an existing sheetpile-lined canal. Phase III consisted of improvements to approximately 1,625 feet of Hoey's Canal from Causeway Boulevard to Labarre Road. Eustis Engineering was retained for Phase III because of our ability to deliver high quality geotechnical recommendations in a timely fashion to our clients and to Jefferson Parish.

For Phase II, Eustis Engineering drilled four undisturbed soil test borings using a truck-mounted, rotary-type drill rig. We drilled one soil boring to a depth of 130 feet and three borings to depths of 60 feet below the existing ground surface. For the Phase III exploration, we utilized data from one of the soil borings we obtained in Phase II in addition to drilling three borings to depths of 60 feet with a low ground pressure track-mounted drill rig. We coordinated with the New Orleans Public Belt Railroad (NOPBR) and Jefferson Parish to ensure our field exploration was performed safely and met the NOPBR and Parish requirements. The Phase III borings were drilled on the southern side of the canal because borings were not feasible on the northern side due to overhead electrical lines. Eustis Engineering performed soil mechanics laboratory tests on samples obtained from the borings during Phases II and III to evaluate the physical properties of the subsoils.

Based on existing data, soil borings, and laboratory test results, Eustis Engineering provided recommendations regarding site preparation, sheetpile analyses, global stability analyses, estimates of allowable pile load capacities for alternative flume support, estimates of allowable pile load capacities for the railroad bridge which would replace an existing culvert, and general construction recommendations. We also evaluated dewatering/pressure relief and heave which were major design challenges due to a shallow subsurface sand deposit located near the bottom of the deepened canal.

For Phase II, we provided supplemental engineering analyses which included addressing requests for information posed by the construction contractor and evaluating the pile load capacity results

PROJECT NO. 08

PROJECT NO. 08		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<p>from a static load test program. Our Phase III engineering scope addressed geotechnical related issues during construction with the construction contractor.</p> <p>We also performed additional engineering analyses for the project after our client discovered a new NOPBR track closer to Hoey's Canal. This new construction altered the cross-sections we evaluated in our previous study, requiring an evaluation of the impact on the proposed walls within Hoey's Canal.</p>	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
03/2017 (A)	Unknown	\$37,800

PROJECT NO. 09

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Bonnabel Canal Pamona Street to Nero Street Metairie, Louisiana Eustis Engineering Project No. 23387 </p> <p align="center"> Contact Information: Jefferson Parish Through BCG Engineering & Consulting, Inc. 3012 26th Street Metairie, Louisiana 70002 Ann Springston, P.E. @ 504-454-3866 </p>	<p>BCG Engineering & Consulting, Inc. (BCG) requested Eustis Engineering's consultation in finalizing the plans and providing support during construction of the proposed Bonnabel Canal east bank stabilization features. The construction planned for an approximate 1,600-ft stretch of the project that would extend from Pomona Street to Nero Street in Metairie, Louisiana. The furnished plans showed a 35-ft AZ26 sheetpile with a top at el 8 and a tip at el -27.</p> <p>Prior to these final design/construction phase services, Eustis Engineering had performed several geotechnical explorations for the project that were used as the basis of our updated design services. The most recent study was published in our report entitled "Geotechnical Investigation, Jefferson Parish, Bonnabel Canal, South of Veterans Boulevard to West Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 20438," dated 20 November 2009.</p> <p>Using the available data, Eustis Engineering performed local stability analyses of the new sheetpile wall configuration using CWALSHT to confirm that the proposed sheetpile tip embedment was sufficient.</p> <p>Additionally, we evaluated deep-seated global stability for the cantilever sheetpile wall using the Spencer's Method of Slices for non-circular and circular failures (with optimization search routines) with the software SLOPE/W, Version 8.16, GEOSLOPE International Ltd. These analyses also confirmed the proposed configuration was stable. Thus, the plans being developed could be finalized to provide for improved drainage within the tight construction corridor.</p>	
<p align="center">Completion Date (Actual or Estimated)</p> <p align="center">11/2017 (A)</p>	Estimated Cost:	
	<p align="center">Entire Project:</p> <p align="center">Unknown</p>	<p align="center">Work for Which Firm Was Responsible:</p> <p align="center">\$3,700</p>

PROJECT NO. 10

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center">Jefferson Parish L & A Road Improvements Dakin Street to Earhart Expressway Jefferson Parish, Louisiana Eustis Engineering Project No. 24.196</p> <p align="center">Contact Information: Jefferson Parish Through Linfield, Hunter & Junius, Inc. 3608 18th Street Metairie, Louisiana 70002 Anthony Goodgion @ 504-833-5300</p>	<p>Jefferson Parish proposed drainage improvements near the intersection of L & A Road and Blue Jay Way near a commercial section of Jefferson Parish.</p> <p>The Department of Public Works proposed a new box culvert be constructed within the existing 70-ft wide 11-ft deep Hoey's Canal. The new culvert, measuring 21 feet wide, with a 23-ft wide base, would span across approximately 340 linear feet along the southern stretch of L & A Road.</p> <p>Based on furnished data, we understood the culvert floor and top surface elevations would require 2 to 3 feet of fill above the culvert roof. In addition, the annular space between the existing canal bank and the culvert side walls would be backfilled to create a smooth transition between the existing canal bank crowns and the grade above the culvert.</p> <p>Two paved access roads would cross the culvert perpendicularly. Lastly, the southern end of the culvert would transition to the existing canal bank slopes with the assistance of wingwalls. Eustis Engineering was requested to analyze the culvert supported on shallow and deep foundations.</p> <p>We directed our drill crew to conduct one soil boring to a depth of 75 feet in the approximate culvert footprint. We then selected soil samples to perform soil mechanics laboratory tests to facilitate development of design parameters.</p> <p>We transmitted the results of the exploration and analyses in a formal report signed and sealed by one of our professional engineers. These analyses and recommendations included:</p> <ul style="list-style-type: none"> • site preparation and drainage, • excavations and dewatering/pressure relief (including temporary retaining structures), • fill material and compaction for pipe bedding, • allowable soil bearing values, • local and global stability analyses, • allowable pile load capacities for box culvert construction, • settlement due to structural loads, and • general construction procedures. 	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
09/2019 (A)	Unknown	\$6,150

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. None at this time.		
2.		
3.		
4.		

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

When Eustis Engineering L.L.C. opened its first office in Vicksburg, Mississippi, in 1946, it housed its entire operation in less than 500 square feet of space. *Seventy-eight years later*, our personnel and equipment occupy 40,000+ square feet of space in five locations.

Eustis Engineering is the third oldest, continually operating geotechnical firm in the United States. From a single two-man office to approximately 115 individuals in five offices, the firm has grown to house accounting, administrative, quality control, safety, drilling, engineering, laboratory, and construction materials testing departments. These departments work together to provide our clients with the quality work desired in a cost efficient and timely manner.

Eustis Engineering is headquartered in Metairie, Louisiana, in the heart of Jefferson Parish's East Bank. We also operate branch offices in Baton Rouge and Lafayette, Louisiana, Gulfport, Mississippi, and Houston, Texas. Our offices and staff collaborate seamlessly using Microsoft Teams and other virtual platforms.

Eustis Engineering's services encompass many disciplines including the performance of:

- subsurface exploration (drilling of soil borings, cone penetration testing, downhole vane, and Geoprobe®);
- soil mechanics laboratory tests;
- field instrumentation and monitoring;
- non-destructive testing of piles and shafts including dynamic pile testing, crosshole sonic logging, single-hole sonic logging, low strain pile integrity testing, and thermal integrity profiling;
- geotechnical engineering design;
- special inspections; and
- construction quality control and materials testing services.

Eustis Engineering L.L.C. Important Numbers	
Item	Number
Unique Entity Identifier (UEI)	R83MG9NLTMS4
CAGE Code	4MOP2
Firm License - Louisiana	EF.0003558
Firm License - Mississippi	2078
Firm Registration – Texas	13895

Eustis Engineering has worked on over 850 geotechnical and construction materials testing projects for Jefferson Parish Government entities, many of which focused on water facilities and infrastructure. We have also worked on over 4,000 projects of all types throughout the east and west banks of Jefferson Parish alone, not considering similar projects in the surrounding parishes. This work history gives our engineering staff

unparalleled familiarity with the foundation conditions in the Gulf Coast and the challenges that may arise for projects associated with this contract.

