



Barowka and Bonura
Engineers and Consultants, L.L.C.

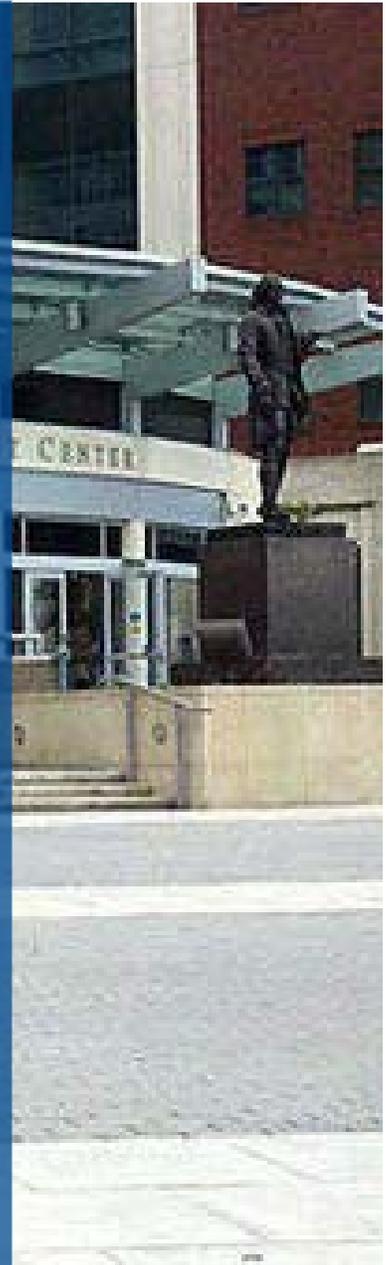
**Proposal Name: Professional
Engineering Services Related to the
Design for the Rehabilitation of the
Transcontinental & Belle Lift Station
(E8-1)**

Resolution No.: 137449

**Deadline: Wednesday, May 26, 2021
at 3:30 PM**

Barowka and Bonura Engineers and Consultants, L.L.C.
209 Canal Street
Metairie, Louisiana 70005

Jeffrey Bonura, P.E., Partner
jbonura@bbecllc.com
PHONE: 504-828-0030
FAX: 504-828-8006



**Collaborate.
Innovate.
Implement.**



May 26, 2021

Jefferson Parish Government
Purchasing Department
General Government Building
200 Derbigny St., Suite 4400
Gretna, Louisiana 70053

SUBJECT: PROFESSIONAL ENGINEERING SERVICES RELATED TO THE DESIGN FOR THE REHABILITATION OF THE TRANSCONTINENTAL & BELLE LIFT STATION (E8-1) (RESOLUTION NO. 137449)

Dear Purchasing Director:

Barowka and Bonura Engineers and Consultants, L.L.C. (BBEC) appreciates the opportunity to submit this Statement of Qualifications to provide Professional Engineering Services related to the Design for the Rehabilitation of the Transcontinental & Belle Lift Station (E8-1) (Resolution # 137449).

BBEC has specific experience related to Lift Station E8-1 (LS E8-1). In the late 1980's, I evaluated the hydraulics of the existing lift station and the condition of the existing force main under the then Sewerage Capital Improvements Program. Then in 2017, BBEC evaluated the piping layout inside and outside of LS E8-1 to determine an optimum location to install an emergency pump out connection (EPO); and in 2018 oversaw the construction of the EPO connection. This provides BBEC with intimate knowledge of the site conditions related to utility conflicts and sewerage flows specific to LS E8-1.

BBEC has specific recent experience with improvement options to LS E8-1. In 2018, the Parish had a very similar lift station to LS E8-1, such that the lift station was a dry-pit, flooded suction, concrete structure with little room for expansion, lift station. With the given constraints, BBEC designed and managed through construction the rehabilitation project to convert the dry-pit lift station to a submersible lift station within the same footprint of the existing lift station site.

The attached qualifications statement demonstrates that BBEC maintains the technical ability to address the needs of Jefferson Parish and assist them in the execution of any Sewerage project. BBEC has sufficient licensed and experienced engineers, engineering interns, technicians, and GIS and drafting support to effectively perform work with its existing staff and meet any schedules reasonably set by the Parish. BBEC has never failed to meet or exceed our clients' expectations on any of our projects.

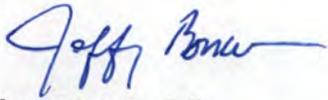
Barowka & Bonura Engineers & Consultants, L.L.C.

BBEC will be working with the following sub-consultants whose experience is evidenced in their attached (TEC) Professional Services Questionnaires.

- All South Consulting Engineers, L.L.C., located at 652 Papworth Avenue, Metairie, LA 70005, will perform Surveying services.
- Marrero, Couvillion & Associates, L.L.C., located at 3525 Hessmer Ave, Suite 304, Metairie, LA 70002, will perform Electrical and Instrumental services.
- Eustis Engineering, L.L.C., located at 3011 28th Street, Metairie, LA 70002, will perform Geotechnical Investigation services.

Once again, we sincerely appreciate the opportunity to submit this Statement of Qualifications to Jefferson Parish, and we look forward to serving you.

Very truly yours,
BAROWKA AND BONURA ENGINEERS AND CONSULTANTS, L.L.C.

A handwritten signature in blue ink that reads "Jeff Bonura". The signature is fluid and cursive, with a long horizontal stroke at the end.

Jeffrey Bonura, P.E.
Partner

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

Provide Professional Engineering Services Related to the Design for the Rehabilitation of the Transcontinental & Belle Lift Station (E8-1) (Resolution # 137449)

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



Barowka and Bonura Engineers and Consultants, L.L.C.
209 Canal Street, Metairie, LA 70005

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:

Jeffrey A. Bonura, P.E.
Member
Office: (504) 828-0030
Fax: (504) 828-8006
Email: jbonura@bbecllc.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.

Jeffrey A. Bonura, P.E.
Civil Engineer / Principal
Office: (504) 828-0030
Fax: (504) 828-8006
Email: jbonura@bbecllc.com

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

<u>5</u> Administrative	<u>1</u> Estimators	<u>1</u> Specification Writers
<u>0</u> Architects (Licensed)	<u>0</u> Geologists	<u>0</u> Structural Engineers
<u>0</u> Chemical Engineers	<u>0</u> Geotechnical Engineers	<u>0</u> Graduate Engineers
<u>4</u> Civil Engineers	<u>0</u> Interior Designers	<u>2</u> Project Managers
<u>3</u> Construction Inspectors	<u>0</u> Landscape Architects	<u>1</u> Clerical
<u>0</u> Ecologists	<u>0</u> Land Surveyor	<u>1</u> Grant/Funding Specialist
<u>1</u> Electrical Engineers	<u>0</u> Mechanical Engineers	<u>0</u> Sanitary Engineers
<u>0</u> Engineer Intern	<u>0</u> Environmental Engineers	
<u>0</u> Professional Land Surveyors		<u>19</u> TOTAL

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

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

TEC Professional Services Questionnaire

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

1.
N/A

2.
N/A

H. Has this JOINT-VENTURE previously worked together? Please check:
 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. All South Consulting Engineers, L.L.C. 652 Papworth Avenue Metairie, LA 70005	Surveying	Yes
2. Marrero, Couvillion & Associates, L.L.C. 3525 Hessmer Ave., Suite 304 Metairie, LA 70002	Electrical and Instrumental	Yes
3. Eustis Engineering, L.L.C. 3011 28th Street Metairie, LA 70002	Geotechnical Investigation	Yes

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

26

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:

***Jeffrey Bonura, P.E.
Principal***

Project Assignment:

Supervising Professional

Name of Firm with which associated:



Barowka and Bonura Engineers and Consultants, L.L.C.

Years' experience with this Firm:

24

Education: Degree(s)/Year/Specialization:

B.S. / 1991 / Civil Engineering

Active registration: Year first registered/discipline:

1995 / Civil

Other experience and qualifications relevant to the proposed Project:

Mr. Bonura performed engineering services on over 150 sewer lift stations and force mains for Jefferson Parish alone. Mr. Bonura also has lift station design and construction administration experience in St. Charles, Plaquemines and St. Bernard Parishes, and the City of Houston. Mr. Bonura served as project engineer/manager for the projects listed below. His responsibilities included work plan preparation, budgeting, cost control and monitoring, team supervision, engineering design, and construction management.

Projects with detailed descriptions of work are provided below.

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA, 2015-2019

Mr. Bonura served as Supervising Engineer for the project where the BBEC staff provided engineering services for this project which involved 192 lift stations that needed EPO installations and 76 lift stations that had EPOs that were undersized or needed relocation. Through this project, new EPOs were installed at all 192 lift stations and EPO modifications were made at the other 76 lift stations.

BBEC designed and managed the installation of an EPO at the E8-1 jobsite, connecting to the existing lift station piping and force main, giving BBEC familiarity at the actual site. BBEC reviewed all lift station photos, as-builts, and other information to evaluate the optimum location for the new lift stations and required appurtenances (pumps, hoses, etc.) and managed the design of the EPO modification upgrades prior to site surveys. BBEC performed site surveys to determine the needed scope of work at each site to improve the EPO conditions. BBEC generated site plans for each station, standard details, plans and specifications. BBEC performed bidding, construction administration, and resident inspection services. BBEC also assisted the Parish in response to a HUD audit of the project.

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA, 2018

Lift Station F7-11 is a 4,041 gpm lift station with 4 8-inch 100 hp pumps and motors. The lift station had 4 dry pit pumps in two different dry pits. The pump station discharged into a short (<300 feet) force main. Mr. Bonura served as Supervising Engineer for the project where the BBEC staff evaluated the options of replacing the pumps with dry pit pumps and submersible pumps, and evaluated the options of utilizing the existing force main, extending the existing force main to discharge into a manhole several thousand feet away, and connecting the force main into a major force main manifold. The option selected, and the designs BBEC performed, were replace the dry pit pumps with submersible pumps, replace all piping and valves to raise the valves above grade, modify the wet well structures by removing the entrance tubes and replacing them with 8-foot reinforced concrete pipe sections (including designing the connection between old and new pipe sections), designing new top slabs and hatches for the two renovated dry pits and the wet well, completely cleaning and coating the wet wells for H2S gas, and related controls. Variable frequency drive units were utilized so the pump station would run during the then existing condition with the short force main, but was capable of running when connected to the major force main manifold as planned. BBEC performed the design, negotiated a change order with a contractor to perform the work under a federally funded project, and performed the construction administration, resident inspection, and record drawing services. BBEC also assisted the Parish in successfully addressing funding agency comments regarding the procurement of the work. The construction cost was \$813,000.

Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA, 2011-2016

The project consisted of the improvements to the existing Sewer Lift Station at Cutty Sark and Titanic (P-12-10), which included the installation of a new 8-foot diameter fiberglass wet well and 8-foot diameter valve pit on pile supported foundations and installation of new pumps, piping, fittings, valves and control panel. BBEC coordinated all surveys and soil investigations, designed all improvements, prepared all plans, specifications, and contract documents, and performed bidding, construction administration, and resident inspection services. BBEC also assisted the Parish with the acquisition of the necessary servitude to house and maintain the upgraded facility. Mr. Bonura served as the supervising professional for the overall project.

Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA, 2012-2013

The project consists of the improvements to the existing Sewer Lift Station on Alexis Drive (M-13-2), which included the evaluation of various options to relocate the existing lift station from its current location and the detailed design and installation of a new 6-foot diameter fiberglass wet well and 6-foot diameter valve pit on pile supported foundations, new submersible 150 gpm pumps, piping, fittings, valves and control panel, including the necessary roadway repairs associated with the lift station installation and pipe laying operations. BBEC designed the improvements, prepare detailed plans and specifications, and will assist with the bidding phase and

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

construction activities related to the civil and mechanical parts of the project. Mr. Bonura served as the supervising professional for the overall project.

Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA, 2014-2015

Jefferson Parish was experiencing sewerage overflows due to wet weather in the Tolmas Drive area. Mr. Bonura evaluated the operation of the area's sewer system, that included 4 lift stations with associated force mains and gravity systems. The scope of the evaluation was to determine how to alleviate the surcharge condition of the G7-5 gravity system. The evaluation simulated modifying the pumping arrangements of stations G8-2 and G7-5 and performing an analysis of the capacity of the G7-5 gravity system. Station G7-3 appeared to operate correctly and the evaluation did not attempt to alter the existing conditions of that station.

Mr. Bonura developed and calibrated a hydraulic model of the sewer system, which was utilized to simulate corrective measures to eliminate the overflow problems. The modeled conditions were as follows:

Scenario 1 – Existing System (to establish a base for the model)

Scenario 2 – G8-2 and G7-5 pump stations in series

Scenario 3 – G8-2 and G7-5 pump stations in parallel

Scenario 4 – G8-2 and G7-5 stations modified (no additional force main)

Scenario 5 – G8-2 and G7-5 stations modified and pumps in series

Mr. Bonura made recommendations for improvements, prepared preliminary designs including the selection of replacement pumps where necessary, and prepared a detailed construction cost estimate of various alternatives for improvements. The recommendation consisted of two options for repairs: (1) a minimum cost improvements option by changing pump impellers only but did not get the lift stations exactly to their individual design capacities; and (2) a \$117,000 cost option including new pumps and the installation of 882 linear feet of 6-inch diameter force main. Jefferson Parish was to research its funding construct one of the recommended improvements with its in-house crews and corrected the overflow problems.

Jefferson Parish received an EPA grant to fund the design of the recommended improvements and hired BBEC, again, to design the improvements. The design of the improvements to the existing sewer lift station G8-2 includes converting the existing station to a submersible type station utilizing the existing wet well and installing a new valve pit. The project required all new mechanical and electrical equipment, the removal and replacement of the wet well top to include new hatches, and the installation of a new pile supported valve pit. Mr. Bonura served as the supervising professional over the design of the project.

Lift Station Modeling, Jefferson Parish, LA, 1993-1999

Mr. Bonura developed hydraulic models for 27 sewerage lift stations using third party hydraulic modeling software. Some of the hydraulic systems included multiple lift stations with multiple pumps. The hydraulic models were used to evaluate lift station performance at the Parish's problem stations and served as the basis for in-house upgrades. The models were developed based on the Parish's GIS, with the modeled facilities overlaid onto the GIS map so the Parish features could be seen and the drawing would be to the real world-scale. Certified pump curves, when available, were incorporated into the model to improve accuracy of the models. Lift stations modeled include:

- H9-1 Bridge City and Hwy. 90
- I9-1 Bridge City and Wiegand Drive
- K11-1 Francis Street and WB Expressway (manifolds with L11-2, pumps to Marrero WWTP)

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

- L11-2 Field and Eisman Street (manifolds with K11-1, pumps to Marrero WWTP)
- L13-8 Caddy and Segnette Drive
- L14-10 Pritchard Central Pump Station (manifolds with M14-3, L12-5, and others)
- M14-3 Cousins and Barataria Booster Station (manifolds with L14-10, L12-5, and others)
- N12-7 Day and Enterprise Drive
- N13-8 Woodmere South Pump station
- D7-2 Kawanee and Olympic
- D6-5A Four Bayous
- D8-2 Elmwood and 39th Street
- D8-5 Cleveland and Avron
- E6-1 Elizabeth and W. Napoleon Ave.
- E3-7 Camp Plauche Pump Station
- E6-2 Elizabeth and N. I-10 Service Road (manifolds with E7-1)
- E7-1 Kawanee and Henican/Page (manifolds with E6-2)
- E7-3 Transcontinental and Veterans
- H6-3A Canal Street and Focis Ave.
- H6-4 Focis Street and Toulouse
- H8-4 Poplar and Nursery
- G4-4 Loumar Ave. and Gruner Road
- O10-1 8th Street and Olive Ave.
- P10-2 Browning and Cranberry
- P14-8 Near Aspen Drive and Sugar Loaf Drive
- O12-1 Orbit and N. Friendship
- O13-1 Friendship Drive

Sewerage Capital Improvements Program, Jefferson Parish, LA, 1988-1997

Mr. Bonura served as Project Manager, Project Engineer, and/or Construction Manager for over twenty sewerage collection system projects which included over 150 sanitary sewers, force mains, and rehabilitation or new lift stations. The sanitary sewers ranged from 8-inches to 30-inches; the force mains ranged from 4-inches to 24-inches; and the lift stations ranged from less than 1 MGD to 18 MGD. Mr. Bonura assisted the Parish in evaluating and correcting special collection system problems throughout the Parish as they arose, such as repairing existing 78-inch prestressed concrete cylinder pipe and lining existing sanitary sewers to be used as force mains. Often the proposed sewer facilities were in direct conflict with existing water lines. Mr. Bonura coordinated with the Water and Sewer Department to either adjust the water or sewer facilities as necessary to the satisfaction of all parties. Projects implemented by Mr. Bonura include:

- Sewerage Capital Improvements Program - Lift Station Contract 5511
- Sewerage Capital Improvements Program - Lift station Contract 5512
- Sewerage Capital Improvements Program - Lift station Contract 5553
- Sewerage Capital Improvements Program - Lift station Contract 5554
- Sewerage Capital Improvements Program – Force Main Contract 5555
- Sewerage Capital Improvements Program - Lift station Contract 5556
- Sewerage Capital Improvements Program - Lift station Contract 5559
- Sewerage Capital Improvements Program - Lift station Contract 5560
- Sewerage Capital Improvements Program – Force Main and Gravity Sewer Contract 5561
- Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

Sewerage Capital Improvements Program - Lift Station Contract 5511, Jefferson Parish, LA, 1988-1997

Contract 5511 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 8 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. A unique aspect of the construction of Contract 5511 is that the deep excavations for the new lift stations utilized a slurry wall cofferdam installed by Halliburton. The cofferdam method was a creative method to support the excavation walls without the vibrations caused by the installation of steel sheets. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5511 were:

- Lift Station C4-1A was the installation of a 6-foot diameter wet well and 6-foot diameter valve pit housing two submersible 488 gpm pumps, with related piping and fittings.
- Lift Station C5-2A was the installation of a 10-foot diameter wet well and 10-foot diameter valve pit housing two submersible 725 gpm pumps, with related piping and fittings.
- Lift Station G7-4A was the installation of a 6-foot diameter wet well and 8-foot diameter valve pit housing two submersible 126 gpm pumps, with related piping and fittings.
- Lift Station H6-1B was the installation of a 6-foot diameter wet well and 8-foot diameter valve pit housing two submersible 488 gpm pumps, with related piping and fittings.
- Lift Station C4-1 was the rehabilitation of an existing steel lift station by repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station C5-2 was the rehabilitation of an existing steel lift station by repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F4-2 was the rehabilitation of an existing 9'x9' concrete box lift station by converting the existing dry-pit station to a submersible pump configuration by adding two new 480 gpm submersible pumps, piping, valves and appurtenances, applying a protective coating to the existing concrete walls in the new wet well, and replacing the top slab to provide for entrance hatches for the new submersible pump configuration.
- Lift Station F8-3 was the rehabilitation of an existing 7-foot diameter steel lift station by replacing the existing dry-pit pumps with new vertical built-together 310 gpm pumps, piping, valves and appurtenances, repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station H5-5 was the rehabilitation of an existing 7-foot diameter steel lift station by replacing the existing dry-pit pumps with new vertical built-together 525 gpm pumps, piping, valves and appurtenances, repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. A new 6-foot diameter was also constructed to provide additional wet well capacity to reduce the number of pump starts.
- Lift Station H6-1 was the rehabilitation of an existing 7-foot diameter steel lift station by replacing the existing dry-pit pumps with new vertical built-together 630 gpm pumps, repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station H8-2 was the rehabilitation of an existing 8-foot diameter steel lift station by replacing the existing dry-pit pumps with new vertical built-together 771 gpm pumps, repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.

Sewerage Capital Improvements Program - Lift station Contract 5512, Jefferson Parish, LA, 1988-1997

Contract 5512 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 3 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5512 were:

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

- Lift Station D4-7A was the installation of a new wet well and valve pit housing three submersible 1,490 gpm pumps, with related piping, fittings, and controls.
- Lift Station F3-2B was the installation of a new wet well and valve pit housing two submersible 140 gpm pumps, with related piping, fittings, and controls.
- Lift Station F7-13B was the installation of a new wet well and valve pit housing three submersible 875 gpm pumps, with related piping, fittings, and controls.
- Lift Station H4-2B was the installation of a new wet well and valve pit housing three submersible 485 gpm pumps, with related piping, fittings, and controls.
- Lift Station H3-1 was the rehabilitation of an existing 470 gpm lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station H3-2 was the rehabilitation of an existing 630 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station HT-1 was the rehabilitation of an existing 1,124 gpm triplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.

Sewerage Capital Improvements Program - Lift station Contract 5553, Jefferson Parish, LA, 1988-1997

Contract 5553 consisted of the rehabilitation of 9 existing lift stations. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5553 were:

- Lift Station C4-3 was the rehabilitation of an existing 470 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station D4-2 was the rehabilitation of an existing 605 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station D2-1 was the rehabilitation of an existing 1,000 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station D8-2 was the rehabilitation of an existing 1,060 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station E5-2 was the rehabilitation of an existing 1,130 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F4-5 was the rehabilitation of an existing 510 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

- Lift Station F6-9 was the rehabilitation of an existing 584 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station H5-4 was the rehabilitation of an existing 452 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station H5-6 was the rehabilitation of an existing 1,590 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.

Sewerage Capital Improvements Program - Lift station Contract 5554, Jefferson Parish, LA, 1988-1997

Contract 5554 consisted of the rehabilitation of 11 existing lift stations and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5554 were:

- Lift Station H7-8A was the installation of a new wet well and valve pit housing three submersible 1,800 gpm pumps, with related piping, fittings, and controls.
- Lift Station F6-7 was the rehabilitation of an existing 1,690 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F7-11 was the rehabilitation of an existing 4,041 gpm fourplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F7-15 was the rehabilitation of an existing (1,650?) gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and
- Lift Station F8-4 was the rehabilitation of an existing 230 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F8-5 was the rehabilitation of an existing 122 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F8-6 was the rehabilitation of an existing 290 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F8-7 was the rehabilitation of an existing 116 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F8-9 was the rehabilitation of an existing 184 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station G7-3 was the rehabilitation of an existing 818 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

the controls, sump pump, ventilation blower and piping, and cathodic protection.

- Lift Station G7-5 was the rehabilitation of an existing 452 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station H8-1 was the rehabilitation of an existing 1,903 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.

Sewerage Capital Improvements Program – Force Main Contract 5555, Jefferson Parish, LA, 1988-1997

Contract 5555 consisted of the construction of sewer force mains for 7 different lift stations in scattered locations on the Eastbank of Jefferson Parish. Mr. Bonura performed final plan review of the plans for constructability and performed services during bidding. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pipe, valves, and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Mr. Bonura was also responsible to obtain permits from LDOTD and the railroad company to perform work within their respective rights-of-way. Force mains constructed under Contract 5555 were:

- Lift Station H4-3A Force Main was the installation of about 1,950 linear feet of 10-inch diameter sewer force main from the lift station at Northline Ave. and Woodvine Ave. to its discharge point near Country Day School on Woodvine Ave.
- Lift Station F8-6 Force Main was the installation of about 200 linear of 6-inch diameter sewer force main from the lift station on the north bank of the West Esplanade Canal at Division Street, across the canal by way of aerial canal crossing, to discharge just south of West Esplanade on Division Street.
- Lift Station F8-7 Force Main was the installation of about 2,300 of 6-inch diameter sewer force main from the lift station and West Esplanade Ave. and Taft Park to its discharge point at the intersection of Taft Park and 17th Street.
- Lift Station H5-3A Force Main was the installation of about 3,000 linear feet of 12-inch to 14-inch diameter sewer force main (size changed due to manifold with another lift station) from the lift station at Falcon Ave. and Woodvine Avenue to its discharge point Fairmont Drive and Ridgewood Drive. Mr. Bonura also obtained the necessary permits to cross the railroad tracks and coordinated all work with the railroad company.
- Lift Station H4-4 Force Main was the installation of about 2,100 linear feet of 6-inch diameter sewer force main from the lift station at L & A Road and Cold Storage Road, across Airline Highway (Drive now), through a drainage box culvert under the golf course at Metairie Country Club, to its discharge point at the intersection of Northline Avenue and Orpheum Street. Mr. Bonura also obtained the LDOTD access permit and designed the section through the culvert as a change order so the golf course would not be disturbed.
- Lift Station D3-2 Force Main was the installation of about 3,850 linear feet of 12-inch diameter sewer force main from the lift station at Little Farms and Jefferson Highway, along Jefferson Highway, to its discharge point just north of Jefferson Highway on Midway Drive. Mr. Bonura also obtained the necessary LDOTD permits to install the pipe within LDOTD's right-of-way. The project required that the contractor jack and bore under all roadways and intersections.
- Lift Station H5-4 Force Main was the installation of about 150 linear feet of 6-inch diameter sewer force main from the lift station and Sycamore Street and Fairmont Street to its discharge point in a manhole about 150 feet west of the lift station.

Sewerage Capital Improvements Program - Lift station Contract 5556, Jefferson Parish, LA, 1988-1997

Contract 5556 consisted of the rehabilitation of 1 existing lift station and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details,

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5556 were:

- Lift Station F7-1A was the installation of a new wet well and valve pit housing two submersible 815 gpm pumps, with related piping, fittings, and controls.
- Lift Station F6-3 was the rehabilitation of an existing 240 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.