ENGINEERING SERVICES

Eustis Engineering has geotechnical engineering capabilities to fulfill the requirements of nearly any project. As evidenced by the included write-ups in this package, our experience with various water, sewer and drainage infrastructure projects is varied and extensive.

We have developed pile capacity and bearing capacity analyses for projects throughout Jefferson Parish and the coastal areas of the United States. Eustis Engineering’s evaluation of piles includes estimates of vertical capacity for groups. We also perform lateral analyses of individual piles and pile groups using LPILE® and GROUP® software. Our evaluation of bearing capacity considers the excavation depth, base preparation and utility diameter.

We evaluate local and deep-seated global stability of canals, waterway slopes and embankments as well as excavation shoring and sheeting. We provide assessments of heave, seepage and erosion control measures. We evaluate floodwalls, including I-walls, L-walls, T-walls and gates.

We perform settlement studies including estimates of settlement and time-rate of settlement with and without wick drains to enhance consolidation. These settlement studies include estimates and recommendations for lift construction affecting a gain-in-strength of foundation soils associated with subsoil consolidation. Preload/surcharge operations are also a component of our settlement evaluations.

In our practice, Eustis Engineering has developed methodologies associated with the estimates of negative skin friction on pile foundations. The methods are the current state of practice. The extension of these methods is an evaluation of settlement induced bending moments. Eustis Engineering is also utilizing a numerical model program, SIGMA/W, in association with the rigorous settlement program Settle3.

Engineering Staffing

Our engineering staff has 20 master’s degrees in Civil Engineering, Engineering, Engineering Management, Geology, and Business Administration. Participation in post-Bachelor of Science curricula, as well as continuing education and professional registration that emphasizes engineering management and technical issues, is very important to Eustis Engineering. Our engineers also regularly present at technical conferences. We encourage and fund our staff for these activities and programs.

Employee	Education	Experience	
		Years with Eustis Engineering	Total Years
Professional Engineers (P.E.)			
Benjamin M. Cody	M.S. / Civil Engineering	22	26
Brian A. Deschamp	B.A. / Business Administration	12	12
	M.S. / Civil Engineering – Geotechnical		

P. Tennant Duckworth	M.S. / Civil Engineering	3	3
James J. Hance	M.S. / Civil Engineering	20	24
	M.B.A. / Business Administration		
Chad L. Held	M.S. / Civil Engineering	33	33
Matthew K. Morales	B.S. / Civil Engineering	15	15
Tomas K. Morales	B.S. / Civil Engineering	10	10
Travis R. Richards	M.S. / Engineering	17	24
	M.S. / Engineering Management		
	Coastal Engineering Certificate		
Chad D. Roe	M.S. / Civil Engineering	1	11
Gwendolyn P. Sanders	M.S. / Engineering	31	31
Sanjay S. Shahji	M.S. / Civil Engineering	1	18
Shaun R. Simon	M.S. / Civil Engineering	24	24
Alice E. Stark	M.S. / Civil and Environmental Engineering	<1	8
Patrick A. Thurmond	M.S. / Engineering Management	9	9
	M.S. / Civil Engineering		
	Coastal Engineering Certificate		
Sean G. Walsh	M.S. / Civil Engineering	11	16
James M. Williams	M.S. / Civil Engineering	6	6
Henry C. Worley	M.S. / Engineering	6	7
	Coastal Engineering Certificate		
Engineering Interns (E.I.)			
Adam K. Abdulbagi	B.S. / Civil Engineering	1	1
Naba Almofraji	B.S. / Civil Engineering	<1	6
Alvaro E. Carvajal	B.S. / Civil Engineering	1	1
Joseph P. DiGiovanni	B.S. / Civil Engineering	1	1
Steven B. Tidwell	B.S. / Geological Engineering	<1	13
Engineering Graduates			
Alexander Soriano Doninelli	B.S. / Civil Engineering	<1	4
Lesley L. Reitmeyer	B.S. / Civil Engineering	15	15
Xia (Bruce) Xialong	PhD / Geotechnical Engineering	<1	10
	M.S. / Geotechnical Engineering		
Geologists			
Matthew J. Blasini, G.I.T.	B.S. / Geology	5	6
Nathan A. Quick, P.G.	M.S. / Geology	2	7
Total Years of Experience		246	341

Reviewing our table, the majority of Eustis Engineering's professional engineers have at least ten years of experience in geotechnical engineering.

Cone Penetration Testing Capabilities

Eustis Engineering owns two dedicated track-mounted cone penetration test (CPT) rigs and operates four other multi-purpose rigs capable of performing CPTs. Operators are either specifically trained engineering technicians or engineers who perform field operations utilizing the CPT equipment. Engineers with specialized knowledge and experience operating the rigs evaluate the sounds and produce the CPT logs. Five of our rigs can be placed on a cargo buggy, shallow draft barge, or airboat to access coastal marsh or open water. We have sounded to depths of 180 feet and have the ability to perform dissipation and seismic testing. Field testing is performed according to ASTM D5778 and common industry practices. Eustis Engineering has been performing CPTs and using CPT technology since the early 2000s.

A CPT can be accomplished rapidly with four or five being performed in the same time frame as a standard geotechnical boring; therefore, CPTs are typically cost-effective in providing enhanced subsurface exploration and better delineation of subsurface conditions at a project site.

Dynamic Pile Testing Capabilities

Eustis Engineering was the first private consulting firm to own and operate dynamic pile testing equipment in the States of Louisiana and Mississippi. The pile types tested include timber piles; small size pipe piles; square, precast concrete piles and large (60 to 72-in. diameter) spun-cast, prestressed concrete piles; open-end and closed-end steel pipe piles; and steel H-piles.

We often upgrade our data collectors and operate four Pile Driving Analyzers® (PDAs): one PAX unit and three PDA-8G units. These units can be battery operated and use wireless gauge transmitters to eliminate the need for a main cable to connect directly to the units. We also stock and use underwater gauges to monitor pile driving in marine environments when the pile head descends below the water surface. To support our four PDA units, Eustis Engineering maintains an extensive inventory of calibrated gauges and accessories. To provide quality assurance and rapid responses to issues in the field, all PDAs have wireless communication, enabling our engineers direct oversight of the dynamic pile testing process in real time.

We also use this PDA equipment to maintain the calibrations of our automatic Standard Penetration Test (SPT) hammers on our drill rigs.

Other Non-Destructive Testing Capabilities

Our engineering staff at Eustis Engineering performs other non-destructive testing services to verify the structural integrity of drilled shafts, augercast piles, and precast concrete piles. Some of these processes include crosshole/single-hole sonic logging (CSL or SSL), low strain pile integrity testing (PIT), and thermal integrity profiling (TIP™). We also perform parallel seismic testing to evaluate existing foundation depths.

INSTRUMENTATION

General Type (3-in. Diameter Borings) in Hard Access Locations (Marsh, Swamp, Heavily Forested)	X	X	X	X	X	X	X		X
Undisturbed Type (5-in. Diameter Borings)	X	X	X	X	X	X	X		X
Undisturbed Type (5-in. Diameter Borings) in Hard Access Locations (Marsh, Swamp, Heavily Forested)	X		X	X	X	X	X		X
Location Information (Latitude, Longitude)	X		X	X	X	X	X		X
Set Permanent Benchmarks	X		X	X	X	X	X		X
Install Instrumentation	X		X	X	X	X	X		X
Cone Penetration Tests						X		X	
Geoprobe Sampling		X	X			X	X		X

Field Exploration Equipment

Eustis Engineering owns and operates six wet rotary drill rigs, both truck-mounted and skid-mounted. This equipment includes one Diedrich truck-mounted D-50 turbo drill rig (with an automatic SPT hammer); one Failing skid only rig (with an automatic SPT hammer); one truck-mounted CME-55 rig; one track-mounted CME-850X rig with an automatic hammer; one track-mounted CME-850XR rig with an automatic hammer; and one truck-mounted CME-55 rig with a detachable CME-55 skid unit and automatic hammer. We also own two track-mounted cone penetrometer systems capable of providing up to 15 tons of reaction. Our CME track rigs provide low ground pressure and are designed to traverse soft ground surfaces, steep slopes, and lightly wooded areas. Eustis Engineering also owns four direct push Geoprobe units: two 3230DTs, the 6620DT, and the 540M. Eustis Engineering’s 6620DT/3230DT Geoprobe with their 12-in. tracks allow this equipment to be used on pavement as well as off road and in rugged terrain. The 6620DT and 3230DT rigs also can be placed on specialized equipment. This includes a jack-up barge and a cargo buggy for operations over marsh/water. These units can install shallow monitoring wells and other instrumentation. We also have the capability to perform CPTs and downhole vanes using the 3230DT rigs.

Our 540M Geoprobe can fit into confined spaces as narrow as 32 inches. The 540M can also be utilized on an airboat for coastal terrains.

Other Specialized Soil Sampling Equipment

In addition to our drill rigs, Eustis Engineering owns and operates an Acker Vane Shear to perform down hole in-situ testing. We also have hand augers to obtain samples at various depths for use in classification and stratification of soil deposits. This equipment can be used in association with handheld piston samplers to obtain small diameter samples. Finally, we operate a dynamic cone penetration tests (DCPTs) to assess the in-situ strength of undisturbed soils and compacted materials in accordance with ASTM D 6951.

Drone Capabilities

Eustis Engineering utilizes small Unmanned Aerial Systems (sUAS), more commonly known as “drones,” to enhance our services. We use drones to perform site inspections, field reconnaissance, pre/post-construction condition surveys, construction inspections, and other forms of visual monitoring. We currently operate a DJI Mavic Air 2S Drone piloted by a Part 107 Certified Remote Pilot.

LABORATORY SERVICES

Eustis Engineering's laboratories are constantly evolving with the purchase of new equipment on a yearly basis. Our gINT® data management software from Bentley allows for maximum efficiency in the production of boring logs and data entry.

Eustis Engineering has also acquired OpenGround®, Bentley's Cloud platform, which interfaces with a collection of geotechnical applications. OpenGround provides a comprehensive solution for collecting, reporting, managing, visualizing, analyzing, and accessing data. Its advanced digital workflows combine both subsurface and surface data into one cohesive design. This software provides Eustis Engineering's team members access to a data source via connected applications or a web portal, increasing both collaboration and efficiency. Improved access and reliability will save time and money in the planning, design, analysis, construction, and operation of infrastructure projects.

Eustis Engineering has also acquired KeyLAB® from Bentley. KeyLAB is the leading laboratory management system built specifically for geotechnical and construction materials testing laboratories. It improves our laboratory efficiency at every stage of the geotechnical and construction testing process, including sample and storeroom management, as well as electronic scheduling, testing, and reporting. It integrates with Microsoft Excel®, allowing for the efficient development of customized worksheets and reports.

Technical testing common to our laboratories includes ASTM; American Concrete Institute (ACI); State of Louisiana, Department of Transportation and Development (LaDOTD); AASHTO; FAA; and the U.S. Army Corps of Engineers (USACE). Our laboratories hold accreditations from AASHTO, LaDOTD, and the USACE.

Laboratory Staffing

Eustis Engineering currently has qualified technicians to sample construction materials and perform soil mechanics laboratory testing. These technicians are versed in the latest standards from ASTM, LaDOTD, MDOT, AASHTO, FAA, and the USACE. Many of our technicians have earned certifications with the National Institute for Certification in Engineering Technologies (NICET) in the area of geotechnical engineering technology and in the subfields of construction, exploration, generalist, and laboratory.

Laboratory Quality Control

In our effort to ensure the quality of our laboratory and materials testing, our programs are regularly inspected by outside agencies such as the USACE, the AMRL Group of the American Association of State Highway and Transportation Officials, and the CCRL Group of AASHTO. Eustis Engineering is also accredited by the Mississippi Department of Transportation.

Eustis Engineering has three soil mechanics laboratories where our laboratory practices and quality management system meet the requirements of AASHTO R 18 and ASTM E329. These offices are located in Metairie, Baton Rouge, and Gulfport. Individual offices may comply with ASTM quality system specifications including ASTM C1077, ASTM D366, and ASTM D3740. Accreditations in the various areas are shown below.

Metairie	Baton Rouge	Gulfport
Aggregate	Aggregate	Aggregate

Concrete
Masonry
Soil

Soil
Concrete
Spray Fire-Resistive Material

Asphalt
Concrete
Soil
Spray Fire-Resistive Material

To further show quality is paramount to Eustis Engineering, we have two individuals in charge of maintaining quality in our testing. Travis R. Richards, P.E., is the Engineer-In-Charge. Timmy Holleman, dedicated Quality Control Manager, oversees the calibration of our equipment and maintenance of our quality system. The biggest reward of our quality system is knowing our clients are confident our testing laboratories produce the highest quality results and conform to state and national standards.

CONSTRUCTION MATERIALS TESTING

Eustis Engineering has been involved in construction materials testing (CMT) and inspection on a regular basis since the mid-1980s. Over the past 30+ years, Eustis Engineering has accumulated a wealth of experienced technicians in these areas. Whether 20 feet down in an excavation or 20 stories up in a high rise, our CMT technicians are there providing the inspection services needed on individual projects.

Staffing

Eustis Engineering currently has nearly 30 technicians on staff to provide construction inspection services on a daily basis. These services encompass the areas of soils, piling, asphalt, concrete, steel, and others.

Services

Soils testing in the field is performed by means of density tests, fill placement inspection, and depth checks. These services are performed by technicians who have attended courses by Troxler or Humboldt in the use of nuclear density devices.

Piling services include the inspection of various types of piles, logging these piles, and performance of pile load tests with calibrated equipment. Load test results are, in turn, interpreted and reported by a registered engineer on our staff.

Our realm of concrete inspection includes the formulation and review of mix designs, quality control at the plant and in the field, materials testing and sampling, precast piling inspection, post tension inspection, floor flatness, and mortar and grout inspection. These services are performed by our ACI and NICET certified technicians.

Steel inspection may include the visual inspection of structural steel at the site or in the shop, steel and pipe coating sampling, post tension and welder certification witnessing, and the performance of ultrasonic and x-ray testing. These services are performed by members of our staff currently certified with AWS, ASNT, and/or ASME.

Other CMT services provided by Eustis Engineering personnel include fireproofing inspection, vibration and acoustical monitoring, paint inspection, and more.

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

Signature: 

Print Name: Gwendolyn P. Sanders, P.E.

Title: President

Date: 12 June 2024

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

Provision of Routine Engineering Services for
Drainage Projects in Jefferson Parish
 SOQ 24-015 | Resolution No. 144202

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:

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

<p>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.</p>		
<p>1. N/A</p>		
<p>2.</p>		
<p>H. Has this JOINT-VENTURE previously worked together? Please check: YES _____ NO _____ N/A</p>		
<p>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.</p>		
<p>Name & Address:</p>	<p>Specialty:</p>	<p>Worked with Firm Before (Yes or No):</p>
<p>1. N/A</p>		
<p>2.</p>		
<p>3.</p>		
<p>J. Please specify the total number of support personnel that may assist in the completion of the Project: _____ <u>26</u> (all personnel will be available for assignment to the project)</p>		

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:

- Lafitte Drainage Project, Town of Jean Lafitte, Jefferson Parish, LA
- Central Avenue Roadway Drainage & Water Main Improvements, Jefferson Parish, LA
- Orange Lane Drainage Pump Station Project (Drainage Mapping), Grand Isle, Jefferson Parish, LA
- Mounes Street Subsurface Drainage (Phase IV, Dickory Avenue to Elmwood Park Boulevard), Jefferson Parish, LA
- Coventry Drainage Pump Stations, River Ridge, Jefferson Parish, LA
- Metairie Road Drainage Evaluation, Metairie, Jefferson Parish, LA
- Bissonet Plaza Drainage Improvements (Phase 1, Elmwood Parkway and Craig Avenue), Metairie, Jefferson Parish, LA
- North Arnoult Drainage Pump Station Improvements, Jefferson Parish, LA
- Avenue D Drainage Improvements (Phase VIII: Allo Street), Metairie, Jefferson Parish, LA
- Westwego Drainage Pump Station No. 1, Jefferson Parish, LA
- Bayou Segnette Drainage Pump Station No. 1 Survey Verification, Jefferson Parish, LA
- West Bank Expressway, Phase I Drainage Map, from Peters Road to Manhattan Boulevard, Jefferson Parish, LA
- Paillet - Maplewood Drainage Improvements, Jefferson Parish, LA
- Jack & Bores Survey (Drainage Project), Waggaman, Jefferson Parish, LA
- Taft Park Pump Station and Drain Line Path, Jefferson Parish, LA
- Mazoue Ditch Improvements, Phase I, Jefferson Parish, LA
- Emergency Generators at 13 Pump Station Sites, Jefferson Parish, LA
- Oakwood/Terrytown Drainage Improvements, Jefferson Parish, LA
- Massachusetts Avenue Drainage Improvements, Jefferson Parish, LA
- Orleans Village Subdivision Drainage Improvements, Jefferson Parish, LA
- Morton & Ingrid Pump Station, Jefferson Parish, LA
- Hoey's Canal Drainage Improvements (Deckbar Ave to Labarre Rd), Jefferson Parish, LA
- Drainage Pump Station, Veterans North & South, Right-of-Way, 17th Street Canal, Jefferson Parish, LA
- Mounes Subsurface Drainage - Phase I, Jefferson Parish, LA
- Marlin Court Drainage Project, Jefferson Parish, LA

TEC Professional Services Questionnaire

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

- Woodland West Drainage Improvements - Phase 2A, Vulcan Dr & Telestar St, Jefferson Parish, LA
- Sub-Basin 3 Proposed Improvements (Meadow St & Myrtle St), Bunche Village, Jefferson Parish, LA
- Avenue D Drainage Improvements, Jefferson Parish, LA
- Oakwood Terrytown Drainage Improvements (HMGP) (Carol Sue Drainage Improvements), Jefferson Parish, LA
- Taft Park Pump Station and Drain Line Path, Jefferson Parish, LA
- Maplewood & Paillet HMGP Project, West Bank Subsurface Drainage Improvement Program Phase II, Jefferson Parish, LA
- Hillings Ditch/Drolla/Suave Road Drainage Improvements, Jefferson Parish, LA
- Route Topographic (including Lift Station/Force Main) Surveying Services, Jefferson Parish, LA
- Paillet Pump Station Access Road and Drainage Improvements, Jefferson Parish, LA
- Westgate Subdivision Subsurface Drainage Improvements, Jefferson Parish, LA
- Canal No. 17 Bank Stabilization Phase II, Jefferson Parish, LA
- Clearview Drainage Pump Station and St. Peter's Ditch, Jefferson Parish, LA
- Johnson Street Drainage Improvements (Phases I & II), Jefferson Parish, LA
- Hero Pump Station, Harvey, Jefferson Parish, LA
- West Bank Subsurface Drainage Improvement Project, Phase II, Bellemeade Boulevard to the Violet Canal Discharge, Jefferson Parish, LA
- Hilling Ditch Drainage Improvements, Jefferson Parish, LA
- Upper Kraak Pump Station, Jefferson Parish, LA
- Mason Ditch Drainage Improvements, Jefferson Parish, LA
- Hurricane Gustav Drainage Canal Repairs, East Bank, Jefferson Parish, LA
- Bannerwood Drainage Improvements, Jefferson Parish, LA
- Improvements to Bayou Segnette Drainage Pump Station No. 1, Jefferson Parish, LA
- Sena Drive Subsurface Drainage Improvements, Jefferson Parish, LA
- Drainage Improvements to the Canal No. 2 Culvert Crossing at California Avenue, Jefferson Parish, LA
- Kawanee Drive Drainage Improvements, Jefferson Parish, LA
- Mazoue Ditch Drainage Improvements Phase IV, Jefferson Parish, LA
- Goose Bayou Drainage Pump Station, Lafitte, Jefferson Parish, LA
- Fulton Street Pump Station, Jefferson Parish, LA
- Parish Line Pump Station (Pump Station No. 5), Jefferson Parish, LA
- Mazoue Ditch Drainage Improvements (Rose Crest Lane to Darby Lane), Jefferson Parish, LA
- Breaux Ditch Improvements, East Ames Boulevard - Leo Kenner Parkway, Jefferson Parish, LA
- Manson Ditch (ICRR Ditch) Survey, Jefferson 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
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)**

Coventry Drainage Pump Stations, River Ridge, Jefferson Parish, LA. BFM Corporation provided a Route Topographic Survey with Hydrographic Survey for the project, located in River Ridge, Louisiana. The levee and hydrographic survey area was noted as 400 feet wide (200 ft. in either direction of the extended centerline of Colonial Heights Road). The hydrographic survey extended 500 feet into the river from the water's edge. The full scope of the project also included research of public land records; location of property corners; establishing a baseline along the rear property line and; establishing Temporary Benchmarks. Existing improvements were located, as well as visible above ground utilities and those underground utilities with visible surface evidence. The survey further determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established above. Trees were also located. Spot elevations were taken at 50-foot intervals within the Limits of Survey. (\$89,780 (fee); 2020)

Orange Lane Pump Station Project, Grand Isle, Jefferson Parish, LA. The project consists of a new storm water pumping station on the intersection of Orange Lane at Orleans Avenue in Grand Isle, Louisiana. The scope of services includes obtaining topographical survey information and the preparation of a drainage map for the project. Phase 1 of the project involved the topographic and right of way surveying services; BFM conducted a site topographic survey at the proposed lift station site and provided boundary surveying to determine rights of way. Phase 2 of the project established the Drainage Map. BFM located all drainage structures within the Limits of Survey; this included ditches, culverts, drain inlets, and catch basins. A drone survey was executed to gather a 25 ft elevation grid throughout the project area. (\$32,280 (fee); 2020)

Mounes Street Subsurface Drainage (Phase IV, Dickory Avenue to Elmwood Park Boulevard), Jefferson Parish, LA. BFM provided topographic surveying services for Phase IV of the project, part of a multiphase program to improve drainage issues on Mounes Street. Phase IV of the project involved a topographic survey of the project, extending from Dickory Avenue to Elmwood Park Boulevard. Services provided by BFM included establishment of a baseline, setting temporary benchmarks (TBMs), elevation surveys, locating improvements and utilities as well as natural elements, and right-of-way surveying. (\$23,540 (fee); 2017)

Metairie Road Drainage Evaluation, Metairie, Jefferson Parish, LA. BFM Corporation provided Route Topographic Surveying for this Drainage Evaluation Project (PW 2018-024-DR) in Jefferson Parish. The scope of services included a full Route Topographic Survey (includes all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work) from gutter line to gutter line along Metairie Road from the westerly apparent right-of-way (ROW) of Causeway Boulevard to easterly apparent R/W of Focis Street. The project encompassed approximately 10,400 linear feet, with cross-sections and elevations surveyed included as part of the scope. (\$18,350 (fee); 2020)

Avenue D Drainage Improvements (Phase VIII: Allo Street), Metairie, Jefferson Parish, LA. BFM Corporation executed a Route Topographic Survey for the Allo Street project area, which extended from 4th Street to 6th Street. A baseline was established along the centerline of Allo Street, with Temporary Benchmarks at each intersection along the route. Cross sections taken on a 25 ft. grid. Existing improvements were located within the designated Limits of Survey, as were visible above-ground and underground utilities, piping, and natural features including trees and shrubbery. (\$12,855 (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)**

Westwego Drainage Pump Station No. 1, Jefferson Parish, LA. BFM Corporation provided services for a Limited Topographic Survey at the project site, Westwego Drainage Pump No. 1. The scope of services first re-established Site Horizontal and Vertical control, as these were established as part of a previous BFM project (BFM No. 9730). Services next included locating existing improvements within the designated Limits of Survey, taking elevations and cross sections, and verification of piping and utilities. (\$4,725 (fee); 2018)