Sewerage Capital Improvements Program - Lift station Contract 5559, Jefferson Parish, LA, 1988-1997

Contract 5559 consisted of the rehabilitation of 8 existing lift stations and the construction of 3 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5559 were:

- Lift Station D4-2B was the installation of a new wet well and valve pit housing two submersible 605 gpm pumps, with related piping, fittings, and controls.
- Lift Station F5-2B was the installation of a new wet well and valve pit housing two submersible 1,070 gpm pumps, with related piping, fittings, and controls.
- Lift Station D5-4 was the rehabilitation of an existing 637 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station E5-7 was the rehabilitation of an existing 1,250 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F5-11 was the rehabilitation of an existing 145 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station F7-8 was the rehabilitation of an existing 293 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station C5-1 was the rehabilitation of an existing 509 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station D4-6 was the rehabilitation of an existing 623 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station G6-7 was the rehabilitation of an existing 130 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

- Lift Station G8-1 was the rehabilitation of an existing 2,335 gpm triplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station D5-1A was the installation of a new wet well and valve pit housing two submersible 842 gpm pumps, with related piping, fittings, and controls.

Sewerage Capital Improvements Program - Lift station Contract 5560, Jefferson Parish, LA, 1988-1997

Contract 5560 consisted of the construction of 2 new sewer lift stations and the rehabilitation of 12 existing lift stations. Mr. Bonura designed all improvements, performed services during bidding, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5560 were:

- Lift Station D3-1A was the installation of a 10-foot diameter wet well and 10-foot diameter dry pit housing two vertical built-together dual speed 1200/900 gpm pumps, with related piping and fittings.
- Lift Station D4-5B was the installation of an 8-foot diameter wet well and 8-foot diameter dry pit housing two vertical built-together 400 gpm pumps, with related piping and fittings.
- Lift Station D4-5 was the rehabilitation of an existing 8-foot diameter steel lift station by replacing the existing dry-pit pumps with new vertical built-together 1,150 gpm pumps, discharge piping, valves and appurtenances, repairing the doors and walls of the pump house, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station E4-1 was the rehabilitation of an existing 8'x8' concrete lift station by replacing the existing dry-pit pumps with new vertical coupled dual speed 650 gpm pumps, discharge piping, valves and appurtenances, repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station E7-7 was the rehabilitation of an existing 7-foot diameter steel wet pit/ dry pit lift station by repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, equipment mounting brackets, and cathodic protection.
- Lift Station F2-3 was the rehabilitation of an existing 8-foot diameter steel wet pit/ dry pit lift station by converting the existing dry-pit station to a submersible pump configuration by repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, equipment mounting brackets, and cathodic protection.
- Lift Station F7-6 was the rehabilitation of an existing 7-foot diameter steel wet pit/ dry pit lift station by repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, equipment mounting brackets, and cathodic protection.
- Lift Station G5-1 was the rehabilitation of an existing 9'x9' concrete box lift station by replacing the existing dry-pit pumps with new vertical built-together 1,045 gpm pumps, replacing the top slab and hatches, replacing all suction and discharges piping, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection.
- Lift Station G6-1 was the rehabilitation of an existing 8-foot diameter concrete lift station by replacing the existing dry-pit pumps with new vertical built-together 450 gpm pumps, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, suction and discharge piping, valves, and appurtenances, and cathodic protection. The lift station was manifolded with lift station G7-1. Mr. Bonura modeled the force main manifold and designed both stations to pump into the manifold.
- Lift Station G6-5 was the rehabilitation of an existing 7-foot diameter steel wet pit/ dry pit lift station by repairing all leaks in the

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, equipment mounting brackets, and cathodic protection.

- Lift Station G6-6 was the rehabilitation of an existing 7-foot diameter steel wet pit/ dry pit lift station by repairing all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, equipment mounting brackets, and cathodic protection.
- Lift Station G7-1 was the rehabilitation of an existing 8-foot diameter concrete lift station by replacing the existing dry-pit pumps with new vertical built-together dual speed 4,186 gpm pumps, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, suction and discharge piping, valves, and appurtenances, and cathodic protection. The lift station was manifolded with lift station G6-1. Mr. Bonura modeled the force main manifold and designed both stations to pump into the manifold. The lift station also received a new wet well to increase time between pump starts.
- Lift Station G7-10 was the rehabilitation of an existing 8-foot diameter concrete wet pit/ dry pit lift station by cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, equipment mounting brackets, and cathodic protection.
- Lift Station E8-2 was the rehabilitation of an existing 8-foot diameter concrete wet pit/ dry pit lift station by cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, equipment mounting brackets, and cathodic protection.

Sewerage Capital Improvements Program – Force Main and Gravity Sewer Contract 5561, Jefferson Parish, LA, 1988-1997

Contract 5561 consisted of the construction of sewer force mains for 4 lift stations and about 850 linear feet of gravity sewer in scattered locations on the Eastbank of Jefferson Parish. Mr. Bonura designed the plans, coordinated with all utilities, and performed services during bidding. The plans included the necessary roadway repairs associated with the pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pipe, valves, and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Mr. Bonura was also responsible to obtain permits from LDOTD and the railroad company to perform work within their respective rights-of-way. Force mains and gravity sewers constructed under Contract 5561 were:

- Lift Station D4-5B Force Main was the installation of about 1,950 linear feet of 10-inch diameter sewer force main from the lift station at Northline Ave. and Woodvine Ave. to its discharge point near Country Day School on Woodvine Ave.
- Lift Station D4-2B Force Main was the installation of about 2,650 of 8-inch diameter sewer force main from the lift station at Olga and Howard to its discharge point at the intersection of Jade Street and W. Metairie Avenue.
- Lift Station G4-3A Force Main was the installation of about 3,400 linear feet of 10-inch diameter sewer force main from the lift station at Division Street and Bauvais Street to its discharge point located at the northeast corner of Cleary Avenue and W. Metairie Avenue. Mr. Bonura designed the force main so it could maneuver above the W. Metairie Avenue culverts but remained below Cleary Avenue at the intersection.
- Lift Station E4-1 Force Main was the installation of about 3,020 linear feet of 8-inch diameter sewer force main from the lift station at Elise Avenue and W. Metairie Avenue to its discharge point at the intersection of Hodgson Avenue and Airline Park Boulevard.
- Lift Station D3-1 Gravity Sewer Main was the installation of about 850 linear feet of 10-inch diameter gravity sewer main and associated manholes and service connections along Phelps Street, Dilton Street, and Tudor Lane.

Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562, Jefferson Parish, LA, 1988-1997

Contract 5562 consisted of the construction of two new sewer lift stations and the force main for one of the lift stations. Mr. Bonura designed the improvements, performed bidding services, and served as construction coordinator on the project, responsible for

General Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations and the force main under Contract 5562 were:

- Lift Station F7-1B (N. I 10 Service Road and Cleary Ave.) was the installation of a new 1,440 gpm self-priming pump triplex lift station, with wet well, valve pit, and related piping and fittings. Mr. Bonura developed servitude plans for the site to acquire the property for the lift station. Part of the negotiations with the property owner was to include specific milestones for construction that were in turn added to the bid documents for the work. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary.
- The Lift Station F7-1B Force Main was the installation of about 350 linear feet of Insituform lining into an existing 10-inch gravity sewer crossing I-10 at Cleary Avenue. Mr. Bonura obtained the necessary LDOTD permits and designed the liner and its connections to convert the gravity main to a force main to save construction time and costs.
- Lift Station G7-2A (Claudius Street and Hesper Avenue) was the conversion of a 5,950 gpm submersible lift station to a 5,950 gpm self-priming pump lift station, with new pump enclosure and related piping and fittings.

Wastewater Program, Houston, TX, 1997

Mr. Bonura served as Project Engineer for the Market Street (29.75 MGD), Scott Street (15.3 MGD), Velasco (13.0 MGD) and Fairway Area (12.3 MGD) lift station and force main projects. Mr. Bonura performed all phases of the project, including the project functional description, selection of alternatives, alternative analysis, preliminary design, and final design phases. Mr. Bonura presented each phase of each of the projects to a technical review board consisting of City personnel and third party technical consultants (a value engineering board) for approval to proceed to final design and construction; all projects have been successfully completed through construction.

A brief description of the lift stations designed is as follows:

- Fairway Lift Station (12.3 MGD) – The Fairway Lift Station was constructed as a submersible lift station containing (4) 10-inch submersible pumps for wet weather flows, and (2) 6-inch submersible pumps for dry weather flows. Valves and appurtenances were constructed on a slab at grade. The circular concrete lift station was about 25-feet deep. The lift station discharged into a new 24-inch force main approximately 2,800 feet in length.
- Scott Street Lift Station (15.3 MGD) – The Scott Street Lift Station was constructed as a wet pit / dry pit lift station containing (4) 3,090 gpm pumps for wet weather flows, and (3) 677 gpm pumps for dry weather flows. The circular concrete lift station was about 50-feet deep. A wall in the circular structure separated the wet pit from the dry pit. The dry pit side had two levels – the pumps sat on the bottom slab while the motors and controls were located on the second level. The dry weather pumps discharged into a new 10-inch force main; the wet weather pumps discharged into a new 24-inch force main. Both force mains were about 5,400 feet long.
- Market Street Lift Station (29.75 MGD) – The Market Street Lift Station was constructed as a wet pit / dry pit lift station containing (4) 3,631 gpm pumps for wet weather flows, and (3) 2966 gpm pumps for dry weather flows. The circular concrete lift station was about 50-feet deep. A wall in the circular structure separated the wet pit from the dry pit. The dry pit side had two levels – the pumps sat on the bottom slab while the motors and controls were located on the second level. The dry weather pumps discharged into an existing 24-inch force main; the wet weather pumps discharged into a new 30-inch force main. The sewer system was designed such that the downstream lift station could handle the dry weather flows so the existing force main was utilized for dry weather flows. The new 30-inch force main was about 5,700 linear feet and discharged further downstream.

General Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Other experience and qualifications relevant to the proposed Project:

Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift Stations No.9 and No. 9A, Plaquemines Parish, LA, 2015

Mr. Bonura served as the Supervising Engineer for the Braithwaite portion of the project which consisted of repairs of the damages to the lift station and package plant caused by Hurricane Isaac. He managed all design for the repairs, bidding services, and construction/project management for the project. The repairs included new control panels, new fencing, earthwork for the plant foundation, concrete walkway repairs, new piping, new wiring and framing, and resetting and securing the plant to the foundation.

Mr. Bonura also served as Supervising Engineer for the Dalcour portion of the project which consisted of repairs of the damages to the lift stations caused by Hurricane Isaac. He managed all design for the repairs, bidding services, and construction/project management for the project. The project consisted of replacing the control panels and electrical work at the stations.

Wastewater Improvement Program, St. Charles Parish, LA

As Project Engineer on the lift station and force main portion of the project, Mr. Bonura provided design and drafting oversight, for the preliminary design report preparation, and oversight of sub-consultants. Mr. Bonura completed the project through the preliminary design report submittal before changing employment. The project included the construction of six new sewer pumping stations and about 200,000 linear feet of sewer force main ranging from 6 inch to 24-inch diameter pipe, including modeling of the system, work along DOTD rights-of-way, consideration of various methods of construction, but allowing for the installation of isolation valves for pipeline maintenance.

Emergency Pump-Out, St. Bernard Parish, LA, 2005

Mr. Bonura served as Project Manager of 85 Emergency Pump-Outs (EPO). Project included the installation of EPO's in various locations in St. Bernard Parish, hydro testing of force mains, temporary and final restoration. Mr. Bonura distributed shop drawings, reviewed daily inspection reports, reviewed test reports, checked quantities, and completed all correspondence.

Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA, 2002

The scope of the evaluation was to determine if connecting the Bourg (2,640 gpm design capacity) and Bank (1,240 gpm design capacity) Sewer Lift Stations into an existing 18-inch diameter sewer force main would be possible. The existing 18-inch force main served four other lift stations, and there was concern that connecting the Bourg and Bank Lift Stations would decrease the other lift station's capacities so that they would not be able to handle their respective wastewater flows.

Mr. Bonura developed a computer hydraulic model for the 18-inch sewer force main and all lift stations pumping into it (existing and proposed), evaluated five different alternatives, and included wet and dry weather conditions in each of the five alternatives. As part of the model evaluation, Mr. Bonura prepared preliminary designs for improvements and simulated the recommended improvements with the model to ensure that the recommendations were feasible, including constructing a complete booster station, trimming impellers and/or changing pump speed at several locations, and replacing pumps and motors at several locations. Mr. Bonura concluded with three feasible options for consideration.

Ashton Plantation Lift Station Analysis, St. Charles Parish, LA, 2002

Mr. Bonura determined the most effective method of connecting new subdivision lift stations into existing sewer force main already serving six other lift stations, developed a hydraulic model of the affected sewer system and then prepared preliminary designs and cost estimates of the various working alternatives.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:	
Name & Title:	<i>Kevin Forschler, P.E.</i> <i>Project Engineer</i>
Project Assignment:	Project Engineer
Name of Firm with which associated:	 Barowka and Bonura Engineers and Consultants, L.L.C.
Years' experience with this Firm:	6
Education: Degree(s)/Year/Specialization:	B.S. / 2014 / Civil Engineering
Active registration: Year first registered/discipline:	2020 / Civil
Other experience and qualifications relevant to the proposed Project:	
<p>Mr. Forschler is a graduate of Louisiana State University. His knowledge and experience in the civil engineering field is currently being expanded by the diverse types of projects he is working on. He is currently working on projects for the City of New Orleans, St. Bernard Parish, St. Tammany Parish and Jefferson Parish, involving roadway restoration, drainage modeling and design, off-system bridges, walkway design, lift station design, and water and wastewater treatment.</p> <p>Mr. Forschler performed Construction Administration Services for the Jefferson Parish EPO project from 2015 until completion in 2019. Part of the project included him managing the installation of an EPO at the E8-1 jobsite, connecting to the existing lift station piping and force main, giving him familiarity at the actual site. Mr. Forschler performed the initial site visit to evaluate the existing conflicts and determined the best location for the EPO. After construction, Mr. Forschler worked with the contractor to develop as-built drawings for LS E8-1, and other sites.</p>	

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

Projects with detailed descriptions of work are provided below.

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA, 05/2015-Present
Mr. Forschler worked on the EPO Installation Initiative Project. The project contained 192 lift stations that needed EPO installations and 76 lift stations that had EPOs that were undersized or needed relocation. Through this project, new EPOs were installed at all 192 lift stations and EPO modifications were made at the other 76 lift stations. Mr. Forschler assisted with the review of lift stations and gathering site information prior to site surveys. Mr. Forschler performed all site surveys to document existing conditions and developed site sketches of the stations. Mr. Forschler performed construction administration, reviewed all lift station photos and updated As-Builts and worked with the contractor and client to make sure that the EPOs were installed correctly at each site. Mr. Forschler visited every site where installations of the new or modified EPOs were completed to make sure that the installations met the specifications provided to the contractor.

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation
Jefferson Parish, LA, 05/2015-Present

Mr. Forschler assisted with the design of the rehabilitation of two undersized lift stations. He evaluated the hydraulics of the lift stations and used that information to select pumps that would adequately handle the capacity of the stations. He determined whether the proposed pumps would fit within the wet wells for the lift stations. For the station that upgraded to a three wet well system, he selected pumps with motors that operate using a variable frequency drive.

Acadiana Water and Sewer, Lafayette, LA., 02/2021-Present

Mr. Forschler went on site visits to the existing wastewater treatment plants in Garden Heights, Belleville, and Mark Ridge in order to take measurements of the different sections of the treatment facilities. He also located damaged areas of each facility that would need to be replaced during construction.

Canebrake Utilities, 03/2021-Present

Mr. Forschler developed initial evaluations of the existing sewer facilities and the existing water distribution system for the client. He used information from the current owner of the system and information determined during a site visit in order to provide a report on the condition of the existing systems. He also looked into the current permit status for each of the wastewater treatment facilities in order to determine if the operator had any issues meeting the state and federal requirements for the operation of the existing facilities.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:	
Name & Title:	<i>Madan Kamboj, P.E.</i> <i>Project Engineer</i>
Project Assignment:	Structural Engineer
Name of Firm with which associated:	 Barowka and Bonura Engineers and Consultants, L.L.C.
Years' experience with this Firm:	.5
Education: Degree(s)/Year/Specialization:	M.S. / 1978 / Civil Engineering: Structures/Soil Mechanics B.S. / 1967 / Civil Engineering
Active registration: Year first registered/discipline:	1977 / Civil - Environmental
Other experience and qualifications relevant to the proposed Project:	
<p>Mr. Kamboj has more than 40 years of experience performing project design, construction administration, and project monitoring for general civil projects including drainage, utilities, streets, highways and bridges, buildings, water and sewer treatment plants, multi-story parking garages; airport taxiways, traffic separation facilities, bike paths, and overhead pedestrian walkways at high traffic intersections.</p> <p>Several projects that demonstrate his experience related to new and renovated reinforced concrete structures include:</p> <p>CN Railroad Culverts in Ormond, Project No. P200801, Ordinance No. 20-9-5, St. Charles Parish, LA, 10/2020-Present Mr. Kamboj is preparing drainage improvements by the Jack & Bore method of multiple culvert sites to improve frequent flooding in</p>	

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

Luling, St. Charles Parish. Multiple culverts employing Jacking Method are to be rammed under the road embankment by using 72", 60" and 48" metal pipes. The ditches on inlet and outlet shall be improved by providing Conspan Culvert Bridges and these ditches shall be provided with G.C.C.M. lining to improve flow of rain discharge. The project cost is \$6.2M.

Delon Hampton & Associates, Atlanta, Georgia, 04/2004-09/2006

Mr. Kamboj served as Senior Project Manager for the design of intake structures for Clear Creek & Tanyard C.S.O. projects, design of 6.5 mile, four lanes of US-1 /US-4 in Toombs County GA. He performed project management and design of UV treatment upgrade for Big Creek Waste Plant for Fulton County.

B & E Jackson Engineers, Atlanta, GA., 06/2001-11/2003

Mr. Kamboj performed planning and preliminary design for rerouting I-285 with twin tunnel structures under proposed New Runway V and related Taxiway 10-28 at Hartsfield Airport.

He also performed planning and preliminary design for I-285 from Riverdale Road (GA 139) to Lake Mirror Road, detailed construction sequence, traffic detours, and construction estimation. Project Const Cost: \$ 160 million. Consolidated Rental Car facility planning, preliminary design for people movers, parking garages and maintenance facilities for all rental carriers at Hartsfield airport. Concourse E planning and preliminary design for land side at-grade and elevated access at the airport, improvements to Airport Blvd. Roadways, ramps and retaining wall structures, geometry and profiles, drainage and utility relocations. Project Const. Cost: \$ 182 million.

Burk Klienpeter Inc. Consulting Engineers, City of New Orleans, LA, 09/1999-09/2000 & 04/1994-06/1996

Mr. Kamboj's work included the design of sewer and water treatment projects including clarifiers, contact chambers, secondary treatment chambers, sludge digesters, silting basins for New Orleans Sewer and Water Board and Jefferson and St. Bernard Parishes. He also completed the design of industrial building for cargo containers at Chalmette Storage complex at Old Kaiser Plant site and designed and supervised over engineering-interns, technicians and cad operators for I-10 and I-610 multi-directional Interchange for LA DOT. The design involved column and pile bent substructures, prestressed girders, steel plate girders, roadway slabs, approach slabs and retaining walls. Project Const. Cost: \$ 32 million.

Volkert Consulting Engineer, Metairie LA, 1990-1994

Mr. Kamboj designed 6500 ft long, 75 wide Taxiway at New Orleans International Airport in Kenner LA, this Taxiway was surcharged with 13 ft high fill to reduce after construction settlement. The cross Taxiways leading to East West Runway had 8 ft of Polystyrene under the pavement to reduce differential settlement at the intersections to the East West Runway.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:	
Name & Title:	<i>Johnny Housey, P.E.</i> <i>Project Engineer</i>
Project Assignment:	Engineering Support
Name of Firm with which associated:	 Barowka and Bonura Engineers and Consultants, L.L.C.
Years' experience with this Firm:	10
Education: Degree(s)/Year/Specialization:	M.S. / 1965 / Structural Engineering B.S. / 1964 / Civil Engineering
Active registration: Year first registered/discipline:	1966 / Civil
Other experience and qualifications relevant to the proposed Project:	
<p>Mr. Housey has been working as an engineer in the public works industry for over 50 years. His experience includes bridges, buildings, roadways, and utility (water, sewer, and drainage) construction. He has substantial experience in project management, steel building detailing, bridges, barges and parts for offshore platforms. As a steel fabricator, Mr. Housey oversaw the fabrication of steel buildings, steel bridges (stationary and movable), barges, various parts of offshore platforms including girders, piling and legs, floor and wall framing, various parts of ships including bulkheads and framing members. Over the past 50 years, he has been responsible for the design of crane runways, spreader bars, lifting frames, and hydraulic jacking of heavy structures and barges. Mr. Housey managed the construction of over \$100 million in asphaltic concrete (AC) and Portland cement concrete (PCC) roadways funded by FEMA Public Assistance Grants. He has intimate knowledge in how various site conditions affect the construction and performance of the roadways, as well as how to maintain the necessary documentation to comply with the funding federal programs.</p>	

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

Mr. Housey is a past Board Member and President of the Southern Association of Steel Fabrication. He served as a member on AISC committee regarding quality control. As a member and past Chairman of the ASCE/SEI Structures Committee in New Orleans for several years, he is familiar with the design of bridges, buildings and residential structures. He is familiar with fabrication specifications of API, AWS, AREA, AISC and ABS.

Projects with detailed descriptions of work are provided below.

Acadiana Water and Sewer, Lafayette, LA., 01/2021-Present

Mr. Housey has designed repairs and additions to three wastewater treatment plants for Acadiana Water in Lafayette Parish.

Coast Water Projects, St. Tammany Parish, LA., 12/2020-Present

Eden Isles Water and Meadows Water

He has designed structural requirements for the Magnolia Water Disinfection Project at Eden Isles.

H2O Water Projects, St. Tammany Parish, LA., 12/2020-Present

He has obtained various permits for Magnolia Water Company for the Disinfection Project, the Flushing Project and the Water Line Repair Project.

East Bank Water Treatment Plant Improvements, Jefferson Parish, LA, 12/2016-Present

As Project Manager, Mr. Housey supervises and coordinates drainage and process piping for both the Laboratory and the P4 Plant. He attends progress design meetings with other disciplines and field visits as required to locate existing utilities and prepares specifications and required design calculations. Design includes calculations for pressure piping flow, thrusts and supports, also drainage requirements and system design.

Lower 45 Evacuation Route Basin, Lafitte Tidal Protection, Lafitte Area Independent District, LA, 05/2018-Present

As Project Manager, Mr. Housey is providing design alignment and earthen levee.

Project Worksheet 20824 – Storm Drains, Jean Lafitte Parkway Drainage Line Repairs/Replacement, St. Bernard Parish, LA, 06/2014-11/2019

Mr. Housey prepared the damage assessment to adjacent existing roadway.

RR176 – St. Roch Group North Group A (PMOI), City of New Orleans, LA, 10/2019-Present

As part of BBEC design team, Mr. Housey met with DPW representatives and surveyed damage to existing streets, reviewed and designed repairs to existing streets, including roadway profiles and drainage requirements.

RR177 – St. Roch Group North Group B (FRC), City of New Orleans, LA, 11/2019-Present

As part of BBEC design team, Mr. Housey met with DPW representatives and surveyed damage to existing streets, reviewed and designed repairs to existing streets, including roadway profiles and drainage requirements.

RR178 – St. Roch Group North Group C (FRC), City of New Orleans, LA, 11/2019-Present

As part of BBEC design team, Mr. Housey met with DPW representatives and surveyed damage to existing streets, reviewed and designed repairs to existing streets, including roadway profiles and drainage requirements.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

Lakefront Pedestrian Path (Suburban Canal to Causeway), State Project No. H011780, JP Project No. 2015-010-RB, Jefferson Parish, LA, 05/2020-Present

Mr. Housey reviews test reports for asphalt binder with DOTD and Barriere Construction for approval, verifies all quantities with Inspector's daily reports, resolves asphalt quantities based on drawings, truck deliveries and DOTD specifications, prepares final change order to resolve actual quantities for payment, and prepares closeout documents.

Hurricane Katrina Roadway Restoration, St. Bernard Parish, LA, 05/2011-08/2017

Mr. Housey provided Construction Administration services and Supervised Resident Inspectors for over \$102 Million in roadway repair for 436 streets. Mr. Housey developed plans and construction cost estimates as well as managed the construction of facility repairs. He reviewed contractor submittals for conformity, resolved construction issues and led field progress meetings. Mr. Housey coordinated with the Contractor, Parish, and inspectors to troubleshoot issues in the field, resolved neighbor complaints, interpreted design specs to maintain the quality and standards of the work, and ensured that the work is satisfactorily completed. Mr. Housey reviewed all test reports for conformity to specifications, performed substantial and final completion walk-throughs for acceptance, reviewed as-builts for work completed, and reviewed contractor's monthly invoices and quantities.