Lafitte Drainage Project, Town of Jean Lafitte, Jefferson Parish, LA. BFM Corporation provided Route Topographic Surveying services for a proposed drainage servitude project in the Town of Jean Lafitte in Jefferson Parish, LA. The project built on a previous BFM project (No. 10309). The project also included provision of boundary surveying in order to provide a servitude plat with legal description. The topographic survey element included establishing a baseline along the route, location of existing improvements, location of drainage, sewerage, and water structures, locating trees and drip lines, and taking spot elevations. For the Servitude Survey, BFM located property corners on the affected properties, and adjacent lots, to verify the boundary. Deliverables included a detailed indelible prints and high-resolution PDFs, cross sections & Three-Point TIE worksheet, a metes-and-bounds legal description of the servitude, and AutoCAD drawing files in DWG format. (\$11,875 (fee); 2022)

Central Avenue Roadway Drainage & Water Main Improvements, Jefferson Parish, LA. BFM Corporation provided surveying services for the project; the scope of which consisted of verifying pipe sizes and inverts for drainage structures along the west side (only) of Central Avenue, which was located during a previous BFM project. BFM located any new drainage structures within the previous survey limits and determined the depth, size, and type of pipes within each drainage structure which were shown on the previous survey. This included catch basins, drop inlets, and ditch culvert pipes. Alterations/updates were noted on an updated version of the previous survey. (\$2,850 (fee); 2022)

Orange Lane Pump Station Project, Grand Isle, Jefferson Parish, LA. The project consists of a new storm water pumping station on the intersection of Orange Lane at Orleans Avenue in Grand Isle, Louisiana. The scope of services includes obtaining topographical survey information and the preparation of a drainage map for the project. Phase 1 of the project involved the topographic and right of way surveying services; BFM conducted a site topographic survey at the proposed lift station site and provided boundary surveying to determine rights of way. Phase 2 of the project established the Drainage Map. BFM located all drainage structures within the Limits of Survey; this included ditches, culverts, drain inlets, and catch basins. A drone survey was executed to gather a 25 ft elevation grid throughout the project area. (\$32,280 (fee); 2020)

Metairie Road Drainage Evaluation, Metairie, Jefferson Parish, LA. BFM Corporation provided Route Topographic Surveying for this Drainage Evaluation Project (PW 2018-024-DR) in Jefferson Parish. The scope of services included a full Route Topographic Survey (includes all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work) from gutter line to gutter line along Metairie Road from the westerly apparent right-of-way (ROW) of Causeway Boulevard to easterly apparent R/W of Focis Street. The project encompassed approximately 10,400 linear feet, with cross-sections and elevations surveyed included as part of the scope. (\$18,350 (fee); 2020)

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).

Metairie Road Drainage Evaluation, Metairie, Jefferson Parish, LA. BFM Corporation provided Route Topographic Surveying for this Drainage Evaluation Project (PW 2018-024-DR) in Jefferson Parish. The scope of services included a full Route Topographic Survey (includes all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work) from gutter line to gutter line along Metairie Road from the westerly apparent right-of-way (ROW) of Causeway Boulevard to easterly apparent R/W of Focus Street. The project encompassed approximately 10,400 linear feet, with cross-sections and elevations surveyed included as part of the scope. (\$18,350 (fee); 2020)

TEC Professional Services Questionnaire

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

Mounes Street Subsurface Drainage (Phase IV, Dickory Avenue to Elmwood Park Boulevard), Jefferson Parish, LA. BFM provided topographic surveying services for Phase IV of the project, part of a multiphase program to improve drainage issues on Mounes Street. Phase IV of the project involved a topographic survey of the project, extending from Dickory Avenue to Elmwood Park Boulevard. Services provided by BFM included establishment of a baseline, setting temporary benchmarks (TBMs), elevation surveys, locating improvements and utilities as well as natural elements, and right-of-way surveying. (\$23,540 (fee); 2017)

Westwego Drainage Pump Station No. 1, Jefferson Parish, LA. BFM Corporation provided services for a Limited Topographic Survey at the project site, Westwego Drainage Pump No. 1. The scope of services first re-established Site Horizontal and Vertical control, as these were established as part of a previous BFM project (BFM No. 9730). Services next included locating existing improvements within the designated Limits of Survey, taking elevations and cross sections, and verification of piping and utilities. (\$4,725 (fee); 2018)

Fulton Street Pump Station, Jefferson Parish, LA. BFM Corporation provided boundary with topographic survey for the Fulton Street Pump Station project. The scope of services included establishing horizontal control, setting Temporary Benchmarks, and plotting the location of improvements & topographic elements (man-made and natural). BFM also determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established. For the topographic survey, spot elevations did not exceed a 25-foot grid within the Limits of Survey and included bottom of canal elevations along adjacent wall. (\$11,890 (fee); 2017)

Bayou Segnette Drainage Pump Station No. 1 Survey Verification, Jefferson Parish, LA. BFM Corporation provided surveying services to verify horizontal and vertical control for the project site; an extension of a previous BFM project (#9303) where the firm provided topographic surveying services. Full documentation for the horizontal and vertical values of the control points established was provided. (\$550 (fee); 2020)

Central Avenue Roadway Drainage & Water Main Improvements, Jefferson Parish, LA. BFM Corporation provided surveying services for the project; the scope of which consisted of verifying pipe sizes and inverts for drainage structures along the west side (only) of Central Avenue, which was located during a previous BFM project. BFM located any new drainage structures within the previous survey limits and determined the depth, size, and type of pipes within each drainage structure which were shown on the previous survey. This included catch basins, drop inlets, and ditch culvert pipes. Alterations/updates were noted on an updated version of the previous survey. (\$2,850 (fee); 2022)

Goose Bayou Drainage Pump Station, Lafitte, Jefferson Parish, LA. BFM Corporation provided boundary and topographic surveying services for the project. The scope of services included obtaining available title data, supplemented with courthouse research. BFM located property corners to establish rights-of-way, setting a closed traverse around the site, establishing Temporary Benchmarks (TBM), taking elevations, and plotting the location of improvements and topographic features, both natural and man-made. The scope of services included producing cross sections and plotting spot elevations on paving or other hard surfaces. (\$11,905 (fee); 2016)

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:	
Name & Title:	
<p>John Philip Thayer Procurement Director (Proposals & Project Management Support)</p>	
Project Assignment:	
Project Management Support	
Name of Firm with which associated:	
 Professional Land & Hydrographic Surveying	
Years' experience with this Firm:	
16 years (joined BFM in 2008); 17 years total (2007)	<i>BFM Corporation, LLC 2008 to present</i> <i>Delle Land Surveying 2007 to 2008</i>
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:	
<p>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.</p> <p>Mounes Subsurface Drainage – Phase I, Jefferson Parish, LA. BFM provided all requested topographic surveying services for Phase I of the Mounes Subsurface Drainage project, which extended from Dickory to Elmwood Park Boulevard). (\$26,240 (fee); 2017)</p> <p>Drainage Pump Station, Veterans North & South, Right-of-Way, 17th Street Canal, Jefferson Parish, LA. BFM prepared a topographic survey (with right of way & underground utilities locations) for this proposed pump station project. (\$26,540 (fee); 2014)</p> <p>Goose Bayou Drainage Pump Station, Lafitte, Jefferson Parish, LA. BFM Corporation provided boundary and topographic surveying services for the project. The scope of services included obtaining available title data, supplemented with courthouse research. BFM located property corners to establish rights-of-way, setting a closed traverse around the site, establishing Temporary Benchmarks (TBM), taking elevations, and plotting the location of improvements and topographic features, both natural and man-made. The scope of services included producing cross sections and plotting spot elevations on paving or other hard surfaces. (\$11,905 (fee); 2016)</p>	

TEC Professional Services Questionnaire

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

Fulton Street Pump Station, Jefferson Parish, LA. BFM Corporation provided boundary with topographic survey for the Fulton Street Pump Station project. The scope of services included establishing horizontal control, setting Temporary Benchmarks, and plotting the location of improvements & topographic elements (man-made and natural). BFM also determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established. For the topographic survey, spot elevations did not exceed a 25-foot grid within the Limits of Survey and included bottom of canal elevations along adjacent wall. (\$11,890 (fee); 2017)

Avenue D Drainage Improvements (Phase VIII: Allo Street), Metairie, Jefferson Parish, LA. BFM Corporation executed a Route Topographic Survey for the Allo Street project area, which extended from 4th Street to 6th Street. A baseline was established along the centerline of Allo Street, with Temporary Benchmarks at each intersection along the route. Cross sections taken on a 25 ft. grid. Existing improvements were located within the designated Limits of Survey, as were visible above-ground and underground utilities, piping, and natural features including trees and shrubbery. (\$12,855 (fee); 2019)