Woodmere Boulevard Panel Replacement, JP Project No. 2017-061-RBP, State Project No. H012884.6, Jefferson Parish, LA, 08/2019-Present

Mr. Housey reviewed the contract documents from the LADOTD and discovered inconsistencies in the plans and quantities. He laid out street where work was required, supervised CAD drawing preparation and revised required quantities. He is preparing change orders for final quantities and closeout.

Widening / Stabilization of Congressman Hebert, Creely, and Bluebird Canals, St. Bernard Parish, LA, 01/2015-Present

The project includes increasing the capacity and improving the stability of Congressman Hebert, Creely, and Bluebird Canals, that consists of 11,600 linear feet of open canal and culverts ranging from 4-feet bottom width to 16-feet bottom width channels. Mr. Housey coordinated with St. Bernard Parish, Lake Borgne Basin Levee District, and the Louisiana Department of Transportation and Development to obtain information regarding the existing drainage plan. BBEC established the design cross sections for the channels, which included concrete u-channels, concrete box culverts, and round and arched pipe, and concrete lined trapezoidal sections, depending on the availability of land and other conditions. Mr. Housey is currently designing 2,500 linear feet of large diameter reinforced concrete pipe box culverts, and U-channels for the project.

Read Blvd. East Group C, Capital Improvement Program, Project No. 2016-RR146 (PW No. 21032), City of New Orleans, LA, 03/2017-Present

As Project Manager, Mr. Housey has designed requirements to remove damage to existing streets and replace with new concrete streets and proper drainage profiles. He also is providing Contract Administration on this project. This involves overseeing the resident inspector and reviewing inspection reports, approval of construction materials, conducting bi-weekly progress meeting, approving construction invoices and keeping the client informed of construction progress, issues and other items. The CCTV Inspection of the existing drainage lines revealed the need for multiple repairs to existing drainage lines. This has required evaluation of method of repair and associated costs. He is preparing change orders for final quantities and closeout.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

Engineering Services for the Four-Year Road Maintenance Program, St. Charles Parish, LA, 01/2019-09/2020

Mr. Housey was project engineer for the construction of asphalt patches and mill/overlay on 12 streets in the Parish. The work consisted of 20,000 square yards of mill and overlay work, 1200 tons of full depth asphalt pavement patching, and related traffic control and connections to existing driveways. Mr. Housey was responsible for all construction administration and resident inspection activities, including project start-up, coordination with Parish and testing lab, shop drawing reviews, contractor pay estimates, change orders, complaint and conflict resolution, acceptance, and contract closeout.

Task Order # of Streets Mill and Overlay Full Depth Asphalt Pavement Patching

2019 12 20,000 1,200

2018 19 18,000 900

Total 31 38,000 2,100

Mid-City Street Improvements, New Orleans, LA, 11/2012-11/2016

Mr. Housey reviewed and updated drawings based on client comments. He oversaw the revising of the CAD drawings to ensure conformance with project requirements. He maintained the tracking system of various bid items at each location with updates and totals as needed.

Gentilly Woods Street Improvements, New Orleans, LA, 01/2013-07/2016

Mr. Housey reviewed and updated drawings based on client comments. He oversaw the revising of the CAD drawings to ensure conformance with project requirements. He maintained the tracking system of various bid items at each location with updates and totals as needed.

Clearly Improvements (Veterans Blvd. to West Esplanade Ave.) (Council District 5), Jefferson Parish, LA, 11/2017-Present

Mr. Housey supervised and reviewed CAD drawings of waterlines as requested by the Parish.

STEEL FABRICATION

Access Ways & Ladders at Drainage Pump Stations; Project No. 2014-022-DR,
Jefferson Parish, LA, 11/2014-Present

Mr. Housey has prepared cost estimates and designed ladders, stairs, and elevated walkways to be installed in 16 drainage pump stations to connect elevated structures or allow personnel to access the top of structures within Jefferson Parish. Design included analysis and details to retrofit new items to existing structures.

Repair of Venice Marina, Plaquemines Parish, LA, 2013-2015

Mr. Housey designed the Venice Marina project located in Plaquemines Parish in Venice, Louisiana. The project consisted of repairs to the damages of the Venice Marina caused by Hurricane Isaac.

Repair of Buras Marina, Plaquemines Parish, LA, 2013-2015

Mr. Housey designed the Buras Marina project located in Plaquemines Parish in Buras, Louisiana. The project consists of repairs of the damages to the Buras Marina caused by Hurricane Isaac.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

Private Residential Structure Elevation Project, Statewide (HMGP Project), 10/2012-02/2014

The project included performing plan review for grant compliance and some technical aspects of the elevation of residential structures throughout south Louisiana. The project also includes performing periodic inspections of the construction work to verify compliance with the project plans. Mr. Housey was responsible for providing professional engineering, program management, construction monitoring, observation of construction methods, code enforcement compliance, and general monitoring technical assistance services in association with construction contractors elevating and/or reconstructing residential structures for eligible construction activities through the Hazard Mitigation Grant Program (HMGP).

Orleans Materials & Equipment Company, Inc.

As Project manager, Mr. Housey was responsible for interpreting plans and specifications, interacting with owner, engineer and contractor, resolving discrepancies, ensuring quality of construction and maintaining construction schedule. Many projects included modifications to existing structures for increased load capacity, replacement of existing structural members, connections or other requirements. Requirements for pumping stations usually included all steel requirements including columns, crane runways, bar screens and floor grating.

Sample projects completed by Mr. Housey include:

Bulkheads

- H-Piling for T-Wall at the Industrial Canal (Cajun Contractors)
- Sheet Piling for Gate at Bayou Bienvenue (Manson Construction Company)
- Sheet Piling for Louisiana Citrus at Venice, LA

Bridges

- Sunshine Bridge, St. James Parish, LA

Removal and replacement of concrete and steel bridge decking across the entire span of Sunshine Bridge including all field measurements required to replace steel gussets and floor beams.

- Bayou Milhome Swing Span Bridge, St. Martin Parish, LA

Complete new bridge structure including floor beams, grating, pivot girder, and related items.

- Bayou Lafourche Lift Span Bridge, Larose, LA

Complete new bridge structure including floor beams, grading, lift girders, and related items.

- Intracoastal Waterway Bascule Bridge

Complete steel framing including floor beams, grating trunnion support girders and related items.

Pumping Stations

- Hero Canal Pumping Station

All structural steel, walkway grating, bar screens, and related items.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

- Citrus Pumping Station

All structural steel, walkway grating, bar screens, and related items.

- Michoud Pumping Station

All structural steel, walkway grating, bar screens, and related items.

- Pumping Station No. 6

All structural steel, walkway grating, bar screens, and related items.

Ingram Contractors

Mr. Housey prepared bids for fabrication and installation of offshore platforms, and supervised yard fabrication and offshore installation of platforms in the Gulf of Mexico. He spent 6 months in Egypt as field engineer/project manager installing platforms in the Gulf of Suez.



TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:	
Name & Title:	
<i>Pete Foret</i> <i>Computer Aided Drafting</i>	
Project Assignment:	
Drafting / CAD	
Name of Firm with which associated:	
	Barowka and Bonura Engineers and Consultants, L.L.C.
Years' experience with this Firm:	
1	
Education: Degree(s)/Year/Specialization:	
B.S. / 1995 / Business Administration with a Computer Science Option and Management Minor	
Active registration: Year first registered/discipline:	
State of Louisiana	
Other experience and qualifications relevant to the proposed Project:	
<p>Mr. Foret is a multi-discipline AutoCAD drafter and designer with experience in the Civil, Structural, Architectural, Electrical and GIS/Mapping fields. He has a combined 30 years of experience generating alignments, plan and profile sheets, cross sections, contour maps, structural and architectural plans and details and electrical one-line diagrams. He has been the drafting coordinator for multiple firms and has been responsible for developing drafting standards for a consistent and quality drawing set.</p> <p>Projects with detailed descriptions of work are provided below.</p>	

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Other experience and qualifications relevant to the proposed Project:

East Bank Water Treatment Plant Improvements, Jefferson Parish, LA., 07/2020-Present

Mr. Foret was responsible for plan preparation following established project standards. Plans included a site layout for the routing of new chemical feed lines over an existing survey and avoiding existing utilities. Drawings also included details necessary for the proper routing and installation of the new feed lines.

Coast Water Projects, St. Tammany Parish, LA, 07/2020-Present

Mr. Foret created the site plans and demolition plans as well as the plans, sections, structural foundation details and typical details for the proposed chemical feed buildings and the details for the chemical feed system itself at the Eden Isles, Meadows and Belair disinfection sites. He coordinated with our electrical sub for the drafting of the electrical one line and riser diagrams as well as his equipment layouts on the site plans for the three sites. Mr. Foret drafted the plan/profile sheet and cross sections for the proposed new waterline crossing the marina bay as well as the standard details for the Eden Isles Water Main Repair.

Gloria Drive Pump Station, Project No. 20-2022A, Lafitte Area Independent Levee District Drainage, Town of Jean Lafitte, LA, 02/2021-Present

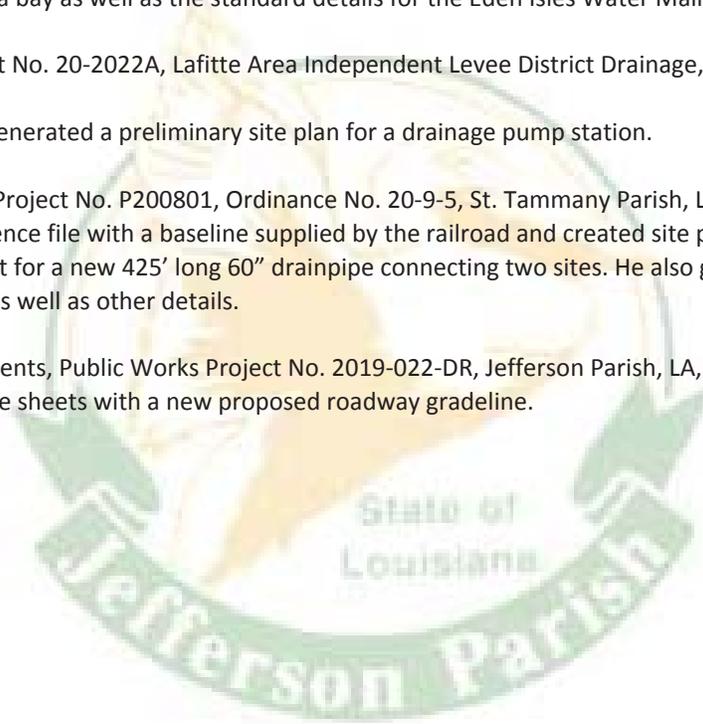
Mr. Foret set up the survey and generated a preliminary site plan for a drainage pump station.

CN Railroad Culverts in Ormond, Project No. P200801, Ordinance No. 20-9-5, St. Tammany Parish, LA, 10/2020-Present

Mr. Foret set up the survey reference file with a baseline supplied by the railroad and created site plans for 6 proposed construction sites including a plan/profile sheet for a new 425' long 60" drainpipe connecting two sites. He also generated multiple cross sections through the 6 construction sites as well as other details.

Craig Avenue Drainage Improvements, Public Works Project No. 2019-022-DR, Jefferson Parish, LA, 10/2020-Present

Mr. Foret updated the plan/profile sheets with a new proposed roadway gradeline.



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:	
Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals Jefferson Parish, LA Jefferson Parish Government Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 Brett Todd, Director @ BTodd@jeffparish.net (504) 736-6661	Engineering Services Related to Retrofitting about 260 Lift Stations with New or Modified Sewer Emergency Pump Outs throughout Jefferson Parish. THE PROJECT INCLUDED AN EPO AT THE E8-1 JOBSITE, CONNECTING TO THE EXISTING LIFT STATION PIPING AND FORCE MAIN, GIVING US FAMILIARITY AT THE ACTUAL SITE Detailed information about this project can be found in Exhibit A.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2019	\$5,001,573	\$5,001,573

PROJECT NO. 2

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA Jefferson Parish Government Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 Brett Todd, Director @ BTodd@jeffparish.net (504) 736-6661	Design, Bidding, Construction Administration, Resident Inspection, and Grant Support Services. THIS LIFT STATION WAS VERY SIMILAR TO LS E8-1 Detailed information about this project can be found in Exhibit A.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2018	\$813,000	\$813,000

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility	
<p>Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA</p> <p>Jefferson Parish Government Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 Brett Todd, Director @ BTodd@jeffparish.net (504) 736-6661</p>	<p>Design, Bidding and Construction Services to an Existing Sewer Lift Station.</p> <p>Detailed information about this project can be found in Exhibit A.</p>	
Completion Date (Actual or estimated)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
November 2016	\$613,000	\$613,000

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility	
<p>Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA</p> <p>Jefferson Parish Government Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 Brett Todd, Director @ BTodd@jeffparish.net (504) 736-6661</p>	<p>Design, Bidding and Construction Services to an Existing Sewer Lift Station.</p> <p>Detailed information about this project can be found in Exhibit A.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2013	\$710,000	\$710,000

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Lift Station Modeling, Jefferson Parish, LA Jefferson Parish Government Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 Brett Todd, Director @ BTodd@jeffparish.net (504) 736-6661	Developed hydraulic models for 27 lift stations and recommendation of improvements to lift stations and/or force main alignment. Detailed information about this project can be found in Exhibit A.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1997	\$30,000 (fee)	\$30,000 (fee)

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5559 Jefferson Parish Government Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 Brett Todd, Director @ BTodd@jeffparish.net (504) 736-6661	Design, Bidding, and Construction Administration Services of the rehabilitation of 8 existing lift stations and the construction of 3 new lift stations. Detailed information about this project can be found in Exhibit A.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1997	\$2,000,000	\$2,000,000

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA Jefferson Parish Government Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 Brett Todd, Director @ BTodd@jeffparish.net (504) 736-6661</p>	<p>Alternative Analysis of the Rehabilitation of an Existing Lift Station. Performed Surveying, Preliminary Design, Final Design and Cost Estimating Services.</p> <p style="text-align: center;">Detailed information about this project can be found in Exhibit A.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2019	\$735,334.82	\$40,500 (Fee)

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift Stations No.9 and No. 9A, Plaquemines Parish, LA</p> <p>Plaquemines Parish Government Department of Engineering and Public Works 333 F. Edward Hebert Blvd., Bldg. 500 Belle Chasse, LA 70037 Ken Dugas @ kdugas@ppgov.net (504) 297-5343</p>	<p>Design, bidding and construction services of upgrades to existing sewer lift station and package plant for Braithwaite and Dalcour.</p> <p style="text-align: center;">Detailed information about this project can be found in Exhibit A.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2015	\$326,000	\$326,000

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA St. Charles Parish Government 15045 River Road Hahnville, LA 70057 Darrin Duhe, Chief Operating Officer (985) 793-5102	Computer hydraulic model and preliminary design Detailed information about this project can be found in Exhibit A.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2002	\$20,000 (Fee)	\$20,000 (Fee)

PROJECT NO. 10		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Ashton Plantation Lift Station Analysis, St. Charles Parish, LA St. Charles Parish Government 15045 River Road Hahnville, LA 70057 Darrin Duhe, Chief Operating Officer (985) 793-5102	Hydraulic modeling, preliminary designs, and cost estimating Detailed information about this project can be found in Exhibit A.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2002	\$20,000 (Fee)	\$20,000 (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. N/A	N/A	BBEC does not and has not had any litigation with Jefferson Parish.
2.		
3.		
4.		

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

MINIMUM REQUIREMENTS FOR SELECTION

1. The persons or firms under consideration shall have at least one (1) principal who is a registered professional engineer in the State of Louisiana.

This requirement is met by: Jeffrey Bonura, P.E.

2. The persons or firms under consideration shall have a professional in charge of the Project who is a registered professional engineer in the State of Louisiana with a minimum of five (5) years' experience.

This requirement is met by: Jeffrey Bonura, P.E.

3. The persons or firms under consideration shall have one (1) employee who is a registered professional engineer in the State of Louisiana in the applicable discipline involved. A subcontractor may meet this requirement only if the advertised Project involves more than one discipline.

This requirement is met by: Kevin Forschler, P.E.

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.

EXPERIENCE SPECIFIC TO LS E8-1

In the period from 2015-2019, BBEC implemented the Parish's Sewerage Emergency Pump Out (EPO) project where every Parish lift station was evaluated for the need of an EPO. Among others, LS E8-1 required and received an EPO. BBEC researched record drawings and other utility drawings to determine the conflicting utilities. BBEC also evaluated the interior lift station piping for use. BBEC designed and implemented an exterior EPO, and developed as-built drawings for the work.

Figure 1 below shows the nature of the lift station site with regards to conflicting public utilities. Private utilities exist as well.

Figure 1

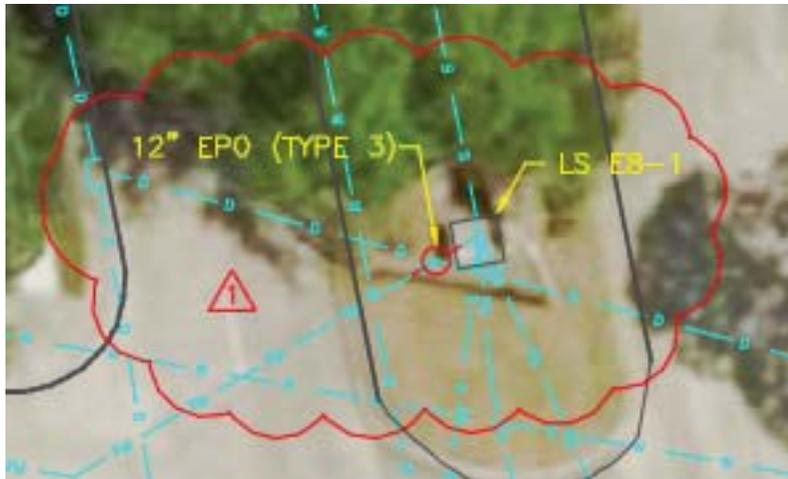
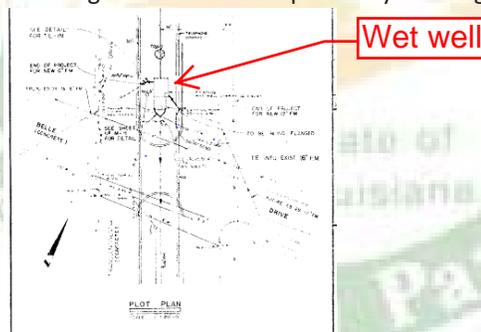


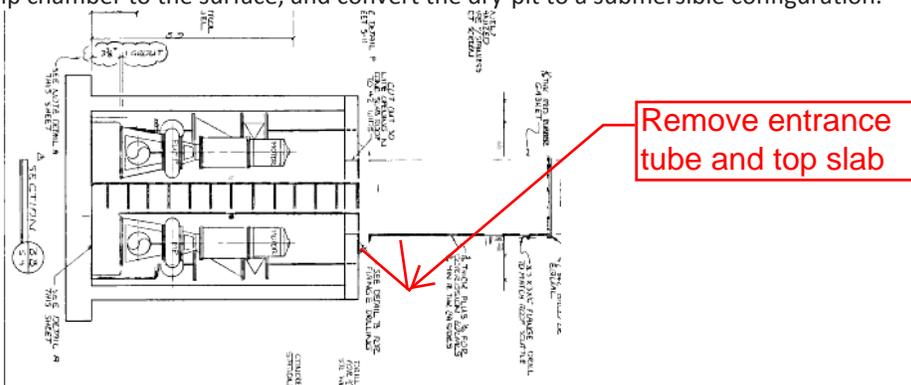
Figure 2 below shows the location of the existing wet well in close proximity of a large oak tree.

Figure 2



An option for improvement could be to modify the existing lift station by removing the entrance tube and pump room top slab (see Figure 3) and extending the pump chamber to the surface, and convert the dry-pit to a submersible configuration.

Figure 3

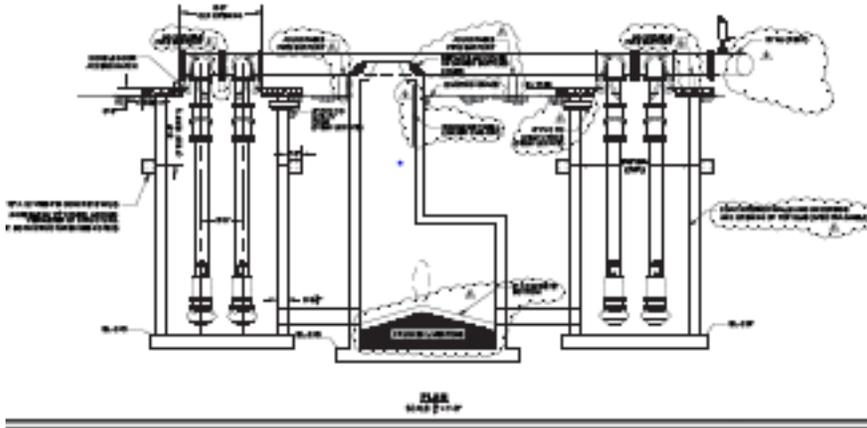


TEC Professional Services Questionnaire

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

BBEC performed a similar renovation to LS F7-11 (Figure 4) only a couple of miles from LS E8-1.

Figure 4



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

BBEC's proposed Supervising Professional, Mr. Jeffrey Bonura, P.E. has experience in performing and managing design, bidding, construction (including inspector training and oversight), and as-built drawing phases of over \$200 million in Public Works (wastewater) construction projects that included all aspects of construction. Between 1988 and 1996, Mr. Bonura designed and managed the construction of over 150 sanitary sewers, force mains, and sewer lift stations on the east bank of Jefferson Parish. Mr. Bonura's experience with the design and construction of sewer lift stations is evidenced in his resume.

In addition to Mr. Bonura, BBEC proposes to utilize Mr. Kevin Forschler, P.E. to assist him with the project. His experience includes lift station design and wastewater treatment. He designed 2 lift stations and part of 1 wastewater treatment plant renovation project in Jefferson Parish and administered the projects through construction. He has also assisted with the design of the installation of over 150 emergency pump outs at scattered locations throughout Jefferson Parish including the installation of an EPO at the E8-1 job site, connecting to the existing lift station piping and force main, giving him familiarity at this site. Mr. Forschler's experience is evidenced in his resume.

As noted in the resume section, Mr. Madan Kamboj, P.E. will perform the needed structural design; and Mr. Johnny Housey, P.E., is available but is not expected to be needed on the project.

Our experience includes successful completion of projects in sewerage collection and treatment such as the following (Detailed Information about these projects can be found in Exhibit A):

- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA
- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA
- Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA
- Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA
- Lift Station Modeling, Jefferson Parish, LA

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.

- Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5559 (rehabilitation of 8 existing lift stations and the construction of 3 new lift stations).
- Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA
- Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift Stations No.9 and No. 9A, Plaquemines Parish, LA
- Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA
- Ashton Plantation Lift Station Analysis, St. Charles Parish, LA
- Sewer Capital Improvements Program Contract 5511 (4 new stations and 8 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5512 (4 new stations and 3 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5553 (9 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5554 (1 new stations and 11 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5555 (force mains for 7 lift stations)
- Sewer Capital Improvements Program Contract 5556 (1 new stations and 1 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5559 (3 new stations and 8 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5560 (2 new stations and 12 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5562 (2 new stations and force main for 1 lift station)

SIZE OF FIRM CONSIDERING THE NUMBER OF PROFESSIONAL AND SUPPORT PERSONNEL REQUIRED TO PERFORM THE TYPE OF ENGINEERING TASKS, INCLUDING PROJECT EVALUATION, PROJECT DESIGN, DRAFTING OF TECHNICAL PLANS, DEVELOPMENT OF TECHNICAL SPECIFICATIONS AND CONSTRUCTION ADMINISTRATION

The firm's staff consists of 19 professional, technical, and clerical personnel capable of handling all project and administrative tasks.

Mr. Bonura will manage the project through completion, making sure that all requirements of the project are met. BBEC has sufficient licensed and experienced engineers, engineer interns, technicians, and GIS and drafting support to effectively perform work with its existing staff and meet any schedules reasonably set by the Parish.

CAPACITY FOR TIMELY COMPLETION OF NEWLY ASSIGNED WORK, CONSIDERING THE FACTORS OF TYPE OF ENGINEERING TASK, CURRENT UNFINISHED WORKLOAD, AND PERSON OR FIRM'S AVAILABLE PROFESSIONAL AND SUPPORT PERSONNEL

Our wealth of experience with public works type projects enables us to provide the Parish with the necessary knowledge of keeping the Project on schedule and within budget, adhering to the standards set forth by the Parish. BBEC can begin work immediately and devote the necessary manpower to continue with the work through completion BBEC has never failed to meet or exceed our clients' expectations on any of our projects. Our projects are currently on schedule.

In addition to BBEC experiences staff, we will have the following sub-consultants to perform the services as noted. Additional information regarding their experience can be found in their (TEC) Professional Services Questionnaire (attached).

- All South Consulting Engineers, L.L.C. (ASCELLC), located at 652 Papworth Avenue, Metairie, LA 70005, will perform Surveying services.

ASCELLC is a local engineering and surveying firm located only a few miles from the project site.