Westwego Drainage Pump Station No. 1, Jefferson Parish, LA. BFM Corporation provided services for a Limited Topographic Survey at the project site, Westwego Drainage Pump No. 1. The scope of services first re-established Site Horizontal and Vertical control, as these were established as part of a previous BFM project (BFM No. 9730). Services next included locating existing improvements within the designated Limits of Survey, taking elevations and cross sections, and verification of piping and utilities. (\$4,725 (fee); 2018)

Morton & Ingrid Pump Station, Jefferson Parish, LA. BFM executed a topographic survey, beginning at the Morton & Ingrid Pump Station, with said survey running along Morton Street to Elizabeth Street then continuing along Elizabeth Street towards West Napoleon Avenue and ending at the Elizabeth Street Pump Station. (\$27,500 (fee); 2012)

Oakwood Terrytown Drainage Improvements (HMGP) (Carol Sue Drainage Improvements), Jefferson Parish, LA. BFM provided topographic surveying services for the project. (JP PW 200-062-DR) (\$23,581 (fee); 2011)

West Bank Subsurface Drainage Improvement Project, Phase II, Bellemeade Boulevard to the Violet Canal Discharge, Jefferson Parish, LA. BFM provided topographic surveying for the project, which encompassed Bellemeade Boulevard from Briargrove to Brookmeade and Brookmeade from Bellemeade to the Violet Canal Discharge. (\$16,108 (fee); 2010)

Sena Drive Subsurface Drainage Improvements, Jefferson Parish, LA. BFM provided topographic surveying services for the Sena Drive Subsurface Drainage Improvements project, which extended along Sena Drive from West Esplanade Avenue (Canal No. 2) to Nero Street. (\$13,364 (fee); 2010)

Massachusetts Avenue Drainage Improvements, Jefferson Parish, LA. BFM provided topographic surveying services for the project, which extended from W Napoleon Avenue to Veterans Memorial Boulevard. (\$28,515 (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:	
 Professional Land & Hydrographic Surveying	
Years' experience with this Firm:	
15 years (joined BFM in 2009); 27 years total (1997)	<i>BFM Corporation, LLC 2009 to present</i> <i>Fluor Corporation 2007 to 2009</i> <i>Geographic Computer Technologies, LLC 2000 to 2007</i>
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:	
<p>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.</p> <p>Fulton Street Pump Station, Jefferson Parish, LA. BFM Corporation provided boundary with topographic survey for the Fulton Street Pump Station project. The scope of services included establishing horizontal control, setting Temporary Benchmarks, and plotting the location of improvements & topographic elements (man-made and natural). BFM also determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established. For the topographic survey, spot elevations did not exceed a 25-foot grid within the Limits of Survey and included bottom of canal elevations along adjacent wall. (\$11,890 (fee); 2017)</p> <p>Central Avenue Roadway Drainage & Water Main Improvements, Jefferson Parish, LA. BFM Corporation provided surveying services for the project; the scope of which consisted of verifying pipe sizes and inverts for drainage structures along the west side (only) of Central Avenue, which was located during a previous BFM project. BFM located any new drainage structures within the previous survey limits and determined the depth, size, and type of pipes within each drainage structure which were shown on the previous survey. This included catch basins, drop inlets, and ditch culvert pipes. Alterations/updates were noted on an updated version of the previous survey. (\$2,850 (fee); 2022)</p>	

TEC Professional Services Questionnaire

Other experience and qualifications: **Dawn Hoffman (continued)**

Goose Bayou Drainage Pump Station, Lafitte, Jefferson Parish, LA. BFM Corporation provided boundary and topographic surveying services for the project. The scope of services included obtaining available title data, supplemented with courthouse research. BFM located property corners to establish rights-of-way, setting a closed traverse around the site, establishing Temporary Benchmarks (TBM), taking elevations, and plotting the location of improvements and topographic features, both natural and man-made. The scope of services included producing cross sections and plotting spot elevations on paving or other hard surfaces. (\$11,905 (fee); 2016)

Mounes Street Subsurface Drainage (Phase IV, Dickory Avenue to Elmwood Park Boulevard), Jefferson Parish, LA. BFM provided topographic surveying services for Phase IV of the project, part of a multiphase program to improve drainage issues on Mounes Street. Phase IV of the project involved a topographic survey of the project, extending from Dickory Avenue to Elmwood Park Boulevard. Services provided by BFM included establishment of a baseline, setting temporary benchmarks (TBMs), elevation surveys, locating improvements and utilities as well as natural elements, and right-of-way surveying. (\$23,540 (fee); 2017)

Lafitte Drainage Project, Town of Jean Lafitte, Jefferson Parish, LA. BFM Corporation provided Route Topographic Surveying services for a proposed drainage servitude project in the Town of Jean Lafitte in Jefferson Parish, LA. The project built on a previous BFM project (No. 10309). The project also included provision of boundary surveying in order to provide a servitude plat with legal description. The topographic survey element included establishing a baseline along the route, location of existing improvements, location of drainage, sewerage, and water structures, locating trees and drip lines, and taking spot elevations. For the Servitude Survey, BFM located property corners on the affected properties, and adjacent lots, to verify the boundary. Deliverables included a detailed indelible prints and high-resolution PDFs, cross sections & Three-Point TIE worksheet, a metes-and-bounds legal description of the servitude, and AutoCAD drawing files in DWG format. (\$11,875 (fee); 2022)

Orange Lane Pump Station Project, Grand Isle, Jefferson Parish, LA. The project consists of a new storm water pumping station on the intersection of Orange Lane at Orleans Avenue in Grand Isle, Louisiana. The scope of services includes obtaining topographical survey information and the preparation of a drainage map for the project. Phase 1 of the project involved the topographic and right of way surveying services; BFM conducted a site topographic survey at the proposed lift station site and provided boundary surveying to determine rights of way. Phase 2 of the project established the Drainage Map. BFM located all drainage structures within the Limits of Survey; this included ditches, culverts, drain inlets, and catch basins. A drone survey was executed to gather a 25 ft elevation grid throughout the project area. (\$32,280 (fee); 2020)

Bayou Segnette Drainage Pump Station No. 1 Survey Verification, Jefferson Parish, LA. BFM Corporation provided surveying services to verify horizontal and vertical control for the project site; an extension of a previous BFM project (#9303) where the firm provided topographic surveying services. Full documentation for the horizontal and vertical values of the control points established was provided. (\$550 (fee); 2020)

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:	
 Professional Land & Hydrographic Surveying	
Years' experience with this Firm:	
13 years (joined BFM in 2011); 33 years total (1991)	<i>BFM Corporation, LLC 2011 to present</i> <i>Krebs LaSalle Lemieux / GEC 2008 to 2011</i> <i>Doug Connally and Associates Land Surveying (Dallas, TX) 1995-2008</i> <i>Electrician 1991 to 1995</i> <i>City of Plano TX (Part-Time Drafting Services) 1991</i>
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:	
<p>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.</p> <p>Avenue D Drainage Improvements (Phase VIII: Allo Street), Metairie, Jefferson Parish, LA. BFM Corporation executed a Route Topographic Survey for the Allo Street project area, which extended from 4th Street to 6th Street. A baseline was established along the centerline of Allo Street, with Temporary Benchmarks at each intersection along the route. Cross sections taken on a 25 ft. grid. Existing improvements were located within the designated Limits of Survey, as were visible above-ground and underground utilities, piping, and natural features including trees and shrubbery. (\$12,855 (fee); 2019)</p> <p>Orange Lane Pump Station Project, Grand Isle, Jefferson Parish, LA. The project consists of a new storm water pumping station on the intersection of Orange Lane at Orleans Avenue in Grand Isle, Louisiana. The scope of services includes obtaining topographical survey information and the preparation of a drainage map for the project. Phase 1 of the project involved the topographic</p>	

TEC Professional Services Questionnaire

Other experience and qualifications: **Anthony Watson (continued)**

and right of way surveying services; BFM conducted a site topographic survey at the proposed lift station site and provided boundary surveying to determine rights of way. Phase 2 of the project established the Drainage Map. BFM located all drainage structures within the Limits of Survey; this included ditches, culverts, drain inlets, and catch basins. A drone survey was executed to gather a 25 ft elevation grid throughout the project area. (\$32,280 (fee); 2020)

Bissonet Plaza Drainage Improvements (Phase 1), Metairie, Jefferson Parish, LA. BFM prepared a Route Topographic Survey for Phase 1 of the project, located at Elmwood Parkway and Craig Avenue. This project built upon work executed by the firm for a previous extensive surveying project involving Bissonet Plaza subdivision; this allowed for BFM to build upon established surveys to save time and expenses. Surveying for each element of the project included services included confirming all controls and benchmarks, topographic features, location of improvements and utilities, location of natural elements as applicable, and notation of right-of-way points. (\$7,980 (fee); 2020)

Goose Bayou Drainage Pump Station, Lafitte, Jefferson Parish, LA. BFM Corporation provided boundary and topographic surveying services for the project. The scope of services included obtaining available title data, supplemented with courthouse research. BFM located property corners to establish rights-of-way, setting a closed traverse around the site, establishing Temporary Benchmarks (TBM), taking elevations, and plotting the location of improvements and topographic features, both natural and man-made. The scope of services included producing cross sections and plotting spot elevations on paving or other hard surfaces. (\$11,905 (fee); 2016)

Mounes Street Subsurface Drainage (Phase IV, Dickory Avenue to Elmwood Park Boulevard), Jefferson Parish, LA. BFM provided topographic surveying services for Phase IV of the project, part of a multiphase program to improve drainage issues on Mounes Street. Phase IV of the project involved a topographic survey of the project, extending from Dickory Avenue to Elmwood Park Boulevard. Services provided by BFM included establishment of a baseline, setting temporary benchmarks (TBMs), elevation surveys, locating improvements and utilities as well as natural elements, and right-of-way surveying. (\$23,540 (fee); 2017)

North Arnoult Drainage Pump Station Improvements, Jefferson Parish, LA. Project involved a boundary with topographic survey, establishing a baseline parallel to the right-of-way. Points of intersection set were referenced by 3-point ties to topographic features in the area. Two temporary benchmarks were established. Existing improvements were located, including utilities, piping, and natural elements. Building corners within the limits of survey were also located, as were property corners in order to determine the rights-of-way and property boundary limits. (\$6,870 (fee); 2019)

Fulton Street Pump Station, Jefferson Parish, LA. BFM Corporation provided boundary with topographic survey for the Fulton Street Pump Station project. The scope of services included establishing horizontal control, setting Temporary Benchmarks, and plotting the location of improvements & topographic elements (man-made and natural). BFM also determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established. For the topographic survey, spot elevations did not exceed a 25-foot grid within the Limits of Survey and included bottom of canal elevations along adjacent wall. (\$11,890 (fee); 2017)

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).

Coventry Drainage Pump Stations, River Ridge, Jefferson Parish, LA. BFM Corporation provided a Route Topographic Survey with Hydrographic Survey for the project, located in River Ridge, Louisiana. The levee and hydrographic survey area was noted as 400 feet wide (200 ft. in either direction of the extended centerline of Colonial Heights Road). The hydrographic survey extended 500 feet into the river from the water's edge. The full scope of the project also included research of public land records; location of property corners; establishing a baseline along the rear property line and; establishing Temporary Benchmarks. Existing improvements were located, as well as visible above ground utilities and those underground utilities with visible surface evidence. The survey further determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established above. Trees were also located. Spot elevations were taken at 50-foot intervals within the Limits of Survey. (\$89,780 (fee); 2020)

TEC Professional Services Questionnaire

Other experience and qualifications: **Curtis "Jay" Barrios (continued)**

Central Avenue Roadway Drainage & Water Main Improvements, Jefferson Parish, LA. BFM Corporation provided surveying services for the project; the scope of which consisted of verifying pipe sizes and inverts for drainage structures along the west side (only) of Central Avenue, which was located during a previous BFM project. BFM located any new drainage structures within the previous survey limits and determined the depth, size, and type of pipes within each drainage structure which were shown on the previous survey. This included catch basins, drop inlets, and ditch culvert pipes. Alterations/updates were noted on an updated version of the previous survey. (\$2,850 (fee); 2022)

Fulton Street Pump Station, Jefferson Parish, LA. BFM Corporation provided boundary with topographic survey for the Fulton Street Pump Station project. The scope of services included establishing horizontal control, setting Temporary Benchmarks, and plotting the location of improvements & topographic elements (man-made and natural). BFM also determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established. For the topographic survey, spot elevations did not exceed a 25-foot grid within the Limits of Survey and included bottom of canal elevations along adjacent wall. (\$11,890 (fee); 2017)

Goose Bayou Drainage Pump Station, Lafitte, Jefferson Parish, LA. BFM Corporation provided boundary and topographic surveying services for the project. The scope of services included obtaining available title data, supplemented with courthouse research. BFM located property corners to establish rights-of-way, setting a closed traverse around the site, establishing Temporary Benchmarks (TBM), taking elevations, and plotting the location of improvements and topographic features, both natural and man-made. The scope of services included producing cross sections and plotting spot elevations on paving or other hard surfaces. (\$11,905 (fee); 2016)

Orange Lane Pump Station Project, Grand Isle, Jefferson Parish, LA. The project consists of a new storm water pumping station on the intersection of Orange Lane at Orleans Avenue in Grand Isle, Louisiana. The scope of services includes obtaining topographical survey information and the preparation of a drainage map for the project. Phase 1 of the project involved the topographic and right of way surveying services; BFM conducted a site topographic survey at the proposed lift station site and provided boundary surveying to determine rights of way. Phase 2 of the project established the Drainage Map. BFM located all drainage structures within the Limits of Survey; this included ditches, culverts, drain inlets, and catch basins. A drone survey was executed to gather a 25 ft elevation grid throughout the project area. (\$32,280 (fee); 2020)

Lafitte Drainage Project, Town of Jean Lafitte, Jefferson Parish, LA. BFM Corporation provided Route Topographic Surveying services for a proposed drainage servitude project in the Town of Jean Lafitte in Jefferson Parish, LA. The project built on a previous BFM project (No. 10309). The project also included provision of boundary surveying in order to provide a servitude plat with legal description. The topographic survey element included establishing a baseline along the route, location of existing improvements, location of drainage, sewerage, and water structures, locating trees and drip lines, and taking spot elevations. For the Servitude Survey, BFM located property corners on the affected properties, and adjacent lots, to verify the boundary. Deliverables included a detailed indelible prints and high-resolution PDFs, cross sections & Three-Point TIE worksheet, a metes-and-bounds legal description of the servitude, and AutoCAD drawing files in DWG format. (\$11,875 (fee); 2022)

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:	
<p>Lafitte Drainage Project, Town of Jean Lafitte, Jefferson Parish, Louisiana</p> <p>Professional Engineering & Environmental Consultants, Inc. 1065 Muller Pkwy Ste B Westwego LA 70094</p> <p>Jeffrey P. Meyers, P.E., 225-268-6925 jeff@peecinc.com</p>	<p>BFM provided Route Topographic Surveying services for a proposed drainage servitude project which built on a previous BFM project (No. 10309). The project also included provision of boundary surveying in order to provide a servitude plat with legal description. The topographic survey element included establishing a baseline along the route, location of existing improvements, location of drainage, sewerage, and water structures, locating trees and drip lines, and taking spot elevations. For the Servitude Survey, BFM located property corners on the affected properties, and adjacent lots, to verify the boundary. Deliverables included a detailed indelible prints and high-resolution PDFs, cross sections & Three-Point TIE worksheet, a metes-and-bounds legal description of the servitude, and AutoCAD drawing files in DWG format.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
July 2022	N/A	\$11,875 (fee)