- Marrero, Couvillion & Associates, L.L.C.(MCA), located at 3525 Hessmer Ave, Suite 304, Metairie, LA 70002, will perform Electrical and Instrumental services.

MCA has been performing electrical and instrumentation services for Jefferson Parish lift stations since the 1900's. Their local office is only a few miles from the project site.

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.

• Eustis Engineering, L.L.C. (EUSTIS), located at 3011 28th Street, Metairie, LA 70002, will perform Geotechnical Investigation services. Eustis's office is located a few miles from the project site. Eustis has performed more geotechnical analysis for Jefferson Parish lift station projects than all others combined.

TEC Professional Services Questionnaires for our individual sub-consultants follow ours.

PAST PERFORMANCE BY PERSON OR FIRM ON PROJECTS OF OR SIMILAR COMPARABLE SIZE, SCOPE, AND SCALE. ASSERTIONS OF FAULT BY A PERSON OR FIRM, WHICH SHALL INCLUDE TIME DELAYS, COST OVER-RUNS, AND OR DESIGN INADEQUACIES IN PRIOR WORK COMPLETED FOR THE PARISH SHALL BE EVIDENCED BY SUBSTANTIATING DOCUMENTATION PROVIDED BY DIRECTOR OF PUBLIC WORKS FOR THE REQUESTING DEPARTMENT OR THE DIRECTOR OF ENGINEERING AND RECEIVED BY THE CHAIRMAN OF THE EVALUATION COMMITTEE PRIOR TO THE SCHEDULED DATE OF THE TECHNICAL EVALUATION COMMITTEE MEETING

As noted throughout this Professional Services Questionnaire, BBEC and its staff members have an excellent history of service to Jefferson Parish, its Departments, and its citizens. Our projects range from the smallest \$5,000 fee project to our largest \$40,000,000 fee project. Project descriptions are included in this qualifications submittal to substantiate our experience in previous contracts. We invite further scrutiny of our track record with the Parish through discussion with any of the Departments noted elsewhere in this document.

Mr. Bonura's resume above lists over 100 lift stations designed and/or evaluated for improvements.

BBEC has not been faulted with any time delays, cost overruns, and / or design inadequacies.

LOCATION OF THE PRINCIPAL OFFICE WHERE WORK WILL BE PERFORMED

BBEC's main office is located at 209 Canal Street in Metairie which is where the work will be performed. Our sub-consultants also have East Bank Jefferson Parish offices, where their work will be performed.

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

BBEC does not and has not had any litigation with Jefferson Parish.

PRIOR SUCCESSFUL COMPLETION OF PROJECTS OF THE TYPE AND NATURE OF THE ENGINEERING SERVICES, AS DEFINED, FOR WHICH FIRM HAS PROVIDED VERIFIABLE REFERENCES

Lift Station Designs or Evaluations:

Jefferson Parish (recent SCIP)

- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA, 2015-2019
- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA, 2018
- Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA, 2011-2016
- Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA, 2012-2013
- Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA, 06/2014-01/2015

REFERENCE: Brette Todd, Director, Jefferson Parish Department of Sewerage, btodd@jeffparish.net, (504) 736-6661

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.

Jefferson Parish (part SCIP by Jeffrey Bonura, P.E.)

- Lift Station Modeling, Jefferson Parish, LA, 1993-1999
- Sewerage Capital Improvements Program, Jefferson Parish, LA, 1988-1997
- Sewerage Capital Improvements Program - Lift Station Contract 5511
- Sewerage Capital Improvements Program - Lift station Contract 5512
- Sewerage Capital Improvements Program - Lift station Contract 5553
- Sewerage Capital Improvements Program - Lift station Contract 5554
- Sewerage Capital Improvements Program - Lift station Contract 5556
- Sewerage Capital Improvements Program - Lift station Contract 5559
- Sewerage Capital Improvements Program - Lift station Contract 5560
- Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562
- Wastewater Program, Houston, TX, 1997

REFERENCE: B.K.Sneed, former Director of Public Works for Jefferson Parish Government

Jefferson Parish Lift Station Minor Modifications (EPO's)

A total of 138 Lift Stations were modified but are not listed for the sake of brevity.

REFERENCE: Brette Todd, Director, Jefferson Parish Department of Sewerage, btodd@jeffparish.net, (504) 736-6661

Plaquemines Parish

- Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift Stations No.9 and No. 9A, Plaquemines Parish, LA, 2015

REFERENCE: Ken Dugas, Plaquemines Parish Department of Engineering and Public Works, kdugas@ppgov.net, (504) 297-5343

St. Bernard Parish

- Emergency Pump-Out, St. Bernard Parish, LA, 2005

REFERENCE: Donald Bourgeois, Jr., Capital Projects Supervisor, St. Bernard Parish, dbourgeois@sbgp.net, (504) 962-9103

St. Charles Parish

- Wastewater Improvement Program, St. Charles Parish, LA
- Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA, 2002
- Ashton Plantation Lift Station Analysis, St. Charles Parish, LA, 2002

REFERENCE: Darrin Duhe, Chief Operating Officer, St. Charles Parish, (985) 783-5100

Detailed descriptions of relevant projects are provided in Exhibit A (attached).

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.



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

Signature: Jeffrey Bonura **Print Name:** Jeffrey Bonura, P.E.

Title: Principal **Date:** May 26, 2021

EXHIBIT A – DETAILED DESCRIPTIONS OF RELATED PROJECTS



*Provide Professional Engineering Services Related to the Design for the Rehabilitation of the
Transcontinental & Belle Lift Station
(Resolution No. 137449)*

EXHIBIT A

RELEVANT PROJECTS

DETAILED PROJECT DESCRIPTIONS FROM SECTION L

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA, 2015-2019

The project contains 192 lift stations that need EPO installations and 76 lift stations that have EPOs that are currently undersized or need relocation. Through this project, new EPOs will be installed at all 192 lift stations and EPO modifications will be made at the other 76 lift stations. **BBEC installed an EPO at the E8-1 jobsite, connecting to the existing lift station piping and force main, giving us familiarity at the actual site.** BBEC reviewed all lift station photos, as-builts, and other information to evaluate the optimum location for the new



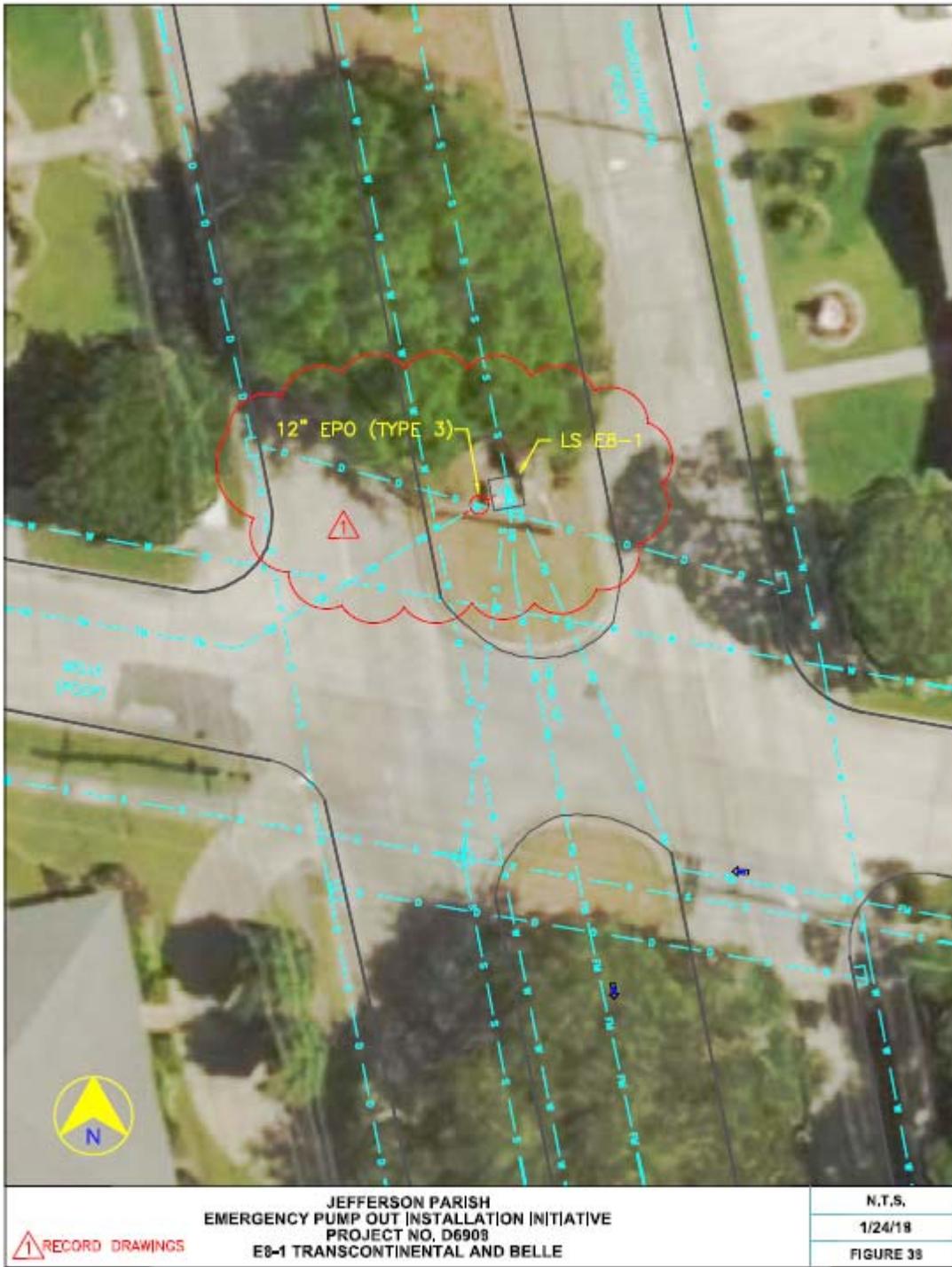
lift stations and required appurtenances (pumps, hoses, etc.) and design the EPO modification upgrades prior to site surveys. BBEC performed site surveys to determine the needed scope of work at each site to improve the EPO conditions. BBEC generated site plans for each station, standard details, plans and specifications. BBEC performed bidding, construction administration, and resident inspection services. BBEC also assisted the Parish in response to a HUD audit of the project.

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA, 2018

Lift Station F7-11 is a 4,041 gpm lift station with 4 8-inch 100 hp pumps and motors. The lift station had 4 dry pit pumps in two different dry pits. The pump station discharged into a short (<300 feet) force main. BBEC evaluated the options of replacing the pumps with dry pit pumps and submersible pumps, and evaluated the options of utilizing the existing force main, extending the existing force main to discharge into a manhole several thousand feet away, and connecting the force main into a major force main manifold. The option selected, and the designs BBEC performed, were replace the dry pit pumps with submersible pumps, replace all piping and valves to raise the valves above grade, modify the wet well structures by removing the entrance tubes and replacing them with 8-foot reinforced concrete pipe sections (including designing the connection between old and new pipe sections), designing new top slabs and hatches for the two renovated dry pits and the wet well, completely cleaning and coating the wet wells for H₂S gas, and related controls. Variable frequency drive units were utilized so the pump station would run during the then existing condition with the short force main but was capable of running when connected to the major force main manifold as planned. BBEC performed the design, negotiated a change order with a contractor to perform the work under a federally funded project, and performed the construction administration, resident inspection, and record drawing services. BBEC also assisted the Parish in successfully addressing funding

agency comments regarding the procurement of the work. The construction cost was \$813,000. This project was completed in 2018.

E8-1 FROM EPO RECORD DRAWINGS



E8-1S11 – DAILY REPORT FOR JP EPO INSTALLATION INITIATIVE

DAILY REPORT - JP EPO INSTALLATION INITIATIVE
FLEMING JOB NO. 15-211

WORK ORDER NO. 38
E 8-1

ADDRESS Transcontinental + Belle
 TYPE 12" TYPE 3
 FIGURE # 38

Street Name Transcontinental AS BUILT

DATE STARTED 5-22-17 REPAIR DATE COMPLETED 5-23-17

ITEM	DESCRIPTION	QTY
13	Formwork + install 12" TYPE 3	1
22	Connect to existing 12" face manhole	1
41	Remove existing EPD	1

BILLED INVOICE MAY

INSPECTOR'S SIGNATURE Charlotte Paul FOREMAN Wayne Deltelle

DATE STARTED _____ RESTORATION DATE COMPLETED _____

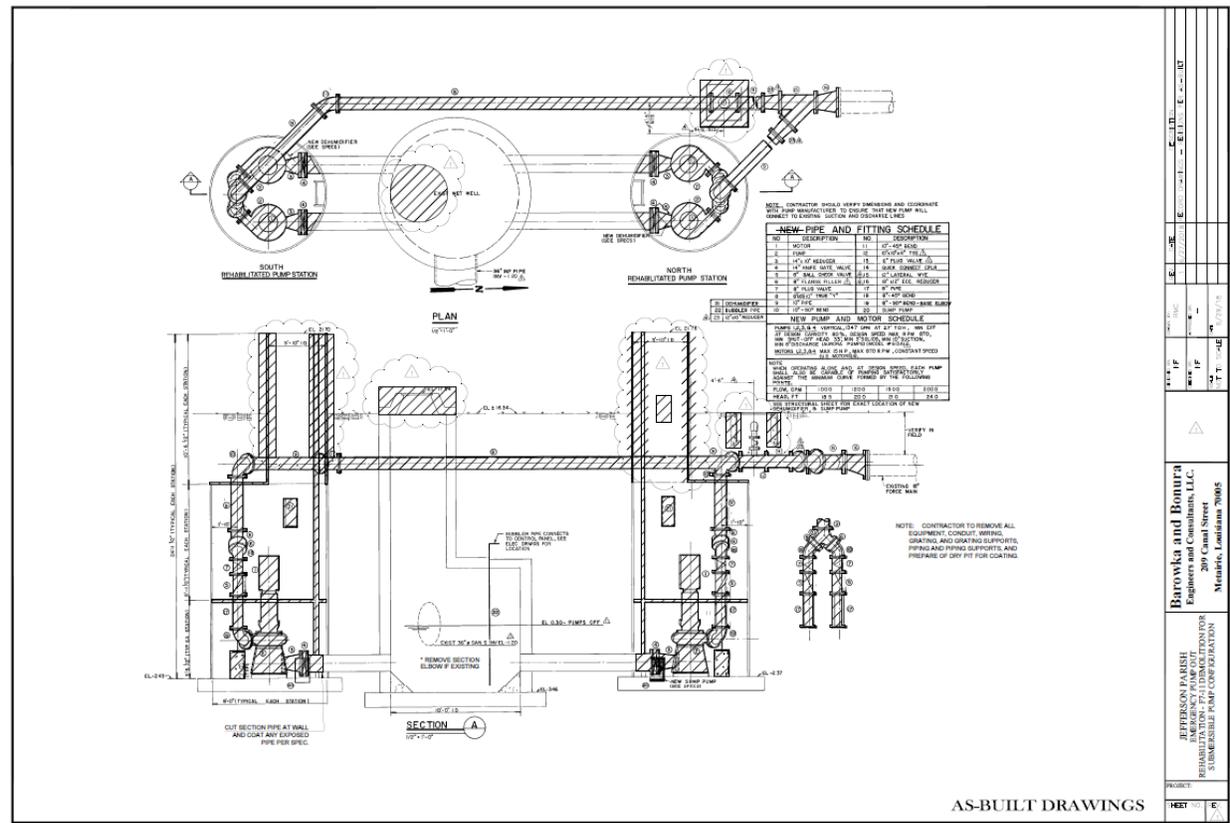
ITEM	DESCRIPTION	QTY
	<u>NO Restoration needed</u>	

BILLED INVOICE _____

INSPECTOR'S SIGNATURE _____ FOREMAN _____



LS F7-11 AS-BUILTS



Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA, 2011-2016

The project consisted of the improvements to the existing Sewer Lift Station at Cutty Sark and Titanic (P-12-10), which included the installation of a new 8-foot diameter fiberglass wet well and 8-foot diameter valve pit on pile supported foundations and installation of new pumps, piping, fittings, valves and control panel. BBEC coordinated all surveys and soil investigations, designed all improvements, prepared all plans, specifications, and contract documents, assisted the Parish with the bidding phase, and managed all construction activity, including the review of shop drawings and working drawings. BBEC also assisted the Parish with the acquisition of the necessary servitude to house and maintain the upgraded facility. This project is complete and closed out.

Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA, 2012-2013

The project consisted of the improvements to the existing Sewer Lift Station on Alexis Drive (M-13-2), which included the evaluation of various options to relocate the existing lift station from its current location and the detailed design and installation of a new 6-foot diameter fiberglass wet well and 6-foot diameter valve pit on pile supported foundations, new submersible 150 gpm pumps,

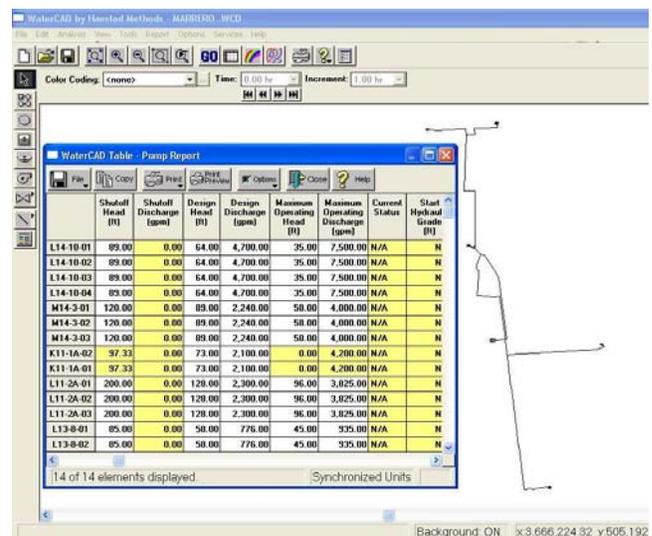


pipings, fittings, valves and control panel, including the necessary roadway repairs associated with the lift station installation and pipe laying operations. BBEC designed the improvements, prepared detailed plans and specifications, and administered the project through the bidding phase and construction activities. The project is complete and closed out.

Lift Station Modeling, Jefferson Parish, LA, 1997

BBEC developed hydraulic models for 27 sewerage lift stations using third party hydraulic modeling software. Some of the hydraulic systems included multiple lift stations with multiple pumps. The hydraulic models were used to evaluate lift station performance at the Parish's problem stations and served as the basis for in-house upgrades. The models were developed based on the Parish's GIS, with the modeled facilities overlaid onto the GIS map so the Parish features could be seen and the drawing would be to the real world-scale. Certified pump curves, when available, were incorporated into the model to improve accuracy of the models. Lift stations modeled include:

- H9-1 Bridge City and Hwy. 90
- I9-1 Bridge City and Wiegand Drive
- K11-1 Francis Street and WB Expressway (manifolds with L11-2, pumps to Marrero WWTP)
- L11-2 Field and Eisman Street (manifolds with K11-1, pumps to Marrero WWTP)
- L13-8 Caddy and Segnette Drive
- L14-10 Pritchard Central Pump Station (manifolds with M14-3, L12-5, and others)
- M14-3 Cousins and Baratara Booster Station (manifolds with L14-10, L12-5, and others)
- N12-7 Day and Enterprise Drive
- N13-8 Woodmere South Pump station
- D7-2 Kawanee and Olympic
- D6-5A Four Bayous
- D8-2 Elmwood and 39th Street
- D8-5 Cleveland and Avron
- E6-1 Elizabeth and W. Napoleon Ave.
- E3-7 Camp Plaque Pump Station
- E6-2 Elizabeth and N. I-10 Service Road (manifolds with E7-1)
- E7-1 Kawanee and Henican/Page (manifolds with E6-2)
- E7-3 Transcontinental and Veterans
- H6-3A Canal Street and Focis Ave.
- H6-4 Focis Street and Toulouse
- H8-4 Poplar and Nursery



Station ID	Shutoff Head (ft)	Shutoff Discharge (gpm)	Design Head (ft)	Design Discharge (gpm)	Maximum Operating Head (ft)	Maximum Operating Discharge (gpm)	Current Status	Start Hydrad Grade (ft)
L14-10-01	89.00	0.00	64.00	4,700.00	35.00	7,500.00	N/A	N
L14-10-02	89.00	0.00	64.00	4,700.00	35.00	7,500.00	N/A	N
L14-10-03	89.00	0.00	64.00	4,700.00	35.00	7,500.00	N/A	N
L14-10-04	89.00	0.00	64.00	4,700.00	35.00	7,500.00	N/A	N
M14-3-01	120.00	0.00	89.00	2,240.00	50.00	4,000.00	N/A	N
M14-3-02	120.00	0.00	89.00	2,240.00	50.00	4,000.00	N/A	N
M14-3-03	120.00	0.00	89.00	2,240.00	50.00	4,000.00	N/A	N
K11-1A-02	97.33	0.00	73.00	2,100.00	0.00	4,200.00	N/A	N
K11-1A-01	97.33	0.00	73.00	2,100.00	0.00	4,200.00	N/A	N
L11-2A-01	200.00	0.00	129.00	2,300.00	96.00	3,825.00	N/A	N
L11-2A-02	200.00	0.00	129.00	2,300.00	96.00	3,825.00	N/A	N
L11-2A-03	200.00	0.00	129.00	2,300.00	96.00	3,825.00	N/A	N
L13-8-01	85.00	0.00	50.00	776.00	45.00	535.00	N/A	N
L13-8-02	85.00	0.00	50.00	776.00	45.00	535.00	N/A	N

- G4-4 Loumar Ave. and Gruner Road
- O10-1 8th Street and Olive Ave.
- P10-2 Browning and Cranberry
- P14-8 Near Aspen Drive and Sugar Loaf Drive
- O12-1 Orbit and N. Friendship
- O13-1 Friendship Drive

Sewerage Capital Improvements Program - Lift station Contract 5559, Jefferson Parish, LA, 1988-1997

Contract 5559 consisted of the rehabilitation of 8 existing lift stations and the construction of 3 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA, 2014-2019

Jefferson Parish was experiencing sewerage overflows due to wet weather in the Tolmas Drive area. BBEC evaluated the operation of the area's sewer system, that included 4 lift stations with associated force mains and gravity systems. The scope of the evaluation was to determine how to alleviate the surcharge condition of the G7-5 gravity system. The evaluation simulated modifying the pumping arrangements of stations G8-2 and G7-5 and performing an analysis of the capacity of the G7-5 gravity system. Station G7-3 appeared to operate correctly and the evaluation did not attempt to alter the existing conditions of that station.



Station G7-3 appeared to operate correctly and the evaluation did not attempt to alter the existing conditions of that station.

BBEC developed and calibrated a hydraulic model of the sewer system, which was utilized to simulate corrective measures to eliminate the overflow problems. The modeled conditions were as follows:

- Scenario 1 – Existing System (to establish a base for the model)
- Scenario 2 – G8-2 and G7-5 pump stations in series
- Scenario 3 – G8-2 and G7-5 pump stations in parallel
- Scenario 4 – G8-2 and G7-5 stations modified (no additional force main)
- Scenario 5 – G8-2 and G7-5 stations modified and pumps in series

BBEC made recommendations for improvements, prepared preliminary designs including the selection of replacement pumps where necessary, and prepared a detailed construction cost estimate of various alternatives for improvements. The recommendation consisted of two options for repairs: (1) a minimum cost improvements option by changing pump impellers only but did not get the lift stations exactly to their individual design capacities; and (2) a \$117,000 cost option including new pumps and the installation of 882 linear feet of 6-inch diameter force main. Jefferson Parish was to research its funding construct one of the recommended improvements with its in-house crews and corrected the overflow problems.

Jefferson Parish received an EPA grant through the Lake Pontchartrain Basin Foundation to fund the design of the recommended improvements and hired BBEC to design the improvements. BBEC performed surveying, preliminary, and final design for the project. The project was constructed in-house by the Parish. The design of the improvements to the existing sewer lift station G8-2 includes converting the existing station to a submersible type station utilizing the existing wet well and installing a new valve pit. The project will require all new mechanical and electrical equipment, the removal and replacement of the wet well top to include new hatches, and the installation of a new pile supported valve pit.

Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift Stations No.9 and No. 9A, Plaquemines Parish, LA, 2015

The Braithwaite portion of the project consisted of repairs of the damages to the lift station and package plant caused by Hurricane Isaac. BBEC performed all design for the repairs, bidding services, and construction/project management for the project. The repairs included new control panels, new fencing, earthwork for the plant foundation, concrete walkway repairs, new piping, new wiring and framing, and resetting and securing the plant to the foundation.

The Dalcour portion of the project consisted of repairs of the damages to the lift stations caused by Hurricane Isaac. BBEC performed all design for the repairs, bidding services, and construction/project management for the project. The project consisted of replacing the control panels and electrical work at the stations.

Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA, 2002

The project involved determining if connecting the Bourg (2,640 gpm design capacity) and Bank (1,240 gpm design capacity) Sewer Lift Stations into an existing 18-inch diameter sewer force main would be possible. The existing 18-inch force main served four other lift stations, and there was concern that connecting the Bourg and Bank Lift Stations would decrease the other lift station's capacities so that they would not be able to handle their respective wastewater flows.