PROJECT NO. 2		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Central Avenue Roadway Drainage & Water Main Improvements, Jefferson Parish, Louisiana</p> <p>Jefferson Parish Department of Capital Projects 1221 Elmwood Park Blvd Ste 906 Jefferson LA 70123</p> <p>Neil Schneider, 504-736-6833 nschneider@jeffparish.net</p>	<p>BFM's scope of services consisted of verifying pipe sizes and inverts for drainage structures along the west side (only) of Central Avenue, which was located during a previous BFM project. BFM located any new drainage structures within the previous survey limits and determined the depth, size, and type of pipes within each drainage structure which were shown on the previous survey. This included catch basins, drop inlets, and ditch culvert pipes. Alterations/updates were noted on an updated version of the previous survey.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
April 2023	N/A	\$2,850 (fee)

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Orange Lane Drainage Pump Station Project (Drainage Mapping), Grand Isle, Jefferson Parish, Louisiana</p> <p>AIMS Group, Inc. 4421 Zenith Street Metairie LA 70001</p> <p>Lowell Pitre, P.E., 504-887-7045 ljp@aimsgroupinc.com</p>	<p>The project consists of a new storm water pumping station on the intersection of Orange Lane at Orleans Avenue in Grand Isle, Louisiana. The scope of services includes obtaining topographical survey information and the preparation of a drainage map for the project. Phase 1 of the project involved the topographic and right of way surveying services; BFM conducted a site topographic survey at the proposed lift station site and provided boundary surveying to determine rights of way. Phase 2 of the project established the Drainage Map. BFM located all drainage structures within the Limits of Survey; this included ditches, culverts, drain inlets, and catch basins. A drone survey was executed to gather a 25 ft elevation grid throughout the project area.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
August 2020	N/A	\$32,280 (fee)

PROJECT NO. 4		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Mounes Street Subsurface Drainage (Phase IV, Dickory Avenue to Elmwood Park Boulevard), Jefferson Parish, Louisiana</p> <p>APTIM 2424 Edenborn Avenue Suite 450 Metairie LA 70001</p> <p>Gene S. Gillen, P.E., 504-832-4881 info@aptim.com</p>	<p>BFM provided topographic surveying services for Phase IV of the project, part of a multiphase program to improve drainage issues on Mounes Street. Phase IV of the project involved a topographic survey of the project, extending from Dickory Avenue to Elmwood Park Boulevard. Services provided by BFM included establishment of a baseline, setting temporary benchmarks (TBMs), elevation surveys, locating improvements and utilities as well as natural elements, and right-of-way surveying.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
December 2017	N/A	\$23,540 (fee)

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Coventry Drainage Pump Stations, River Ridge, Jefferson Parish, Louisiana</p> <p>ECM Consultants, Inc. 4409 Utica Street Suite 200 Metairie LA 70006</p> <p>Sunina Shrestha, P.E., 504-885-4080 sshrestha@ecmconsultants.com</p>	<p>BFM provided a Route Topographic Survey with Hydrographic Survey. The levee and hydrographic survey area was noted as 400 feet wide (200 ft. in either direction of the extended centerline of Colonial Heights Rd.). The hydrographic survey extended 500 ft. into the river from the water's edge. The full scope of the project also included research of public land records; location of property corners; establishing a baseline along the rear property line and; establishing Temporary Benchmarks. Existing improvements were located, as well as visible above ground utilities and those underground utilities with visible surface evidence. The survey further determined the depth, size, and type of pipes within surface observable drainage, sewerage, and water structures as established above. Trees were also located. Spot elevations were taken at 50-ft. intervals within the Limits of Survey.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
June 2020	N/A	\$89,780 (fee)

PROJECT NO. 6		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Metairie Road Drainage Evaluation, Metairie, Jefferson Parish, Louisiana</p> <p>GEC, Inc. 3445 N Causeway Blvd Ste 401 Metairie LA 70002-3779</p> <p>Jerome Lohmann, 504-207-6926 jlohmann@gecinc.com</p>	<p>BFM provided Route Topographic Surveying for this Drainage Evaluation Project (PW 2018-024-DR) in Jefferson Parish. The scope of services included a full Route Topographic Survey (includes all services, utilities, properties, elevations and items necessary to perform any and all engineering and construction work) from gutter line to gutter line along Metairie Road from the westerly apparent right-of-way (ROW) of Causeway Boulevard to easterly apparent R/W of Focis Street. The project encompassed approximately 10,400 linear feet, with cross-sections and elevations surveyed included as part of the scope.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2020	N/A	\$18,350 (fee)

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Bissonet Plaza Drainage Improvements (Phase 1, Elmwood Parkway and Craig Avenue), Metairie, Jefferson Parish, Louisiana</p> <p>Meyer Engineers Ltd. 4937 Hearst St. Ste. B Metairie LA 70001</p> <p>Ana Theriot, P.E., 504-885-9892</p>	<p>BFM prepared a Route Topographic Survey for Phase 1 of the project, located at Elmwood Parkway and Craig Avenue. This project built upon work executed by the firm for a previous extensive surveying project involving Bissonet Plaza subdivision; this allowed for BFM to build upon established surveys to save time and expenses. Surveying for each element of the project included services included confirming all controls and benchmarks, topographic features, location of improvements and utilities, location of natural elements as applicable, and notation of right-of-way points.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
March 2020	N/A	\$7,980 (fee)

PROJECT NO. 8		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>North Arnoult Drainage Pump Station Improvements, Jefferson Parish, Louisiana</p> <p>Hartman Engineering, Inc. 527 W. Esplanade Ave Suite 300 Kenner LA 70065</p> <p>Rolland A. Mura, 504-466-5667 rmura@harteng.com</p>	<p>Project involved a boundary with topographic survey, establishing a baseline parallel to the right-of-way. Points of intersection set were referenced by 3-point ties to topographic features in the area. Two temporary benchmarks were established. Existing improvements were located, including utilities, piping, and natural elements. Building corners within the limits of survey were also located, as were property corners in order to determine the rights-of-way and property boundary limits.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2019	N/A	\$6,870 (fee)

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Avenue D Drainage Improvements (Phase VIII: Allo Street), Metairie, Jefferson Parish, Louisiana</p> <p>Hartman Engineering, Inc. 16563 Airline Hwy Ste A&B Prairieville LA 70769</p> <p>Jared Monceaux, P.E., 225-313-4617 jmonceaux@harteng.com</p>	<p>BFM Corporation executed a Route Topographic Survey for the Allo Street project area, which extended from 4th Street to 6th Street. A baseline was established along the centerline of Allo Street, with Temporary Benchmarks at each intersection along the route. Cross sections taken on a 25 ft. grid. Existing improvements were located within the designated Limits of Survey, as were visible above-ground and underground utilities, piping, and natural features including trees and shrubbery.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
April 2019	N/A	\$12,855 (fee)

PROJECT NO. 10		
Project Name, Location, and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Westwego Drainage Pump Station No. 1, Jefferson Parish, Louisiana</p> <p>Jefferson Parish Department of Drainage 1221 Elmwood Park Blvd Ste 907 Harahan LA 70123</p> <p>Ben Lepine, 504-736-6759 blepine@jeffparish.net</p>	<p>BFM Corporation provided services for a Limited Topographic Survey at the project site, Westwego Drainage Pump No. 1. The scope of services first re-established Site Horizontal and Vertical control, as these were established as part of a previous BFM project (BFM No. 9730). Services next included locating existing improvements within the designated Limits of Survey, taking elevations and cross sections, and verification of piping and utilities.</p>	
Completion Date (Actual or estimated:)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2018	N/A	\$4,725 (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.	<i>BFM Corporation is not currently, nor has it previously been involved, in litigation with Jefferson Parish.</i>	
2.		
3.		
4.		

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



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.

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.

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**.

TEC Professional Services Questionnaire

N. continued.

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.**

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.

TEC Professional Services Questionnaire

N. continued.

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)

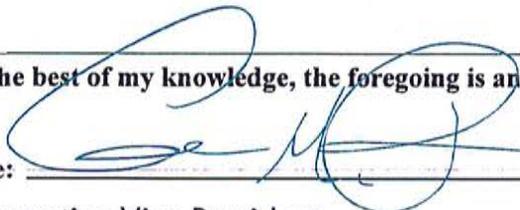
Khalid L. Saleh, PhD, Capital Program Administrator, New Orleans Dept. of Public Works
(504-658-8000 | khsaleh@nola.gov)

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

Greg Cromer, Mayor, City of Slidell
(985-646-4333 | gcromer@cityofslidell.org)

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 6, 2024