BBEC developed a computer hydraulic model for the 18-inch sewer force main and all lift stations pumping into it (existing and proposed). BBEC evaluated five different alternatives and included wet and dry weather conditions in each of the five alternatives. As part of the model evaluation, BBEC performed preliminary designs for improvements and simulated the



recommended improvements with the model to ensure that the recommendations were feasible. The simulated improvements included constructing a complete booster station, trimming impellers and/or changing pump speed at several locations, and replacing pumps and motors at several locations. BBEC concluded with three options for consideration.

Ashton Plantation Lift Station Analysis, St. Charles Parish, LA, 2002

BBEC determined most effective method of connecting new subdivision lift stations into existing sewer force main already serving six other lift stations. BBEC provided hydraulic modeling of the affected sewer system and then preliminary designs and cost estimating of various working alternatives.

ADDITIONAL PROJECTS PERFORMED BY BBEC STAFF FOLLOW:

Repair of Myrtle Grove Sewer Pumping Stations No. 281 through No. 289, Plaquemines Parish, LA, 2015

The project consists of repairs of the damages to the lift stations caused by Hurricane Isaac. BBEC performed all design for the repairs, bidding services, and construction/project management for the project. The project consists of replacing the control panels, wiring, and conduit, earthwork at each station, replacing an abutment wall at one station, and a sewer point repair at one station.

Repair of Ironton Oxidation Pond and Ironton Lift Station No. 25, Plaquemines Parish, LA, 2015

The project consisted of repairs of the damages to the pond and lift station caused by Hurricane Isaac. BBEC performed all design for the repairs, bidding services, and construction/project management for the project. The repairs included levee repairs, cell blockage cleanout, removal of storm generated silt and debris, new pumps, and new control panels.

Emergency Sewer Force Main Repair, St. Bernard Parish, LA, 2005-2007

Several sewer force mains were damaged by Katrina. BBEC developed plans and a specification for a unit price contract to repair the sewer force mains, handled the project through bidding, and performed construction administration and resident inspection services for the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

Emergency Sewer Pump-Out, St. Bernard Parish, LA, 2005-2007

BBEC developed plans and specifications, bid, and administered the construction of two construction contracts to install a total of 78 emergency pump outs onto existing lift stations to allow for temporary pumps to utilize the existing force mains. BBEC developed the necessary details and pay items for the work to be performed on a unit price basis and provided the necessary field staff to work with the contractor and owner to determine a suitable location for the EPO. Once the EPO was installed and tested, BBEC also tested the force main to determine



if the force main had any leaks due to damages by Hurricane Katrina. BBEC managed the construction contract through completion and acceptance, worked with FEMA to develop the grants for the work, and assisted the owner in closing out the grant with FEMA.

Emergency Sewer Pump Rental, St. Bernard Parish, LA, 2005-2007

Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard Parish, BBEC developed bid documents for a unit price contract to provide trailer mounted rental pumps to maintain the sewer levels in the Parish's sewer collection system while various lift stations and sewer treatment plants were repaired. BBEC handled the project through bidding and performed construction administration and resident inspection services through completion of the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

Sewer Pump Stations EPOs, East of Jacob Drive (Project 05-823), St. Bernard Parish, LA, 2005-2006

BBEC developed plans and specifications, bid, and administered the construction of contracts to install a total of 44 emergency pump outs onto existing lift stations to allow for temporary pumps to utilize the existing force mains. BBEC developed the necessary details and pay items for the work to be performed on a unit price basis and provide the necessary field staff to work with the contractor and owner to determine a suitable location for the EPO. Once the EPO was installed and tested, BBEC also tested the force main to determine if the force main had any leaks due to damages by Hurricane Katrina. BBEC managed the construction contract through completion and acceptance, worked with FEMA to develop the grants for the work, and assisted the owner in closing out the grant with FEMA.

Sewer Pump Stations EPOs, West of Jacob Drive (Project 05-822), St. Bernard Parish, LA, 2005-2006

BBEC developed plans and specifications, bid, and administered the construction of contracts to install a total of 34 emergency pump outs onto existing lift stations to allow for temporary pumps to utilize the existing force mains. BBEC developed the necessary details and pay items for the work to be performed on a unit price basis and provide the necessary field staff to work with the contractor and owner to determine a suitable location for the EPO. Once the EPO was installed and tested, BBEC also tested the force main to determine if the force main had any leaks due to damages by Hurricane Katrina. BBEC managed the construction contract through completion and acceptance, worked with FEMA to develop the grants for the work, and assisted the owner in closing out the grant with FEMA.

Emergency Pump-Out, St. Bernard Parish, LA, 2005

BBEC served as Project Management and supervised the construction of 85 Emergency Pump-Outs (EPO). Project included the installation of EPO's in various locations in St. Bernard Parish, hydro testing of force mains and temporary and final restoration. BBEC distributed shop drawings, reviewed daily inspection reports, reviewed test reports, checked quantities, and completed all correspondence.



Emergency Sewer Vacuum, St. Bernard Parish, LA, 2005

Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard Parish, BBEC developed plans and specifications for a unit price contract to vacuum sanitary sewerage out of the gravity system and dispose it into the operating sewer treatment plants as a temporary measure to keep the sewers down while emergency pump-outs and pumps were procured, obtained, and/or constructed, handled the project through bidding, and performed construction administration and resident inspection services through completion of the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

Capital Improvements Program - Lift Station Contract 5511, Jefferson Parish, LA, 1988-1997

Contract 5511 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 8 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. A unique aspect of the construction of Contract 5511 is that the deep excavations for the new lift stations utilized a slurry wall cofferdam installed by Halliburton. The cofferdam method was a creative method to support the excavation walls without the vibrations caused by the installation of steel sheets. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5512, Jefferson Parish, LA, 1988-1997

Contract 5512 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 3 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5553, Jefferson Parish, LA, 1988-1997

Contract 5553 consisted of the rehabilitation of 9 existing lift stations. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Emergency pump out were installed where the force main discharge location was such that access via bypass pumping was not feasible.

Sewerage Capital Improvements Program - Lift station Contract 5554, Jefferson Parish, LA, 1988-1997

Contract 5554 consisted of the rehabilitation of 11 existing lift stations and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible



for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Emergency pump out were installed where the force main discharge location was such that access via bypass pumping was not feasible.

Sewerage Capital Improvements Program – Force Main Contract 5555, Jefferson Parish, LA, 1988-1997

Contract 5555 consisted of the construction of sewer force mains for 7 different lift stations in scattered locations on the Eastbank of Jefferson Parish. Mr. Bonura performed final plan review of the plans for constructability and performed services during bidding. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pipe, valves, and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Mr. Bonura was also responsible to obtain permits from LDOTD and the railroad company to perform work within their respective rights-of-way.

Sewerage Capital Improvements Program - Lift station Contract 5556, Jefferson Parish, LA, 1988-1997

Contract 5556 consisted of the rehabilitation of 1 existing lift station and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5560, Jefferson Parish, LA, 1988-1997

Contract 5560 consisted of the construction of 2 new sewer lift stations and the rehabilitation of 12 existing lift stations. Mr. Bonura designed all improvements, performed services during bidding, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.



Sewerage Capital Improvements Program – Force Main and Gravity Sewer Contract 5561, Jefferson Parish, LA, 1988-1997

Contract 5561 consisted of the construction of sewer force mains for 4 lift stations and about 850 linear feet of gravity sewer in scattered locations on the Eastbank of Jefferson Parish. Mr. Bonura designed the plans, coordinated with all utilities, and performed services during bidding. The plans included the necessary roadway repairs associated with the pipe laying operations in accordance with the Parish’s standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pipe, valves, and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Mr. Bonura was also responsible to obtain permits from LDOTD and the railroad company to perform work within their respective rights-of-way.

Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562, Jefferson Parish, LA, 1988-1997

Contract 5562 consisted of the construction of two new sewer lift stations and the force main for one of the lift stations. Mr. Bonura designed the improvements, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish’s standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

SOQ to Provide Engineering Services for Rehabilitation of the Transcontinental & Belle Lift Station (E8-1) - Resolution 137449

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



652 Papworth Avenue,
Metairie, Louisiana 70005

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:

Timothy P. Bonura, P.E.
Managing Partner
504-322-2783
tim@ascellc.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.

John Teegarden, P.L.S.
Vice President, Survey Division Manager
504-322-2783
jteegarden@ascellc.com

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

<u> 5 </u> Administrative	<u> 0 </u> Estimators	<u> 1 </u> Specification Writers
<u> 0 </u> Architects (Licensed)	<u> 0 </u> Geologists	<u> 3 </u> Structural Engineers
<u> 0 </u> Chemical Engineers	<u> 0 </u> Geotechnical Engineers	<u> 1 </u> Graduate Engineers
<u> 9 </u> Civil Engineers	<u> 0 </u> Interior Designers	<u> 3 </u> Project Managers
<u> 9 </u> Construction Inspectors	<u> 0 </u> Landscape Architects	<u> 2 </u> Clerical
<u> 0 </u> Ecologists	<u> 0 </u> Land Surveyor	<u> 6 </u> Grant/Funding Specialist
<u> 0 </u> Electrical Engineers	<u> 0 </u> Mechanical Engineers	<u> 0 </u> Sanitary Engineers
<u> 3 </u> Engineer Intern	<u> 0 </u> Environmental Engineers	
<u> 1 </u> Professional Land Surveyor		<u> 54 </u> TOTAL

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

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

TEC Professional Services Questionnaire

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

1. NA

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.		
2.		
3.		

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

6 _____

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:

John Teegarden, PLS
Vice President, Survey Division Manager

Project Assignment:

Senior Professional Land Surveyor, Survey Project Manager

Name of Firm with which associated:

All South Consulting Engineers, LLC

Years' experience with this Firm:

6

Education: Degree(s)/Year/Specialization:

International Correspondence School, Surveying and Mapping Course (2-year course completed)

Active registration: Year first registered/discipline:

1990/ Professional Land Surveyor/ Louisiana License No. 4635
1999/ Professional Land Surveyor/ Mississippi License No. 2782

Other experience and qualifications relevant to the proposed Project:

John S. Teegarden, PLS joined All South Consulting Engineers, LLC in 2014 as Vice President and Survey Division Manager. Mr. Teegarden has extensive experience in all aspects of land surveying including boundary, elevation, topographic, hydrographic, industrial, and construction projects.

Over his 38-year career, he has participated in or directed surveys for a wide variety of clientele including local municipal and governmental agencies, state agencies, and federal agencies (including the U.S. Army Corps of Engineers). In his career, he has served as a Field Party Chief, Field Supervisor, CAD Technician, Project Manager, and Division Manager.

Mr. Teegarden's varied project experience includes high precision survey control, single and multibeam hydrographic surveys, large boundary surveys, surveys for public right-of-way taking, topographic route surveys, mapping of subsurface utilities based on the markings provided by a subsurface utility engineering firm, coastal restoration projects, laser scanning surveys and GPS project surveys, to name just a few. This experience includes over 20 years' experience in directing and performing hydrographic surveys. He has executed and/or supervised hydrographic surveying projects throughout Coastal Louisiana, including Breton Sound, the Barataria Basin, and the lower Mississippi River area including Southeast Pass, Tiger Pass, and Baptiste Collette.

Blimp Road Sewer Phases 1 & 2 Houma Terrebonne Airport Commission, Houma, Louisiana

Mr. Teegarden conducted a topographic survey of the route for a new gravity sewer line using GPS and robotic total station. He processed files for import into AutoCAD Civil 3D and used the data to create a topographic survey map.

Silt and Debris Measurement in Jefferson Parish Canals Jefferson Parish, Louisiana

TEC Professional Services Questionnaire

Mr. Teegarden is providing topographic and bathymetric survey services for the Jefferson Parish Drainage Department. We are surveying canals to determine the amount of silt build up utilizing All South's Z-Boat, a six-foot-long remotely controlled vessel equipped with GPS, a dual-frequency echosounder and a laptop to record the data.

Geisenheimer Canal Topographic Survey *Jefferson Parish, Louisiana*

Mr. Teegarden led our survey teams in the preparation of a topographic survey that included the location of the Geisenheimer Canal Box Canal and the adjoining surface features from the north curb line of Airline Highway into the fairway of Metairie Country Club adjacent to Airline Highway.

Woodvine Ditch Topographic Survey *Jefferson Parish, Louisiana*

Mr. Teegarden is providing a topographic survey over the existing 54" RCP drain line followed the line from Nassau Drive south across the Metairie Country Club Golf course to its tie in point at Geisenheimer Canal. Improvements along that route were located along with trees, with size and species and topographic features on the golf course, that included ties, sand traps and the raised greens that fell in the route.

Loumor Outfall Ditch Topographic Survey *Jefferson Parish, Louisiana*

Mr. Teegarden and the All South survey staff provided a topographic survey of the route that follows the 78" X 122" RCAP along the western edge of Metairie Country Club Golf course, then southeasterly and finally south to Geisenheimer Canal just north of Airline Highway. Improvements along that route were located along with trees, with size and species and topographic features on the golf course, that included ties, sand traps and the raised greens that fell in the route.

Tudor and Tallulah Drainage Analysis *River Ridge, Jefferson Parish, Louisiana*

Mr. Teegarden provided topographic survey services and collected field data for the Tudor and Tallulah drainage project. This work included picking up horizontal and vertical data in the drainage area, including locating the multiple subsurface utilities that could affect the project. Cost \$60,000

Canal No. 10 Underground Utility Locations *Jefferson Parish, Louisiana*

Mr. Teegarden provided topographic survey services for the West Esplanade at Canal 10 Drainage Improvements project. His responsibilities included a topographic survey of canal crossing, location of underground utilities located by subsurface utility engineering contractor and added to an existing topographic survey.

Lake Cataouatche Pump Station Topographic Survey *Jefferson Parish, Louisiana*

Mr. Teegarden and his team prepared a topographic survey at the site of the current Lake Cataouatche pump station located on Churchill Farms. The survey area adjacent to the existing pump station will be the site for a new pump station under design. The survey included cross sections of the site and the adjacent canal along with the location of improvements in the project area.

Upper LA 45 Basin Tidal Surge Protection *Lafitte, Louisiana*

Mr. Teegarden and his team conducted topographic, magnetometer and bathymetric surveys for the design of a tidal surge protection system for the Upper LA 45 basin in the Lafitte Levee District. The team surveyed three routes, one along Bayou Baratavia for the design of a floodwall and two possible routes for a rear protection levee through swamp and marsh areas. RTK GPS, Robotic Total stations, remotely operated Z-Boat and a Marine Magnetics Sea-Spy magnetometer were used for this project. The survey deliverables included plan and profile sheets and plotted cross sections.

Rosethorne Path – LA 45 *Lafitte, Louisiana*

Mr. Teegarden and his team conducted a topographic survey along the route of a proposed walk and bike path along LA Hwy 45 in the Lafitte area. RTK GPS and robotic total stations were used to located improvements, utilities and take cross sections along the survey route.

40 Arpent Canal Levee Walk and Cycling Path and Pedestrian Bridge *St. Bernard Parish, Louisiana*

Mr. Teegarden and his team conducted a topographic survey along the 40 Arpent Levee in St. Bernard parish for the design of a walk and bike path. RTK GPS was used to locate improvement and take cross sections along the proposed survey route. The area surveyed began at the St. Bernard/Orleans parish line and continued southeasterly to Paris Road.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Taylor Casteigne, LSI Land Surveyor Intern, Survey Supervisor
Project Assignment:
Land Surveyor Intern
Name of Firm with which associated:
All South Consulting Engineers, LLC
Years' experience with this Firm:
1
Education: Degree(s)/Year/Specialization:
Bachelor of Science / 2019 / Geomatics
Active registration: Year first registered/discipline:
2021/ Land Surveyor Intern/ Louisiana License No. 0000714
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Casteigne is a graduate from Nicholls State University with a degree in Geomatics. After graduation, he served as party chief and AutoCAD draftsman doing a variety of surveys for both roadways and pump stations in the state of Louisiana. He is well versed in the latest in surveying equipment technology to ensure a fast and accurate project survey.</p> <p>Riverbend Oxidation Pond <i>Jefferson Parish, Louisiana</i> Mr. Casteigne performed full topographic survey and CAD services, including locating all subsurface utilities in accordance with department standards for the design and construction of improvements for the Riverbend Oxidation Pond Pump Station and the installation of a new sewer force main. This included performing the necessary field work for the survey, then processing the data into a useable format. Once the data was in a useable format it is imported into Auto CAD, where the data is used to build a TIN surface. With this surface cross sections are generated over the required areas based on the scope. Contours are then generated showing lines of constant elevation. The budget for the project was tracked daily ensuring that the survey was completed on time and under budget. This included placing LA One Call tickets, giving field crews the list of tasks needed to complete the project, and ensuring the project was completed in an orderly fashion.</p> <p>Jefferson Parish Juvenile Services Survey <i>Metairie, Louisiana</i> Mr. Casteigne performed full topographic survey and CAD services, including locating all subsurface utilities in accordance with department standards for the design and construction of facility improvements. This included performing the necessary field work for the survey, then processing the data into a useable format. Once the data was</p>

TEC Professional Services Questionnaire

in a useable format it is imported into Auto CAD, where the data is used to build a TIN surface. With this surface cross sections are generated over the required areas based on the scope. Contours are then generated showing lines of constant elevation. The budget for the project was tracked daily ensuring that the survey was completed on time and under budget. This included placing LA One Call tickets, giving field crews the list of tasks needed to complete the project, and ensuring the project was completed in an orderly fashion.

Savanne Rd Drainage Improvements *Houma, Louisiana*

Mr. Casteigne performed full boundary surveying services for the acquisition of a servitude by Terrebonne Parish for drainage Improvements. This included performing the necessary field work for the survey, then processing the data into a useable format. Once the data was in a useable format it is imported into Auto CAD where a boundary map could be prepared.

St. Louis Canal Rd *Houma, Louisiana*

Mr. Casteigne performed full boundary surveying services for the acquisition of a servitude by Terrebonne Parish for drainage Improvements. This included performing the necessary field work for the survey, then processing the data into a useable format. Once the data was in a useable format it is imported into Auto CAD and have a boundary map prepared.

Bayou Barataria Waterline Crossing *Lafitte, Louisiana*

Mr. Casteigne performed full topographic and hydrographic survey services including data collection, data processing, data management, CAD, and project budget oversight. This includes performing the necessary field work for the survey, then processing the data into a fieldbook file. Once the data was in a fieldbook it is imported into Auto CAD, where the data is used to build a TIN surface. With this surface, Plan and Profile sheets could be generated along with cross sections across Bayou Barataria. This project was done at the request of Jefferson Parish for the installation of a new waterline running along Rosethourne Rd then crossing Bayou Barataria.

Avoca Island Topographic Survey *St. Mary Parish, Louisiana*

Mr. Casteigne performed full survey services including data collection, data processing, data management, CAD, and project budget oversight. This includes performing the necessary field work for the survey, then processing the data into a fieldbook file. Once the data was in a fieldbook it is imported into Auto CAD, where the data is used to build a TIN surface. With this surface cross sections are generated over the required areas based on the scope. This project was done at the request of Avoca Island for drainage improvements to be made on the island.

Lisa Park Development *Houma, Louisiana*

Mr. Casteigne performed full survey services including data collection, data processing, data management, CAD, and project budget oversight for improvements to be made in the open space at Lisa Park Elementary School. This included performing the necessary field work for the survey, then processing the data into a useable format. Once the data was in a useable format it is imported into Auto CAD, where the data is used to build a TIN surface. With this surface cross sections are generated over the required areas based on the scope. Contours are then generated showing lines of constant elevation. The budget for the project was tracked daily ensuring that the survey was completed on time and under budget. This included placing LA One Call tickets, giving field crews the list of tasks needed to complete the project, and ensuring the project was completed in an orderly fashion. This included placing LA One Call tickets, giving field crews the list of tasks needed to complete the project, and ensuring the project was completed in an orderly fashion.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Lyle Langley Survey Party Chief
Project Assignment:
Survey Party Chief
Name of Firm with which associated:
All South Consulting Engineers, LLC
Years' experience with this Firm:
6
Education: Degree(s)/Year/Specialization:
SOWELA Technical Community College/ 2012/ Drafting
Active registration: Year first registered/discipline:
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Langley has worked on a wide variety of surveying projects and assisted in the integration of a robotic total station and our hydrographic software to track the hydrographic boat in areas where GPS was not feasible. He has the necessary training to use hydrographic equipment, HDS Laser Scanner and is familiar with Hypack hydrographic software. His work experience includes hydrographic surveys using a rod and tape, a total station, GPS and single beam echo sounders to record the data, using side scan sonar to identify underwater obstructions and using a magnetometer to sweep for pipelines and other ferrous metal debris. He has supervised field crews on many topographic and boundary surveys. His current and previous projects include, but not limited to:</p> <p>Blimp Road Sewer Phases 1 & 2 Houma, Terrebonne Parish, Louisiana Mr. Langley provided topographic survey services for the Blimp Road Sewer Phases 1 & 2 Improvements for the Houma Terrebonne Airport Commission. Phase 1 of this project included the installation of approximately 2,540' of gravity sewer lines. Phase 2 of this project included the installation of approximately 1,400 of gravity sewer lines. These lines are 8" in diameter, consistent with the Terrebonne Parish Consolidated Government standards for such improvements.</p> <p>Extension of the Lift Station F1-01 Force Main Chalmette, St. Bernard Parish, Louisiana Extension of the Lift Station F1-01 Force Main from its current terminus at or near SBPG Gravity Manhole F01-0043 to a new terminus at or near SBPG Gravity Manhole F01-31 east of Guereengeh Canal and the Palms Casino Truck Stop. This survey extends from right of way to right of way of St. Bernard Highway and included a complete topographic survey with sub-surface utility locations.</p>

TEC Professional Services Questionnaire

Silt and Debris Measurement in Jefferson Parish Canals, Jefferson Parish, Louisiana

Mr. Langley has provided topographic and bathymetric survey services for the Jefferson Parish Drainage Department. His tasks on this project included providing cross sections, topography and bathymetric surveys.

Canal No. 10 Underground Utility Locations, Jefferson Parish, Louisiana

Mr. Langley located underground utilities as marked by a Subsurface Utility Engineer and added to an existing topographic survey.

Lake Cataouatche Pump Station Topographic Survey, Jefferson Parish, Louisiana

Mr. Langley and his team prepared a topographic survey at the site of the current Lake Cataouatche pump station located on Churchill Farms. The survey area adjacent to the existing pump station will be the site for a new pump station under design. The survey included cross sections of the site and the adjacent canal along with the location of improvements in the project area.

Bayou Country Sports Complex Houma, Terrebonne Parish, Louisiana

Mr. Langley is providing construction layout services for the construction of baseball fields, softball fields, soccer fields and improvements for the sports complex.

Woodvine Ditch Topographic Survey Jefferson Parish, Louisiana

Mr. Langley and his crew provided a topographic survey over the existing 54" RCP drain line followed the line from Nassau Drive south across the Metairie Country Club Golf course to its tie in point at Geisenheimer Canal. Improvements along that route were located along with trees, with size and species and topographic features on the golf course, that included ties, sand traps and the raised greens that fell in the route.

Loumor Outfall Ditch Topographic Survey Jefferson Parish, Louisiana

Mr. Langley provided a topographic survey of the route that follows the 78" X 122" RCAP along the western edge of Metairie Country Club Golf course, then southeasterly and finally south to Geisenheimer Canal just north of Airline Highway. Improvements along that route were located along with trees, with size and species and topographic features on the golf course, that included ties, sand traps and the raised greens that fell in the route.

40 Arpent Canal Levee Walk and Cycling Path and Pedestrian Bridge St. Bernard Parish, Louisiana

Mr. Langley assisted with the topographic survey along the 40 Arpent Levee in St. Bernard parish for the design of a walk and bike path. RTK GPS was used to locate improvement and take cross sections along the proposed survey route. The area surveyed began at the St. Bernard/Orleans parish line and continued southeasterly to Paris Road.

Reach K and L Mitigation Lafourche Parish, Louisiana

Mr. Langley conducted both bathymetric and topographic survey of the Reach K Mitigation area. This 40-acre marsh creation area consists of a network of oilfield canals and shallow ponds. This survey also required the location of various underground utilities and pipelines. Equipment used on this project was RTK GPS, a remotely controlled hydrographic boat and a magnetometer.

Bayou Terre Aux Bouefs Ridge Restoration Armoring St. Bernard Parish, Louisiana

Mr. Langley and his team provided the topographic and hydrographic survey data. The survey also included sections of Bayou Lery and Bayou Gentilly. Overbank cross sections and a hydrographic survey were conducted to aid in the design of bank armoring to help stem the further erosion of the existing shoreline. Transects were also ran across approximately 10,000 acres of additional marshland. A magnetometer survey was also conducted to identify submerged pipelines.

Upper LA 45 Basin Tidal Surge Protection Lafitte, Jefferson Parish, Louisiana

Mr. Langley is currently working on a topographic survey of a proposed route for approximately three miles of new levee and floodwalls to provide protection against tidal surge in the upper area of Lafitte, Louisiana along LA Hwy. 45.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
William Lambert Survey Party Chief
Project Assignment:
Survey Party Chief
Name of Firm with which associated:
All South Consulting Engineers, LLC
Years' experience with this Firm:
.5
Education: Degree(s)/Year/Specialization:
High School Diploma
Active registration: Year first registered/discipline:
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Lambert joined All South Consulting Engineers, LLC in April of 2021. He has over 15 years of experience in land surveying and has served as an instrument man to a survey party chief. He has performed topographic surveys, right-of-way, ALTAs, as-builts, stakeouts, boundaries, and elevation certificates, using Leica robotic instrument and Trimble GPS. He has also performed construction layout using Trimble Robotics and GPS and served as a survey helper in industrial surveys.</p> <p>LALID Lower Lafitte Drainage Improvements <i>Jefferson Parish, Louisiana</i> Mr. Lambert has completed a full topographic survey of approximately 5500ft of streets for the purpose of improving the existing drainage in the area. This included establishing project control and temporary benchmarks and supervising the survey crew ensuring that the project was completed based on the scope of work in an efficient manner.</p> <p>Marrero St. Pump Station <i>Jefferson Parish, Louisiana</i> Mr. Lambert has completed a full topographic survey of the Marrero St. Pump Station for the purpose of making improvements to the pump station. This included establishing project control and temporary benchmarks and supervising the survey crew ensuring that the project was completed based on the scope of work in an efficient manner.</p>

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Austin Bowman Survey Technician
Project Assignment:
Survey Technician
Name of Firm with which associated:
All South Consulting Engineers, LLC
Years' experience with this Firm:
.5
Education: Degree(s)/Year/Specialization:
A.A.S. HVAC NCCER Level Graduate/ 2020/ Nunez Community College
Active registration: Year first registered/discipline:
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Bowman joined All South Consulting Engineers, LLC in March of 2021 as a survey assistant. He received an Associate of Applied Science degree in HVAC NCCER Level from Nunez Community College in 2020. Since joining All-South, Mr. Bowman has assisted in full topographic and hydrographic surveys.</p> <p>Bayou Barataria Waterline Crossing Lafitte, Louisiana This project was done at the request of Jefferson Parish for the installation of a new waterline running along Rosethourne Rd then crossing Bayou Barataria. For this project, Mr. Bowman assisted the Survey Party Chief in collecting all the field data necessary for the completion of the survey. This project included full topographic and hydrographic survey services including data collection, data processing, data management, CAD, and project budget oversight. This includes performing the necessary field work for the survey, then processing the data into a fieldbook file. Once the data was in a fieldbook it is imported into Auto CAD, where the data is used to build a TIN surface. With this surface, Plan and Profile sheets could be generated along with cross sections across Bayou Barataria.</p> <p>Jefferson Parish Fire Training Center Jefferson Parish, Louisiana Mr. Bowman assisted in the completion of a topographic survey of the Jefferson Parish Fire Training Center for the purpose improvements to be made to the facility. This included establishing project control and collecting field data for the project.</p>

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Jackson Sorrells <i>Senior CADD Technician, Drafting Supervisor</i>
Project Assignment:
CADD Technician III/ Draftsman
Name of Firm with which associated:
All South Consulting Engineers, LLC
Years' experience with this Firm:
4
Education: Degree(s)/Year/Specialization:
Associate of Applied Science / 2017/ Civil Construction and Engineering Technology Associate of Applied Science / 2011/ Drafting and Design
Active registration: Year first registered/discipline:
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Sorrells joined the All South team after 8 years in the Land Surveying industry. His experience includes AutoCAD C3D which he utilizes in survey and design projects that include topographic, boundary, route corridor surveys, hydrographic surveys, ALTAs, field data input, plan and profile sheets, import/export of survey points, proposed design corridors, and volume calculations. Mr. Sorrells coordinates with field crews, drafters, engineers, and clients to generate AutoCAD C3D drawings and plan sheet sets from the beginning of a project to final stamped plans. His current and previous projects include, but not limited to:</p> <p>Russell St Pump Station <i>River Ridge, Louisiana</i> Mr. Sorrells prepared proposed location of a new pump station to be installed by Ralph J. Bunche Elementary School (Russell St. Pump Station) in Jefferson Parish, Louisiana. These plans included an overall site plan, plan view and a typical section. Coordination with the project engineer to properly show the existing utilities, railroad and rights-of-way was very important in this project.</p> <p>Fire Station No. 12 <i>Jefferson, LA</i> Mr. Sorrells prepared the design plans for the construction of a new fire station for Jefferson Parish. The plans included new site plan, structural design, details, grading plan, drainage plan and utility plan. Mr. Sorrells coordinated with the project engineer and sub-contractors to conform and finalize plans.</p> <p>Westgate Drainage <i>Kenner, Louisiana</i></p>

TEC Professional Services Questionnaire

Mr. Sorrells prepared the Record Drawings for this project. Although coming in late to this project Mr. Sorrells developed the record drawings for this project by coordinating with the project engineer, inspectors and sub-contractors. Ensuring that the record drawings incorporated all as-built conditions of this project.

South Kenner Avenue Rehabilitation (Between Live Oak Blvd. and Chenevert Rd.) Jefferson Parish, Louisiana

Mr. Sorrells provided drafting support for this project, including plan sheets, cross sections, and existing subsurface pipe networks. Showing the existing roadway and existing sidewalk, which were to be developed in a wider and improved asphalt roadway with new sidewalks and subsurface drainage. This project conformed to the Jefferson Parish criteria.

Lake Trail Drive Drainage Improvements Kenner, Louisiana

Mr. Sorrells prepared the topographic and right-of-way drawings for Lake Trail Drive, from its intersection with the northern right-of-way of Bruin Drive, north to the southern right-of-way of West Esplanade Avenue; approx. 2880 LF. The drawings included elevation shots of Lake Trail Drive, right-of-way to right-of-way for the creation of cross sections every 50'. He also created a 3D surface, a centerline profile, and underground utility profiles for this project.

Plaquemines Parish Government Complex Plaquemines Parish, LA

Mr. Sorrells prepared the design plans for the renovations to the Plaquemines Parish Government pavilion. The plans included the new entry patio slab, entry sidewalk, HVAC equipment slab, sections and details. Mr. Sorrells coordinated with the project engineer and sub-contractors to conform and finalize the plans.

FEMA Recovery Roads Program (Viavant – Lake Catherine – Venetian Isles) New Orleans, Louisiana

Mr. Sorrells prepared plan surveys for multiple streets in the Viavant-Lake Catherine area. These surveys depicted the elevations of the streets to show centerline and gutter line profiles, the surface created showed the many imperfections and potholing in the streets. Included in this area were Catherine St, Victoria St, Reynes St., and America St. This project was approximately 1800' and included invert depths for the drainage, sewerage and water underground utilities.

FEMA Submerged Road Program (Audubon, Black Pearl, East Carrollton, Uptown, West Riverside, Pines Village) New Orleans, Louisiana

Mr. Sorrells prepared survey baseline drawings, plan sheets and profiles depicting the underground utilities for the streets in the Uptown project. These surveys depicted the elevations of the streets to show centerline and gutter line profiles, and the surface created showed the many imperfections and potholing in the streets. Utility information was researched and observed to show the areas in need of repair or replacement of major drainage, sewer and water lines. Also included were right-of-way lines, apparent lot lines, 3D surface, and cross sections.

Rosethorne Path – LA. 45 Jefferson Parish, Louisiana

Mr. Sorrells prepared the topographic survey for this project. This project was approx. 9500 LF along Rosethorne Rd./Jean Lafitte Hwy. The plans included plan and profile showing the existing drainage/sewer/ water with inverts. TBMs were set along 500' increments and the right-of-way of the highway was calculated from reference maps and put into the drawings.

Upper LA Hwy. 45 Tidal Surge Protection Jefferson Parish, Louisiana

Mr. Sorrells prepared the topographic and hydrographic survey for this project. The project included two alignments which were called North and South portions. The north portion was approx. 7650 LF along the shoreline of Bayou Barataria, included in this portion was the hydrographic survey and topography, profile, cross sections were cut along the baseline. The south portion of this project was along the levee south of Jean Lafitte Blvd. approx. 8225 LF. These plans included profile and cross sections along the survey baseline.

HMGP Canal Crossing Project-Golden Drive St. Bernard Parish, Louisiana

Mr. Sorrells prepared the plan set for the Golden Drive Canal Crossing. This project included the replacement/improvement of a drainage canal crossing, removing damaged CMP and replace with a precast arch bridge system and associated roadway and utilities. Mr. Sorrells assisted the project engineer in completing the proposed plan set and the new site design. Mr. Sorrells also assisted in computing the quantities and detour plan used for this project.

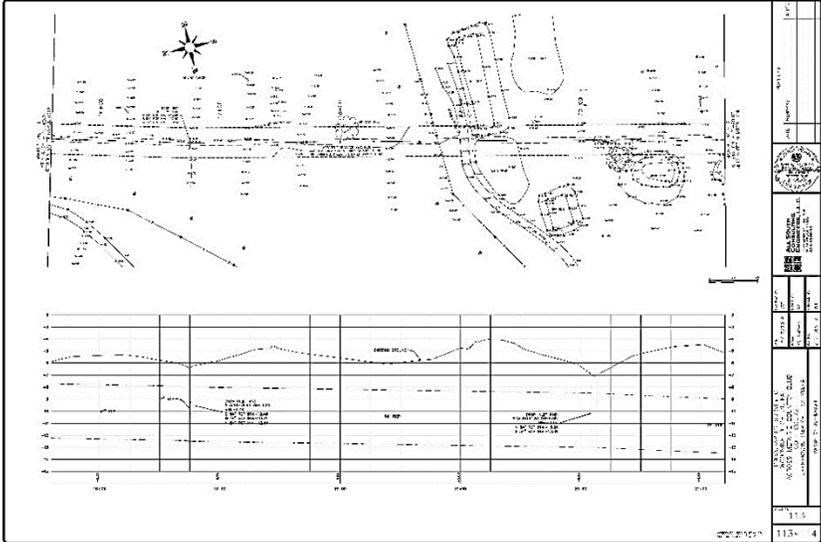
TEC Professional Services Questionnaire

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.

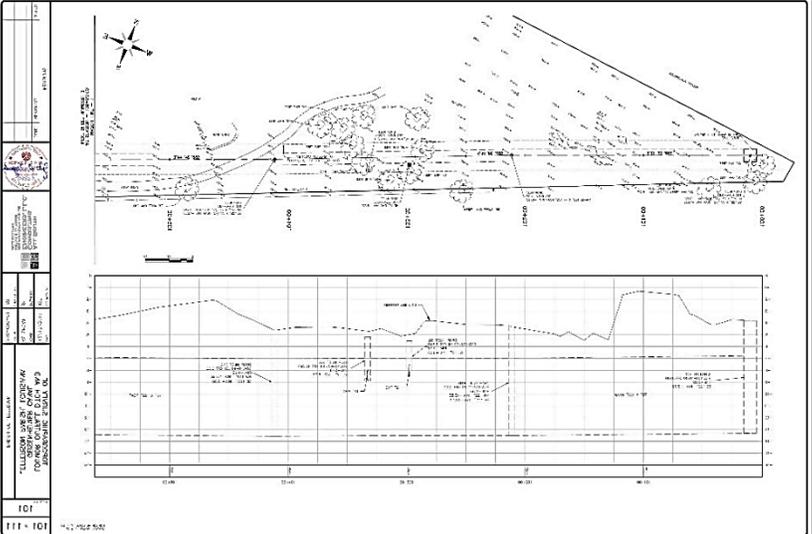
PROJECT NO. 1

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Geisenheimer Canal Topographic Survey <i>Jefferson Parish, Louisiana</i></p> <p>Jefferson Parish Government Mr. Neil Schneider, P.E. Director of Capital Projects 1221 Elmwood Park Blvd Jefferson, Louisiana 70123 (504)736-6753</p>	<p>This survey was prepared to provide the field data necessary to design drainage improvements for the Geisenheimer Canal which flows to Hoey's Canal and from there to 17th Street Canal and Lake Pontchartrain.</p> <p>In order to accomplish this, we prepared a topographic survey of the surface area above Geisenheimer Canal from the maintenance facility for the Metairie Country Club to the tie in point at Hoey's Canal. For this route we located all surface improvements, visible signs of utilities, trees with size and species and cross sections at 50' intervals.</p> <p>We were able to locate the underground concrete box canal by accessing it through an access cover where we set a control point in the bottom of the box we then located the sides and roof and the tie in point for the concrete arch pipe outfall for the Loumor Ditch. From a drop inlet cover near the Woodvine Ditch outfall we located the outfall and determined the invert. This was verified by probing the outfall pipe at the edge of the box. At Hoey's Canal we probed the top of the Geisenheimer Canal box and the Hoey's Canal box to determine the point of intersection.</p> <p>The deliverable for this survey were plan and profile drawings of Geisenheimer Canal which were included in a master set with Loumor Ditch and Woodvine Ditch.</p> <div data-bbox="711 1234 1502 1759" style="border: 1px solid black; padding: 5px;"> </div>	
<p>Completion Date (Actual or estimated):</p>	Estimated Cost:	
	Entire Project:	Entire Project:
February 2020	N/A	Survey Cost: \$25,920

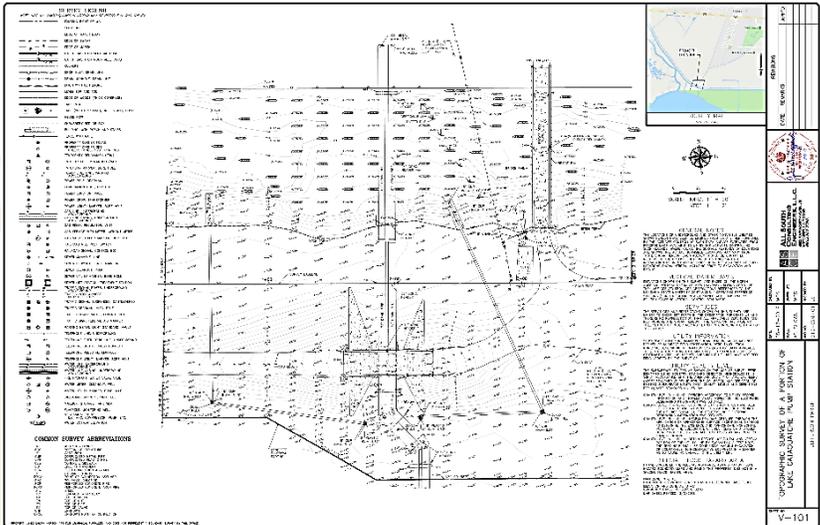
TEC Professional Services Questionnaire

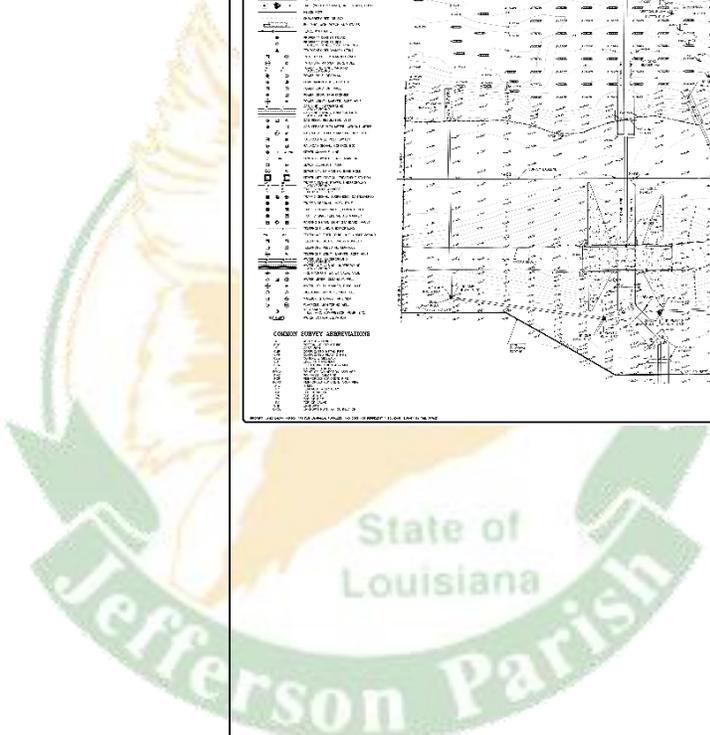
PROJECT NO. 2		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Woodvine Ditch Topographic Survey <i>Jefferson Parish, Louisiana</i></p> <p>Jefferson Parish Government Mr. Neil Schneider, P.E. Director of Capital Projects 1221 Elmwood Park Blvd Jefferson, Louisiana 70123 (504)736-6753</p>	<p>This survey is for drainage improvements to the Woodvine Ditch beginning at the western right of way of Nassau Drive and following the drain line west-southwesterly across the parking lot that lies on the north side of the swimming pools and tennis courts to the eastern side of the golf course where the drain line turns in a southerly direction and heads south-southwest to its discharge point into Geisenheimer Canal at the north right of way of Airline Highway.</p> <p>The topographic survey over the existing 54" RCP drain line followed the line from Nassau Drive south across the Metairie Country Club Golf course to its tie in point at Geisenheimer Canal. Improvements along that route were located along with trees, with size and species and topographic features on the golf course, that included ties, sand traps and the raised greens that fell in the route.</p> <p>Deliverables were plan and profile sheets that were included with the master set of Loumor Ditch Outfall, Geisenheimer Canal and Woodvine Ditch.</p>	
		
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
February 2020	N/A	Survey Cost: \$16,720

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Loumor Outfall Ditch Topographic Survey <i>Jefferson Parish, Louisiana</i></p> <p>Mr. Neil Schneider, P.E. Director of Capital Projects 1221 Elmwood Park Blvd Jefferson, Louisiana 70123 (504)736-6753</p>	<p>This survey is for drainage improvements to the Loumor Outfall Ditch beginning at the southwest corner of Pontiff Playground and running southeast then turning in a south-southwesterly direction along the northern and western boundary of Metairie Club Estates Subdivision to its discharge point into Geisenheimer Canal and the north right of way of Airline Highway.</p> <p>This survey route follows the 78" X 122" RCAP along the western edge of Metairie Country Club Golf course, then southeasterly and finally south to Geisenheimer Canal just north of Airline Highway. Improvements along that route were located along with trees, with size and species and topographic features on the golf course, that included ties, sand traps and the raised greens that fell in the route.</p> <p>We also located the maintenance facility for the golf course, ponds and a pump house that were near the drain route.</p> <p>Deliverables for this project were plan and profile sheets that were included with the master set of Loumor Ditch Outfall, Geisenheimer Canal and Woodvine Ditch.</p> <div style="text-align: center;">  </div>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
February 2020	N/A	Survey Cost: \$19,340

TEC Professional Services Questionnaire

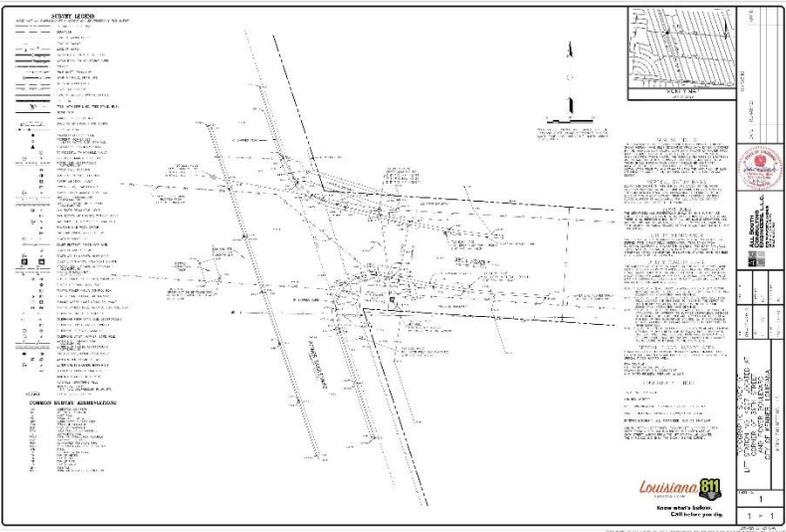
PROJECT NO. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Lake Cataouatche Pump Station Topographic Survey <i>Jefferson Parish, Louisiana</i></p> <p>Jefferson Parish Drainage Department Jefferson Parish Government Mitchell T. Theriot, P.E., Director of Drainage 1221 Elmwood Park Blvd Jefferson, Louisiana 70123 (504)736-6753</p>	<p>All South prepared a topographic survey at the site of the proposed pump station on the northern shore of Lake Cataouatche. The new site lies south of the existing pump station and just north of the flood wall. The survey included cross sections of the proposed site and adjacent canal, location of improvements, the existing discharge pipes, roadways and the floodwall.</p> <div style="text-align: center;">  </div>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2019	N/A	Survey Cost: \$4,495



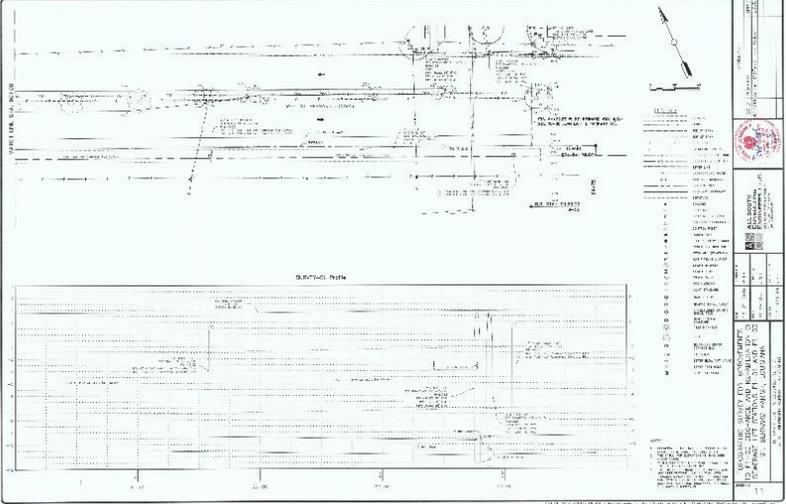
TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Ruby and Wright Lift Station Topographic Survey <i>Jefferson Parish, Louisiana</i></p> <p>GreenPoint Engineering Amer Tufail, PE, BCEE 701 Loyola Ave., Suite 801 New Orleans, LA 70113 (504) 708-2020</p>	<p>All South Consulting Engineers, LLC was hired as subconsultant to GreenPoint Engineering to provide Topographic and Boundary Survey services for the Improvements to the Ruby and Wright Avenue Lift Station. This survey was done so the existing lift station could be moved back from its present position that was close to the Wright Avenue traffic lanes.</p> <p>The scope of work for this project included:</p> <ul style="list-style-type: none"> • Survey control both horizontal and vertical. The horizontal control datum will be in the Louisiana State Plane Coordinate System, South Zone (1702) NAD 1983 (2011) and the vertical control datum will be NAVD 1988 Geoid 12B. Control points will be established outside of the likely construction area. A TBM will be set out of the construction area. • Located the existing lift station with inverts and sizes. We also located existing improvements that include fences, roadways, curbing, etc. • Locations of visible evidence of above and below ground utilities and those utilities marked by the subscribers to the 811 system. We will also plot the approximate location from maps supplied by the controlling agencies. • The locations of water, sewer and drainage structures in the survey area with elevations shown on the top of casting, invert elevations and size and type of material of piping. • Locations of any trees 4" or larger at chest height with type. • Elevations taken across the site at 25 foot intervals and at all breaks in grade • Establish the property boundaries adjacent to the site. • The finished product was a 24" X 36" site plan. 	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
March 2018	N/A	Survey Cost: \$5,865

TEC Professional Services Questionnaire

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Power and 39th Sewer Pump Station Topographic Survey <i>Jefferson Parish, Louisiana</i></p> <p style="text-align: center;">MSMM Scott G. Chehardy 4640 South Carrollton Ave. Suite 220 New Orleans, LA 700119 (985) 233-9763</p>	<p>The topographic survey for this project encompassed an area approximately 100 feet by 100 feet located at the southeast corner of the intersection of Power Boulevard and 39th Street.</p> <p>The scope of services for this project included the following:</p> <ul style="list-style-type: none"> • Control points and TBM's at the site. Baseline is not needed. • Complete benchmark location & description. • Topo within limits shown on the attachment. Include all features within these limits (utility poles, ditches, culverts, etc.) • Any utilities within limits (We placed a LA One Call ticket and located any utilities marked by their subscribers. Existing manholes catch basins and wet well inverts were collected during this survey. • Elevations on a 25-foot grid across the site to include the adjacent roadways. • We provided a 25' grid of spot elevations throughout project site. • The deliverables included a PLS stamped PDF of survey and CAD files suitable for use with ACAD 18. • Boundary evidence was located along the right of way of Power Boulevard and 39th Street along with ownership for the pump station building. This information was used to develop the existing right of way of the streets and pump station. 	
		
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
October 2018	N/A	Survey Cost: \$4,410

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Improvements to F1-03 Discharge Force Main <i>St. Bernard Parish, Louisiana</i></p> <p>H. Davis Cole & Associates, LLC David A. Martin, P.E. 1340 Poydras Street, Suite 1850 New Orleans, LA 70112</p>	<p>All South was contracted to provide a topographic survey for the extension of the Lift Station F1-03 Force Main from its current terminus at or near SBPG Gravity Manhole F01-0043 to a new terminus at the F1-01 Lift Station located just north of the intersection of St. Bernard Highway and Jean Lafitte Parkway. The survey limits were from right of way to right of way along St. Bernard Highway and included:</p> <p>The location of all improvements within the right of way. Location of trees with species and size. Visible evidence of above and below ground utilities were located as well as those marked by Louisiana One Call Subscribers. We also plotted utilities from record drawings supplied by the controlling agencies.</p> <p>Storm and sanitary sewer lines and structures were located, along with inverts and pipe sizes. This information was plotted on plan and profile sheets.</p> <p>The deliverables included plan and profile sheets of the survey route along with AutoCAD Civil 3D drawings.</p> <div style="text-align: center;">  </div>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
July 2016	N/A	Survey Cost: \$32,170

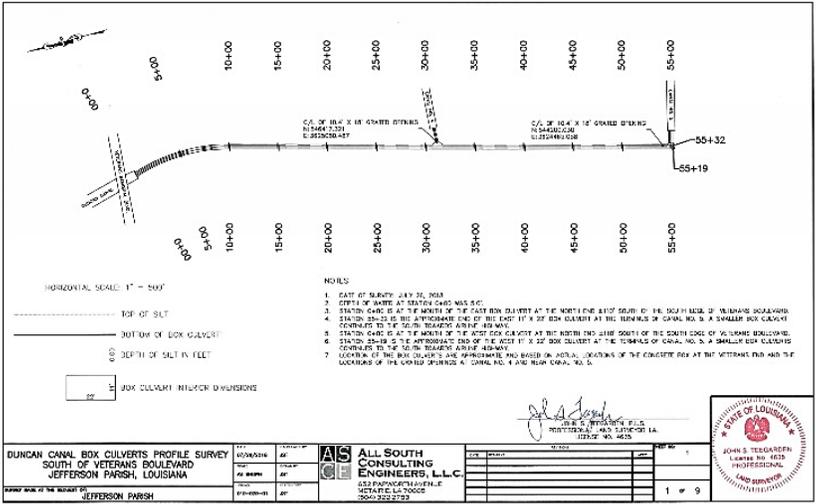
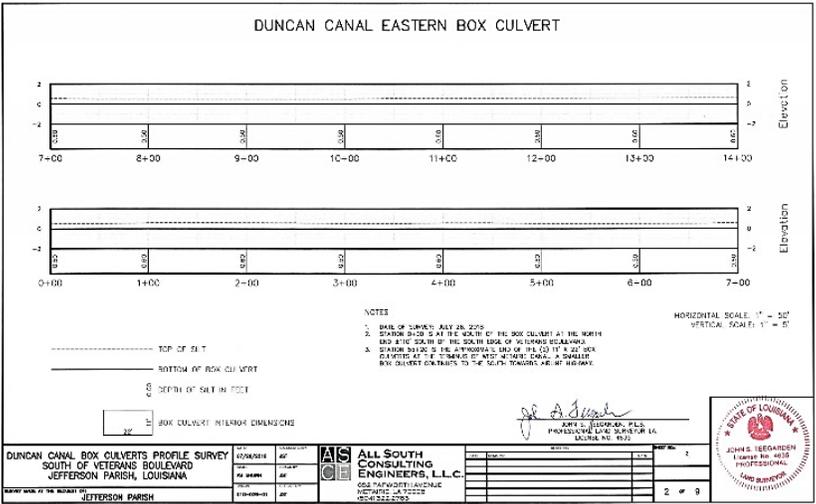
TEC Professional Services Questionnaire

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Munster WWTP Blower Relocation Topographic Survey <i>St. Bernard Parish, Louisiana</i></p> <p>St. Bernard Parish Government Matt Falati Public Works Director 1125 E St Bernard Highway Chalmette, LA 70043 (504) 278-4200</p>	<p>All South Consulting Engineers was contracted by St. Bernard Parish Government to provide surveying services for the Munster Sewer Treatment Plant Blower Replacement project. The scope of services included:</p> <ul style="list-style-type: none"> Establish survey control points and temporary benchmark adjacent to the survey area shown on attached map. Horizontally the survey will be based on the Louisiana State Plane Coordinate System, South Zone NAD 1983 (2011). Elevations will be based on NAVD 1988 (2009.55) Geoid 12B. <p>This survey was to provide the basis for the design of new blowers for the sewer treatment plant. They were decommissioning the existing blowers that were located on top of the tanks and moving them to ground level. The topographic survey included the location of the adjacent treatment plant structures, elevations on a 25' grid, location of the existing water and sewer piping where visible and other adjacent utilities.</p> <p>This survey was delivered as a plan view with a second sheet that showed an elevation view of the existing facilities.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2019	N/A	Survey Cost: \$4,890



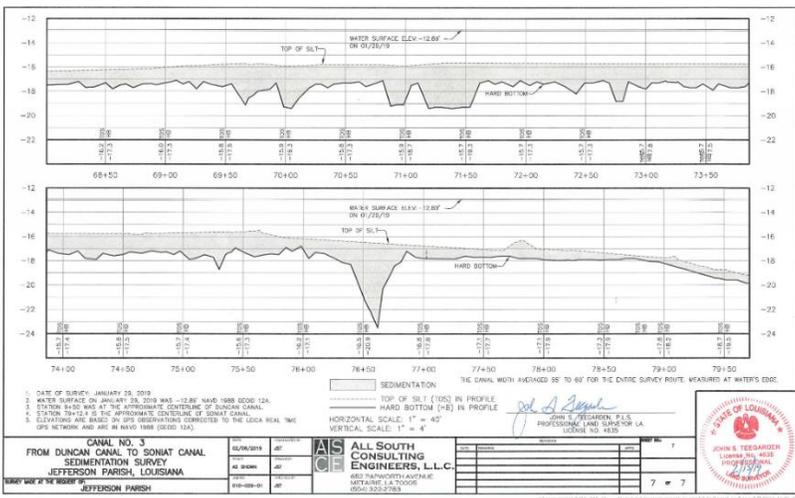
TEC Professional Services Questionnaire

PROJECT NO. 9

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:					
<p style="text-align: center;">Duncan Canal Box Culverts <i>Kenner, Louisiana</i></p> <p>Jefferson Parish Government Mitchell T. Theriot, P.E., Director of Drainage 1221 Elmwood Park Blvd Jefferson, Louisiana 70123 (504)736-6753</p>	<p>All South was tasked with providing a survey to show the depth of silt that has accumulated within the 11' x 22' box culverts that start south of Veterans Boulevard to a point south of the intersection with Canal No. 5 (West Metairie Avenue) and the end of the double box culvert. All South's remotely controlled boat was utilized with a dual frequency echosounder to obtain depths to the top of silt and the concrete bottom of the box culvert. The deliverable for this project was a report of the survey results and plotted profile sheets prepared for each box.</p>					
						
						
<p>Completion Date (Actual or estimated):</p> <p style="text-align: center;">September 2018</p>	<p>Estimated Cost:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">Entire Project:</td> <td style="width: 33%; text-align: center;">Work for which Firm was Responsible:</td> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="text-align: center;">Survey Cost: \$11,000</td> </tr> </table>		Entire Project:	Work for which Firm was Responsible:	N/A	Survey Cost: \$11,000
Entire Project:	Work for which Firm was Responsible:					
N/A	Survey Cost: \$11,000					

TEC Professional Services Questionnaire

PROJECT NO. 10

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:					
<p>Jefferson Parish Canal Sedimentation and Debris Surveys <i>Jefferson Parish, Louisiana</i></p> <p>Jefferson Parish Government Mitchell T. Theriot, P.E., Director of Drainage 1221 Elmwood Park Blvd Jefferson, Louisiana 70123 (504)736-6753</p>	<p>All South is performing hydrographic surveys of selected drainage canals and box culverts in the Jefferson Parish Drainage System. The purpose of these surveys is to monitor the amount of sediment accumulating in the drainage system. All South utilizes its Z-Boat (a 6-foot long remotely controlled hydrographic survey boat) to perform these surveys. The Z-Boat is equipped with a single beam dual frequency echo sounder capable of defining the amount of sediment accumulating in the canals and drainage structures. This is accomplished by using two frequency during the survey.</p> <div style="text-align: right; margin-bottom: 10px;">  </div> <p>The high frequency sound waves are reflected by the top of the sediment layer and the low frequency sound waves penetrate the sediment and are reflected by the solid bottom. These surveys are presented as profiles and show the top of sediment elevations and the elevation of the solid bottom.</p> <div style="text-align: center; margin-top: 20px;">  </div>					
<p>Completion Date (Actual or estimated):</p> <p>Project is Ongoing by Task Assignments</p>	<p style="text-align: center;">Estimated Cost:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">Entire Project:</td> <td style="width: 50%; padding: 5px;">Work for which Firm was Responsible:</td> </tr> <tr> <td style="text-align: center; padding: 5px;">N/A</td> <td style="padding: 5px;">Survey Cost: \$75,000</td> </tr> </table>		Entire Project:	Work for which Firm was Responsible:	N/A	Survey Cost: \$75,000
Entire Project:	Work for which Firm was Responsible:					
N/A	Survey Cost: \$75,000					

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. IMC Construction	Jefferson Parish	Jefferson Parish filed 3 rd party demand to All South Consulting Engineers, LLC. Status is pending
2.		
3.		
4.		

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

All South Consulting Engineers, LLC is a Limited Liability Corporation owned by Timothy Bonura, Jens J. Nielsen Jr., and Stephen Smith. Established in May 2004, All South was founded to provide professional engineering services to municipalities and governmental agencies, as well as private clients throughout the South. All South has since experienced tremendous growth and is proudly recognized as one of the Gulf South's leading Surveying firms, as well.

All South's Surveying Division has a client list that includes the following parishes, municipal and state organizations: Jefferson Parish, Plaquemines Parish, St. Bernard Parish, Orleans Parish, St. Tammany Parish, Lafourche Parish, Terrebonne Parish, East Baton Rouge Parish, Livingston Parish, Ascension Parish, Coastal Protection and Restoration Authority, City of Gretna and City of Slidell. Projects range from topographic surveys for design of new facilities and infrastructure to bathymetric surveys for coastal restoration and drainage maintenance.

PROFESSIONAL TRAINING AND EXPERIENCE

All South offers outstanding surveying services from leading professionals, including our Professional Land Surveyor. As Vice President and Survey Division Manager, Mr. John S. Teegarden, PLS has extensive experience in all aspects of land surveying which he has acquired over his 30-year career. All South's substantial local experience providing Professional Land Surveying services can be found throughout the TEC Professional Services Questionnaire. Firm capabilities and services include but are not limited to the following:

- **Control Surveys** – Establish the horizontal and vertical survey info via deep rod monuments and GPS network surveys
- **Boundary/ALTA-NSPS Surveys** – ALTA-NSPS (American Land Title Association-National Society of Professional Surveyors) surveys for large property transactions
- **Topographic Surveys** – Route and corridor surveys and development site surveys

TEC Professional Services Questionnaire

- **Elevation Surveys** – Elevation certifications and effects of subsidence over time
- **Hydrographic Surveys** – Coastal restoration, maintenance dredging, dock construction and maintenance, USACE permitting surveys, and using side scan single beam and multi-beam hydrographic profiles
- **HDS (High Definition Survey) Laser Scanning** – High resolution point clouds to verify measurements, monitor movement of a structure, and provide a 3D model of area surveyed using 360° scans at our survey sites for this reason
- **GIS Data Acquisition** – Collect data for infrastructure inventory, complete with geocoded photographs of each item
- **Pipeline Surveying** – Collect pipe tally measurements, record heat, weld and joint numbers, record horizontal and depth of cover

LAND SURVEY, HYDROGRAPHIC SURVEY SERVICES:

All South possesses the staff and capability to offer licensed surveying services, including land and hydrographic survey services. Our land survey crews have completed multiple coastal and flood protection relation projects, including all the projects listed above, through the pre-site survey, setting project control points, dredging and borrow quantity measurement, and as-built surveys.

All South is a leading provider of hydrographic surveying services. We are experienced with single-beam, multi-beam, and side-scan sonar surveys and efficiently process hydrographic data with HYPACK software. Our 26' survey vessel is outfitted with a dual-frequency echosounder to take on large hydro projects. The 6' Z-Boat remote survey boat allows us to access sites where a manned boat can't be used.

EQUIPMENT:

- GPS (Global Positioning System)
- Leica GS-14 GPS Receivers
- AutoCAD Stations Civil 3D, Microstation, InRoads, CadConform
- 26' Scully Aluminum Boat with Dual 150 h.p. motors
- 14' Aluminum Flat Boat
- 6' Z-boat, remotely operated hydrographic survey boat
- Odom Hydrographic CV100 dual frequency Echosounder
- Tritech Starfish 990F side scan sonar
- Getac X500 Laptop with Hypack Hydrographic Software
- G-882 Magnetometer
- Four wheel off road vehicles / marsh buggies



SOFTWARE:

- Hypack – Hydrographic software
- LEICA Geo – GPS Software

SIZE OF FIRM

The All South team includes 53 professionals driven to excellence and focused on our client's needs. We are made up of 12 Louisiana Licensed Professional Civil Engineers, 3 Engineering Interns, **1 Professional Land Surveyor, 1 Land Surveyor Intern, 2 Survey Party Chiefs, and 3 Survey Technicians**. Our staff also includes program managers, CADD technicians/draftsmen, grant specialist, inspectors, field monitors, survey crews, and administrative support staff, all of which provide years of experience to help ensure that our work is exceptional.

CAPACITY FOR TIMELY COMPLETION

With 54 employees and ample resources, All South has more than enough capacity to meet any deadlines that the Parish requests. At All South, we understand the importance and value of time. We take pride in completing our projects ahead of schedule. We would not sign an agreement to complete a project if we could not meet or exceed the schedule designated by the owner. Our team is committed to and capable of meeting all schedules and deadlines that the Parish requests to ensure timely completion of this project.

TEC Professional Services Questionnaire

Additionally, we will utilize Team Gantt software for this project as a means of communication and accountability between consultants and Parish personnel. Team Gantt is an excellent project management tool designed to help create, manage, and finish projects on time and on budget. This software allows us to change start and end dates, reorder tasks, and adjust timelines seamlessly. It allows us to see every project update and document on a single page and quickly share them with both internal and external stakeholders. Team Gantt allows us to effectively manage resources, stay on budget, and ensure everyone is working but not overloaded. We can compare the original timeline projection with the actual timeline of the project with a baseline report. Parish personnel will be issued access to Team Gantt, so they can remain updated on the progress of the project at their own convenience.

PAST PERFORMANCE

As mentioned in the above referenced project descriptions, All South has substantial local experience providing Surveying services on various projects. Aside from our technical experience, All South stands out amongst competitors because of our unrivaled devotion to our clients and ability to meet their needs.

The satisfaction expressed by our clients can be directly accredited to not only our ability to deliver exceptional work that meets all contractual, time, and budgetary obligations, but also the genuine and lasting relationships we build throughout the process. At All South, we understand the grave role we play in each project and thus, uphold the highest standard of personal and professional integrity and competence.

LOCATION OF THE PRINCIPAL OFFICE

All South's home office is located at 652 Papworth Avenue, Metairie, Louisiana 70005.

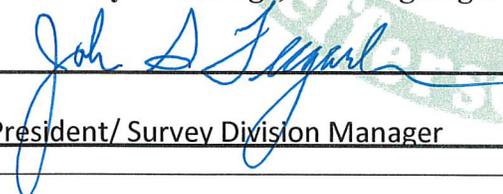
ADVERSARIAL LEGAL PROCEEDINGS

Please refer to section M of this TEC Questionnaire.

PRIOR SUCCESSFUL COMPLETION

Please refer to the project descriptions listed above to see All South's prior successful completion of similar projects, as well as, their respective verifiable references.

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

Signature:  Print Name: John S. Teegarden, P.L.S.

Title: Vice President/ Survey Division Manager Date: May 13, 2021

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

Rehabilitation of the Transcontinental & Belle Lift Station
Resolution No. 137449

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

Marrero, Couvillon & Associates, LLC.
3525 Hessmer Ave., Suite 304
Metairie, LA 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:

Greg DeCoursey, AIA
Vice President
Project Manager/Architect
(504) 834-3448
gdecoursey@mca-llc.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.

Greg DeCoursey, AIA
Vice President
Project Manager/Architect
(504) 834-3448
gdecoursey@mca-llc.com

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

<u>3</u> Administrative	<u> </u> Estimators	<u> </u> Specification Writers
<u>1</u> Architects (Licensed)	<u> </u> Geologists	<u>1</u> Structural Engineers
<u> </u> Chemical Engineers	<u> </u> Geotechnical Engineers	<u> </u> Graduate Engineers
<u> </u> Civil Engineers	<u> </u> Interior Designers	<u>1</u> Project Managers
<u> </u> Construction Inspectors	<u> </u> Landscape Architects	<u> </u> Clerical
<u> </u> Ecologists	<u> </u> Land Surveyor	<u> </u> Grant/Funding Specialist
<u>4</u> Electrical Engineers	<u>4</u> Mechanical Engineers	<u> </u> Sanitary Engineers
<u> </u> Engineer Intern	<u> </u> Environmental Engineers	<u>2</u> Designers
<u> </u> Professional Land Surveyors	<u>1</u> CADD Operators	<u>1</u> Fire Protection Engineer
		<u>18</u> TOTAL

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

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

TEC Professional Services Questionnaire

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

1.

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. See Prime Submittal		
2.		
3.		

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

4

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:

Gregory A. DeCoursey, AIA
Vice President, Project Manager

Project Assignment:

Project Manager

Name of Firm with which associated:

Marrero, Couvillon & Associates, LLC.

Years' experience with this Firm:

25

Education: Degree(s)/Year/Specialization:

B Arch / 1977 / Architecture M Arch/1982/Architecture

Active registration: Year first registered/discipline:

1980 / Architectural

Other experience and qualifications relevant to the proposed Project:

Mr. DeCoursey has served as Project Manager for Engineering Projects for the Louisiana Department of Transportation and Development and for other Public Works and Private Sector Commercial projects. A list of a few projects that Mr. DeCoursey is serving, or has served, as Project Manager on include:

- **Louis Armstrong New Orleans International Airport – New Terminal Design, Kenner, LA** – Mechanical, Electrical, Plumbing, and Fire Protection design for a new terminal that replaced the existing 60 year old Passenger Terminal Building. This project also included design services for related projects to relocate the existing Airfield Lighting Vault, and three radar stations.
- **U.S. 11 Bridge Over Lake Pontchartrain Rehabilitation - Orleans Parish** - Architectural and mechanical design for rehabilitation of two Operator's Houses at an existing bridge over Lake Pontchartrain. Work is being done as part of a larger bridge rehabilitation project. Design is sensitive to the historic nature of the bridge and Operator's Houses.
- **Gallier Hall, New Orleans, Louisiana** - MCA provided mechanical and electrical design services for recently completed updates to New Orleans' former City Hall. The main focus of MCA's scope for the project was replacement of most components of the building's HVAC systems.
- **Coroner Office Complex – New Building, New Orleans, Louisiana** - Design of the electrical systems, HVAC systems, plumbing systems, fire suppression systems for a two building facility which provides new quarters for the Coroner and EMS operations in the City of New Orleans. In the design of these facilities, it was necessary to accommodate the very rigorous needs of the specialized operations and equipment of the end users.
- **Festival Field, New Orleans, Louisiana** - City Park in New Orleans hosts several music festivals annually, including the large and popular Voodoo Fest. In addition to outgrowing their locations, these festivals required installation of temporary facilities for every event. The management of City Park decided to create a new, permanent location for festivals within the park, with new permanent infrastructure. This area also includes a soccer field, walking/running paths and a large pavilion for social gatherings. The design included a solar power installation on the pavilion, a rainwater harvesting system, and bio-swale wetland planting areas. MCA provided mechanical and electrical design for this project.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Robert Mejia, P.E. Sr. Electrical & Instrumentation Engineer
Project Assignment:
Sr. Electrical & Instrumentation Engineer
Name of Firm with which associated:
Marrero, Couvillon & Associates, LLC.
Years' experience with this Firm:
5
Education: Degree(s)/Year/Specialization:
Bachelor of Science/1987/Electrical Engineering
Active registration: Year first registered/discipline:
1993 / Electrical/Control Systems
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Mejia has over 32 years' experience with instrumentation, control systems, Safety Instrumented Systems (SIS) and SCADA equipment. He works closely with process specialists to categorize and design control systems to comply with current industry requirements as well as client specific requirements. He applies existing client specifications for control systems/SCADA and helps develop specifications when these do not exist. He is proficient with application of design practices promulgated by standards organizations such as ISA, NFPA, API, TIA/EIA and IEEE. Some of his recent experience includes:</p> <ul style="list-style-type: none"> • Jefferson Parish Public Works - Bayou Segnette Pump Station Upgrade, Westwego LA - Replace 6 diesel pump driver units. Interface skid mounted diesel engine controllers and gearbox instrumentation with existing Murphy Panels and Parish SCADA system. • St. Mary Government– Amelia Pump Station 2 and 2A, St. Mary Parish, LA – Installation of a 48” pump that will replace an existing 20” pump at the pumping station, a new pump house and associated power. Installation of new alternator control system to link new pump with existing 48” pump and stage/alternate operation of both pumps based on water level and operating sequence. • Cyprien Pumping Station Improvements, Lafourche Parish, LA – MCA provided the electrical engineering services for a pump station structure with three 48” axial flow pumps and a separate fuel tank structure. The existing pump station was removed in its entirety prior to construction of the new pump station. • Sewage and Water Board – EWWTP Effluent Pump Station Expansion, New Orleans, LA – MCA is providing electrical and instrumentation engineering for a new priming system at the effluent outfall, lowering the EPS system curve and its energy grade line and a new 1,000-hp pump at the EPS, similar in configuration and capacity to the two existing 1,000-hp pumps. MCA will also be providing electrical and instrumentation engineering for the modifications of the EPS pump discharge header to accommodate the new pump(s) and to allow improve the flow of the parallel effluent force mains. • City of New Orleans –Mirabeau Water Garden - A 25 acre site at Mirabeau Ave. and St. Bernard Ave. is being developed into a 9.5MM gallon surge stormwater retention site as part of the comprehensive New Orleans Water Plan. The facility will include a lift station building, water runnel feature, area lighting and plans for future buildings used for educational and assembly purposes. MCA is handling the Mechanical, Electrical and Plumbing design.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
John Hamm, P.E. Sr. Electrical Engineer
Project Assignment:
Sr. Electrical Engineer
Name of Firm with which associated:
Marrero, Couvillon & Associates, LLC.
Years' experience with this Firm:
8
Education: Degree(s)/Year/Specialization:
Bachelor of Science / 1981 / Electrical Engineering
Active registration: Year first registered/discipline:
2004 / Electrical
Other experience and qualifications relevant to the proposed Project:
<p>Mr. Hamm has over 38 years' experience in electrical engineering, design and construction assistance. His experience includes electrical distribution systems, medium voltage switchgear and breakers, transformers, 480-volt motor control centers, variable frequency drives, automatic transfer switches, uninterruptible power supplies, emergency generators, area classification evaluation, instrument specifying, PLC specifying, lighting design and commercial designs including lighting, communication, fire alarm and special system design. Project Experience Includes:</p> <ul style="list-style-type: none"> • Ascension Parish Pump Station – New Sewage Pump Stations - MCA was engaged in designing the electrical power, controls designs, and standby generator size for the pump load at each site. • East Baton Rouge City/Parish – Sanitary Overflow Program - Multiple Pump Stations – Highland Road – Kenilworth Pkwy. – Replacing 13 pump stations to alleviate SSO's at and near the pump stations and in the respective upstream basins. This will also provide capacity to handle predicted future peak wet weather flows. • Storm Drain Pump Station, Slidell and Metairie, LA - Power, instrumentation and controls system design for storm drain pumping stations. • New raw water pumping station – Morgan City, Louisiana - A new three pump platform to take water from the Atchafalaya River for the water plant at Morgan City, Louisiana. • Jefferson Parish Public Works - Bayou Segnette Pump Station Upgrade, Westwego LA - Replace 6 diesel pump driver units. Interface skid mounted diesel engine controllers and gearbox instrumentation with existing Murphy Panels and Jefferson Parish SCADA system. • Marvin J. Braud Pump Station, Gonzales, LA - MCA prepared the Electrical and Control Systems CDs for the expansion of the pumping station by adding Diesel Driven pump motors, a new line-up of 480 MCC, a new 480VAC 3 Phase power service, new lighting for the pump building, and emergency power generation (EPG) for miscellaneous electrical loads and another EPG for the critical life-safety electrical loads. MCA performed electrical engineering services for the installation of the addition of pump No. 6 driven by 1250 HP internal combustion engines.

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:	
Bayou Segnette Drainage Pump Station Jefferson Parish MCA is subconsultant to: Rahman & Associates, LLC 3645 Williams Blvd #208 Kenner, LA 70065	Electrical engineering services for Bayou Segnette Drainage Pump Station, Westwego, LA—Pump Station Improvements to Bayou Segnette Drainage Pump Station No. 1, including the replacement of 4—150 CFS pumps and 6 engines, the rehabilitation of 6 existing gear boxes and related ancillary work.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2020	\$3,500,000	\$700,000

PROJECT NO. 2		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Multiple Pump Stations East Baton Rouge Parish East Baton Rouge City/Parish MCA Subconsultant to AECOM 8757 Woodway Dr., Suite 101 West Houston, TX 77057	<p>Department of Public Works projects for the upgrade of multiple pump stations in the Highland Road/ Kenilworth area located in East Baton Rouge Parish. The project includes the upsizing of 9 pump stations and the construction of 2 pump stations to alleviate Sanitary Sewer Overflow at and near the pump stations and in respective upstream basins. The improvements will provide capacity to handle predicted future peak wet weather flows. The scope of work encompasses residential and commercial areas as well as Louisiana State University facilities.</p> <p>MCA was engaged in designing the electrical power, controls designs and standby generator size for the pump load at each site in accord with DPW standards.</p> <p>The scope of services includes: Investigations, Preliminary Design, Detailed Design, Bidding Services and Engineering Services During Construction</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2017	\$30,000,000	\$7,000,000

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility	
East Bank Wastewater Treatment Plant Effluent Pump Station New Orleans, LA MCA is a subconsultant to: Greenpoint Engineering Amer Tufail, P.E. 701 Loyola Ave. New Orleans, LA 70113	MCA is providing electrical and instrumentation engineering for a new 1,000 HP, 36" pump at the EBWWTP Effluent Pump Station, similar in configuration and capacity to the two existing 1,000 HP 36" pumps. MCA will also be providing electrical and instrumentation engineering for the modifications of the EPS pump discharge header to accommodate the new pump and to allow improve the flow of the parallel effluent force mains. MCA is providing electrical engineering and design to specify the new motor, drive and control, and their integration with the currently planned upgrades of the EPS electrical system. MCA is also providing electrical system modeling and upsizing one substation transformer & relocating another transformer to accommodate the additional electrical load due to the new 1000 HP pump.	
Completion Date (Actual or estimated)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2021	\$5,500,000	\$3,000,000

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Baton Rouge City Parish Sewer Project East Baton Rouge Parish MCA Subconsultant to: Evans-Graves /Burk-Kleinpeter 9800 Airline Highway, Suite 200 Baton Rouge, LA <div style="text-align: center; margin-top: 10px;">  </div>	The Department of Public Works initiated projects for the upgrade of the Metro Airport Area sewer pump station and force main upgrades, located in East Baton Rouge Parish. The project includes 8 pump stations in the area to alleviate sanitary sewer overflow. The improvement will provide capacity to handle predicted future peak wet weather flows. The scope of work encompasses residential and commercial areas as well as Baton Rouge Metro Airport. MCA was engaged in designing the electrical power, controls, designs and standby generator size for the pump load at each site in accord with DPW standards. The scope of services includes Investigations, Preliminary Design, Detailed Design, Bidding Services, and Engineering Services During Construction.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2014	\$30,000,000	\$9,000,000

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Ascension Parish 6 Pump Stations Ascension Parish MCA Subconsultant to: Evans-Graves 9800 Airline Highway, Suite 200 Baton Rouge, LA	The submersible wastewater pump stations are located throughout Ascension Parish. There are a total of 6 duplex pump stations serving facilities in Darrow, Louisiana. The purpose of this project was to upgrade existing pump stations and design new installations for Ascension Parish Public Works. This includes design of a control system for pump operation and coordination with Entergy for build out of the power infrastructure for service at the new sites. MCA was engaged in designing the electrical power, controls designs, and standby generator size for the pump load at each site. The scope of services includes Investigations, Preliminary Design, Detailed	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2021	\$400,000	\$125,000

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Baton Rouge City/Parish Sewer Project East Baton Rouge Parish MCA Subconsultant to: CSRS 6767 Perkins Road, Suite 200 Baton Rouge, LA 70808	Multiple Pump Stations for the East Baton Rouge City/Parish Department of Public Works - Jefferson Hwy - Park Forest Dr. – The project included replacing five pump stations. The upgrades will work in conjunction with force main upgrades in other South Forced Upper Basin projects to alleviate chronic SSO's at and near the five pump stations. MCA is a subconsultant to CSRS MCA was engaged in designing the electrical power, controls designs and standby generator size for the pump load at each site in accord with DPW standards. The scope of services includes Investigations, Preliminary Design Technician, Detailed Design, Bidding Services, and Engineering Services During Construction.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2012	\$25,000,000	\$7,000,000

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Marvin J. Braud Pump Station Ascension Parish MCA Subconsultant to: Burk-Kleinpeter Tony Moschella, P.E. P. O. Box 19087 New Orleans, LA 70179</p> <div style="text-align: center;">  </div>	<p>The Marvin J Braud Pump Station Basin covers the central and northern portions of East Ascension Parish including the City of Gonzales and Prairieville, Louisiana, and East Ascension Consolidated Gravity Drainage District.</p> <p>MCA prepared the Electrical and Control Systems CDs for the expansion of the pumping station by adding Diesel Driven pump motors, a new line-up of 480 MCC, a new 480VAC 3 Phase power service, new lighting for the pump building, and emergency power generation (EPG) for miscellaneous electrical loads and another EPG for the critical life-safety electrical loads. MCA performed electrical engineering services for the installation of the addition of pump No. 6 driven by 1250n HP internal combustion engines. MCA was responsible for the modifications to upgrade the electrical utility service; Relocate the electrical utility transformers; Upgrade the existing stand by emergency power generator and install a second generator unit; Upgrade the electrical and electronic monitoring and operation control system for the existing five drainage pumps driven by 1250 HP internal combustion engines; Design the installation of the electrical power and control systems for the operation of the drainage pumps and auxiliary equipment; Design the installation of the electronic instrumentation systems for the operation and monitoring of the new pump N-6; Design the installation of lighting. Communication, security systems in the extension of the pump house.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2014	\$5,000,000	\$1,000,000

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>St. James Pump Station St. James Parish MCA was subconsultant to: Professional Engineering Consultants Tony Arikol, P.E. 7600 Innovation Ave. Baton Rouge, LA 70816</p>	<p>St. James Parish planned installation of 6 new pumping stations across the parish. MCA was responsible for the electrical power and controls design for the installation of these stations. Each station had 2 pumps which ranged from 5 to 10 hp.</p> <p>MCA provided preliminary design, construction documents, specifications, bid phase services, and construction assistance.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2015	Unknown	\$19,943 (Fee)

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
St. Tammany Pump Station St. Tammany Parish MCA was subconsultant to: Professional Engineering Consultants Tony Arikol, P.E. 7600 Innovation Ave. Baton Rouge, LA 70816	St. Tammany Parish upgraded 5 pumping stations in the Covington area. The pumps in these stations were replaced with larger pumps which required the controllers and associated electrical equipment be upgraded for the larger motors. MCA was responsible for the electrical power and controls design for the installation of these stations. Each station had 2 pumps which ranged from 5 to 15 hp. MCA provided preliminary design, construction documents, specifications, bid phase services, and construction assistance.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2015	Unknown	\$15,351 (Fee)

PROJECT NO. 10		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
St. Mary Parish Government – Amelia Pump Station 2 and 2A St. Mary Parish, Louisiana MCA was subconsultant to T. Baker Smith Thomas Naquin 17534 Old Jefferson Hwy. #D1 Prairieville, LA 70769	Installation of a 48" pump that will replace an existing 20" pump at the pumping station, a new pump house and associated power. Installation of new alternator control system to link new pump with existing 48" pump and stage/alternate operation of both pumps based on water level and operating sequence.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2018	Unknown	\$10,000 (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:	
Plaintiff:	Defendant:	Status/Result of Case:
1. None		
2.		
3.		
4.		
N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.		
<p>MARRERO, COUVILLON & ASSOCIATES, LLC (MCA) is an engineering design consulting firm with over forty years of experience. Our engineering services include electrical, mechanical and plumbing (MEP) disciplines. Services within these disciplines include:</p> <ul style="list-style-type: none"> • Investigation/Evaluation/Recommendations for existing systems • Design of new or upgraded MEP systems • Construction Administration services • Field Inspection services. <p>The firm is current with today's rapidly changing design technologies. In this regard, MCA offers design documentation in Revit, AutoCAD and Microstation.</p> <p>Founded in Baton Rouge in 1968 by Hugo A. Marrero, Sr., P.E, MCA operates a second location in Metairie, La. The Metairie location is managed by Greg DeCoursey, A.I.A. Our in-house architect serves as a beneficial liaison between our engineering design teams and the over-all project concept.</p> <p>MCA's certification as a Disadvantaged Business Enterprise (DBE) by the Unified Certification Program of the Louis Armstrong New Orleans International Airport, and the Louisiana Department Of Transportation And Development (DOTD) adds value to many publicly funded projects. Additional certifications include:</p> <ul style="list-style-type: none"> • State and Local Disadvantaged Business Enterprise (SLDBE) • Small Entrepreneurship – Hudson Initiative • Small and Emerging Business Development (SEBD) • Small Business Administration 8A (SBA 8a) <p>In addition to our capacity as prime consultant on projects for owners, contractors, and governmental agencies, Marrero, Couvillon also performs engineering services as a sub-consultant to other design professionals. Our work covers a diverse range of public, commercial and industrial projects; large and small including:</p> <ul style="list-style-type: none"> • Sewerage and Drainage • Historical Renovations • Parks and Recreation, including zoos • Commercial facilities such as hotels and restaurants • Government facilities • Airports – terminals, hangars, airfield power/lighting 		

TEC Professional Services Questionnaire

- Highways, Bridges and Tunnels
- Industry, including sugar processing facilities and petrochemical installations
- Universities and schools.

MCA's team of experienced engineers, design technicians, Computer Aided Design/Drafting (CADD) staff, field technicians and specification writers work under the supervision of experienced project managers to develop professional construction documents used for the execution of engineering projects.



The Firm's experience in the design of systems for the operation of pumping stations and the modification and upgrade of existing ones, include numerous projects in South Louisiana. The Firm's design concepts are based on state of the art technology and the application of MCA's experience in the selection of the best equipment for the project.

1. Professional training and experience in relation to the type of work required for the routine engineering services. The team of professionals at Marrero, Couvillon & Associates, LLC. has varied and extensive experience in providing engineering services as prime consultant, or as subconsultants for sewerage and drainage projects. Our company has over 50 years of experience. Within the last five years MCA has successfully completed or is currently working on the following sewerage and drainage projects:

Project Name	Client
M. J. Braud Pump Station Expansion	Ascension Parish
Zachary Americana Pump Station Installation	City of Zachary
St. John Airport Road Wastewater Pump Station	St. John the Baptist Parish
Upgrade Existing Pump Station and Design New Installations	Darrow, Louisiana, Ascension Parish
Upgrade Metro Airport Area Sewer Pump Station	Department of Public Works, City of Baton Rouge
Sewer System Upgrades Multiple Pump Station Improvements	City of Baton Rouge
Generator Reconfiguration for Pump Station No. 45	City of Baton Rouge
Sewerage Lift Station by Freight Receiving Building	New Orleans International Airport
Upsizing Multiple Pump Stations and Construction of 2 New Pump Stations	Department of Public Works, City of Baton Rouge
St. James Parish Phase 1 – Wastewater Collection	St. James Parish
St. James Parish Additional Pump Stations	St. James Parish
St. Tammany Parish Pump Station	St. Tammany Parish
Bayou Segnette Drainage Pump Station	Jefferson Parish
St. Mary Pump Station	St. Mary Parish

TEC Professional Services Questionnaire

2. Size of firm. Marrero, Couvillon & Associates has two complete departments for Mechanical Engineering and Electrical Engineering. Each department is run by a licensed Professional Engineer. Each department has designers and CAD technicians to proficiently handle the field visits, meetings, drawings and specifications meeting all code requirements to complete these projects safely, efficiently and to meet the needs of Jefferson Parish. Our staff of eighteen professionals are prepared to serve.

3. Work Load. Presently, MCA is seeking to diversify and expand its present workload and would welcome the opportunity to serve Jefferson Parish. As depicted in the chart below, many of our projects are in CA services or nearing completion.

Project Name and Location	Current Status
Ascension Parish Pumping Stations	CA Services
Lafayette Airport Terminal	CA Services
New Orleans City Hall Elevator/Mechanical Upgrades	CA Services
City of Galveston Pumping Station	Design
University Terrace	Design
Exxon QAL Lab	CA Services
New Orleans Municipal Courts	Design
New Orleans Union Station	CA Services
Baton Rouge Department of Environmental Services Building	Design
Louisiana Wetlands Education Center	CA Services
US 11 Bridge Rehabilitation	CA Services
St. Paul School Music Building	CA Services
International High School	CA Services
New Orleans DA Office Renovation	Bidding
New Orleans Police Department Firing Range	CA Services
Low Barrier Shelter (Phase 2)	CA Services
Emergency Maintenance Facility	CA Services
New Orleans Fire Department Storage Facility	Bidding

The staff of MCA recognizes the required activities for this project and concludes that MCA has the capacity to meet the requirements to develop all aspects of the work associated with this project. MCA staff assigned to this project will be scheduled with all of the time necessary to provide services required, at the time when they are needed.

4. Past Performance on Jefferson Parish contracts. Marrero, Couvillon & Associates welcomes the opportunity to provide engineering services for Jefferson Parish. We are currently performing services as subconsultants on the Bayou Segnette Pumping Station project, which is in the design phase. Prior to this project, MCA has not worked as a prime or subconsultant to the parish for many years. We have, however, been involved with many projects within Jefferson Parish, including current projects

TEC Professional Services Questionnaire

- 5. Location of the principal office.** Marrero, Couvillon & Associates offers two locations to best meet our client needs. Our Metairie office located at 3525 Hessmer Ave. will serve as our headquarters for this project.
- 6. Adversarial Legal proceedings between the Parish and the firm.** MCA has never encountered an adversarial situation with Jefferson Parish and plans to keep it that way.
- 7. References for successful completion of projects.** MCA is pleased to provide references for projects of similar nature. Please refer to Section 8, Work by Firm, Project owner names and contact information.

Marrero, Couvillon & Associates is excited to participate on this team in preparation of this statement of our qualifications, and we look forward to collaborating with them if awarded the opportunity to undertake any projects assigned by Jefferson Parish.

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



Signature: _____ **Print Name:** Greg DeCoursey, AIA

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:																													
SOQ 21-008 Provide Professional Engineering Services – Design for Rehab of Transcontinental & Belle Lift Station																													
B. Firm Name & Address where Project Work Will be Performed:																													
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>1 Geologists</td><td>_____ Structural Engineers</td></tr> <tr><td>_____ Chemical Engineers</td><td>13 Geotechnical Engineers</td><td>1 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>7 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>4 Engineer Intern</td><td>_____ Environmental Engineers</td><td>48 Other</td></tr> <tr><td>_____ Professional Land Surveyors</td><td></td><td>81 TOTAL</td></tr> </table>	7 Administrative	Estimators	_____ Specification Writers	_____ Architects (Licensed)	1 Geologists	_____ Structural Engineers	_____ Chemical Engineers	13 Geotechnical Engineers	1 Graduate Engineers	_____ Civil Engineers	_____ Interior Designers	_____ Project Managers	_____ Construction Inspectors	_____ Landscape Architects	7 Clerical	_____ Ecologists	_____ Land Surveyor	_____ Grant/Funding Specialist	_____ Electrical Engineers	_____ Mechanical Engineers	_____ Sanitary Engineers	4 Engineer Intern	_____ Environmental Engineers	48 Other	_____ Professional Land Surveyors		81 TOTAL		
7 Administrative	Estimators	_____ Specification Writers																											
_____ Architects (Licensed)	1 Geologists	_____ Structural Engineers																											
_____ Chemical Engineers	13 Geotechnical Engineers	1 Graduate Engineers																											
_____ Civil Engineers	_____ Interior Designers	_____ Project Managers																											
_____ Construction Inspectors	_____ Landscape Architects	7 Clerical																											
_____ Ecologists	_____ Land Surveyor	_____ Grant/Funding Specialist																											
_____ Electrical Engineers	_____ Mechanical Engineers	_____ Sanitary Engineers																											
4 Engineer Intern	_____ Environmental Engineers	48 Other																											
_____ Professional Land Surveyors		81 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.

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. None.		
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, administrative, and engineering staff. More employees can be added, as necessary, to complete any project.

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:	
20	
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/Registered Professional Engineer Florida: 2001/Registered Professional Engineer Alabama: 2001/Registered Professional Engineer	Mississippi: 2007/Registered Professional Engineer Texas: 2014/Registered Professional Engineer Arkansas: 2014/Registered Professional Engineer
Other Experience and Qualifications Relevant to the Proposed Project:	
<p>From 1993 to 1994, Mr. Cody worked with Eustis Engineering as a soil technician. Since that time, he has completed his education and achieved the level of professional engineer.</p> <p>After leaving Eustis Engineering in 1994, Mr. Cody worked as an engineering technician with the Sewerage and 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.</p> <p>For more than a year, he worked as a graduate research assistant at Tulane. At that time, he was responsible for the design, construction, and implementation of 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 and now serves as a project manager and 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 and commercial structures to multi-story high-rise structures, storage tanks, and other industrial facilities. Public projects have included roads and bridges, port facilities, government buildings and facilities, schools, 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, Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Lift Station, Marrero, Louisiana, Eustis Engineering Project No. 23819: Engineering analyses included excavation recommendations; 	

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

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

dewatering and pressure relief; lateral earth pressures; allowable soil bearing values; allowable pile load capacities; and settlement estimates.

- **City of Kenner, Lift Station No. 4102, Airline Highway and Minden Avenue, Jefferson Parish, Louisiana, Eustis Engineering Project No. 22317:** The focus of this project was a valve pit planned adjacent to the existing lift station. After performing a geotechnical exploration and associated laboratory testing, engineering analyses and recommendations were provided comprising dewatering and pressure relief; lateral movement and settlement of the adjacent ground surface; bottom preparation of the lift station; allowable pile load capacities; estimates of settlement; and differential settlement estimates.
- **City of Kenner, Sewer Capital Improvement Program, Sewage Pumping Station Upgrade, 31st Street and Jasper Street Lift Station, Kenner, Louisiana, Eustis Engineering Project Nos. 21834 and 22559:** Mr. Cody was Project Engineer for this work. A new below-grade submersible lift station was proposed to replace the existing lift station. After drilling a boring and performing laboratory tests on samples obtained from the boring, the client was provided with estimates of settlement, allowable soil bearing values, and allowable load capacities for timber piles. Recommendations for both rigid and flexible pavements, a temporary restraining system, and foundation construction procedures were also provided.
- **Sewerage & Water Board of New Orleans - Wastewater Rehabilitation Program at Multiple Sewer Pump Station Sites, New Orleans, Louisiana, Eustis Engineering Project Nos. 20701 and 22393:** Geotechnical information was obtained for seven sewer pump stations. Borings were drilled and engineering analyses performed for each location. Later, engineering during construction services were provided for six of the original seven locations. These services included temporary retaining structure review, dynamic pile testing, wave equation analyses of piles (WEAP), vibration monitoring, and observation during the cutting of concrete cores. Mr. Cody served as a project engineer with a particular focus on WEAP analyses.
- **Ascension Parish Government - Hillaryville Wastewater Treatment Plant, Pump Station, and Effluent Force Main, Hillaryville, Louisiana, Eustis Engineering Project Nos. 23149 (.01, .02, .03):** Mr. Cody was project manager for these geotechnical explorations. A proposed pump station and effluent force main required design input. Services included a geotechnical exploration, laboratory testing, engineering analyses, foundation recommendations, and pile load capacities. When the wastewater treatment plant was up for replacement, similar tasks were performed, as well as design services including submittal review and participation in design team meetings.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Gwendolyn P. Sanders, P.E. / President
Project Assignment:
Principal Engineer
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
28
Education: Degree(s)/Year/Specialization:
Bachelor of Science/1990/Civil Engineering Master of Science/1992/Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 1997/Civil Engineering Mississippi: 2003/Civil Engineering Texas: 2020/Civil Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>Mrs. Sanders began her professional career with Eustis Engineering in 1993. Over the past 28 years, she has worked her way up through the ranks of the engineering department as an Associate Engineer, Project Engineer, Project Manager, and Engineering Manager. In 2020, Mrs. Sanders became Eustis Engineering's first woman president. As president, she is responsible for day-to-day business operations of the corporation. These include quality, safety, marketing, and long-term strategic growth. She also still actively participates in the engineering design and review processes.</p> <p>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 region, particularly in the Greater New Orleans area. 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 the field investigation, 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. A majority 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.</p> <p>In 2017, Mrs. Sanders served as program advisor for the Deep Foundations Institute's 42nd annual conference. That same year, she was named one of the 50 Women of the Year by New Orleans' City Business. Mrs. Sanders is currently serving as an associate member of the American Society of Civil Engineer's Standards Committee for the Design and Construction of Foundations. She has a keen eye for detail and is a stickler for quality. Her work ethic and quality, combined with her communication skills, translate to Mrs. Sanders' ability to deliver successful geotechnical engineering projects to her clients.</p>

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Gwendolyn P. Sanders, P.E. / President

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

- **Cheval Point Subdivision - Lift Station, LA Highway 327, Baton Rouge, Louisiana, Eustis Engineering Project Nos. 22953 and 23692:** Development of geotechnical design recommendations for a retaining structure at the proposed lift station, a dewatering well point system for construction of the lift station, and a permanent hydrostatic pressure relief system.
- **Bellevue Country Estates - Phases IV, V, and VI, Pavements, Lake, and Sewer Lift Station, Paulina, Louisiana, Principal Engineering Project No. 1511, Eustis Engineering Project No. 23451:** Engineering analyses and recommendations included suitability of excavated soil from the proposed lake site for use in other construction areas; the need for an adequate liner along the bottom and side slopes throughout the lake; the need for erosion control after the lake's construction; general site preparation; allowable soil bearing values for the sewer lift station; allowable pile load capacities for treated ASTM D25 quality timber piles for the lift station; stability of the lift station against bearing capacity failure and hydrostatic uplift; etc.
- **Jefferson Parish, Lift Station G8-2, Tolmas Drive and West Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 22583:** This project required use of at-rest pressures to determine the structural requirements for any buried structures; stability analyses of the structure against hydrostatic uplift; base preparation recommendations for the valve pit foundation; allowable soil bearing values; allowable pile load capacities; settlement estimates; excavation and dewatering recommendations; etc.
- **Town of Henderson - Sewer Improvements, North of Interstate 10, Pump Station, Henderson, Louisiana, Eustis Engineering Project No. L0462:** Engineering analyses included estimates of allowable soil bearing values, geotextile use, lateral earth pressure, uplift pressure of the wet well, settlement, excavations, dewatering, and pressure relief of the temporary retaining structures.
- **Sewerage & Water Board of New Orleans - Wastewater Rehabilitation Program at Multiple Sewer Pump Station Sites, New Orleans, Louisiana, Eustis Engineering Project Nos. 20701 and 22393:** Geotechnical information was obtained for seven sewer pump stations. Borings were drilled and engineering analyses performed for each location. Later, engineering during construction services were provided for six of the original seven locations. These services included temporary retaining structure review, dynamic pile testing, wave equation analyses of piles, vibration monitoring, and observation during the cutting of concrete cores.
- **Sewerage & Water Board of New Orleans - Modifications to East Bank, Wastewater Treatment Plant, Construction of Monoliths 118-120, Orleans Parish, Louisiana, Eustis Engineering Project No. 22627:** Two important pipelines were unable to be relocated for this project. Therefore, an evaluation was performed to analyze the impacts of pile driving on these pipes, with an emphasis on reducing vibrations at the sewer force mains during driving. Available data and pile installation techniques were evaluated to provide estimates of allowable pile load capacities and estimates of minimum distances between pile driving operations and existing sewer force mains.

PROJECT NO. 1

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-11-3) New Sanitary Sewer Lift Station Marrero, Louisiana Eustis Engineering Project No. 23819 </p> <p> 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 drilled with truck mounted equipment. Once in the laboratory, samples collected in the field 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. Engineering analyses included:</p> <ul style="list-style-type: none"> • site preparation encompassing temporary and permanent drainage and excavation recommendations; • dewatering and pressure relief, lateral movement, and excavation base preparation associated with the sanitary gravity sewer line, wet well, and valve box; • lateral earth pressures; • base preparation, pipe bedding, and 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; and • settlement estimates for both ground supported and pile supported project features. 	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">June 2018 (Actual)</p>	<p align="center">Entire Project:</p>	<p align="center">Work for Which Firm Was Responsible:</p>
	<p align="center">Unknown</p>	<p align="center">\$4,900</p>

PROJECT NO. 2

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

Nature of Firm's Responsibility:

**Cheval Point Subdivision
Lift Station
LA Highway 327
Baton Rouge, Louisiana
Eustis Engineering Project Nos.
22953 and 23692**

Cheval Point Development, LLC
Suite 3B
9191 Siegen Lane
Baton Rouge, Louisiana 70810
Wesley Daniel @ 225-279-5410

Cheval Point Subdivision was a 57-acre site on LA Highway 327 approximately 175 feet landward of the left descending bank of the Mississippi River levee. Because of the site's location, several government agencies were included in the permitting process.

Eustis Engineering was requested by the owner to perform a technical review of the latest permit plans. Eustis Engineering was also asked to provide geotechnical design recommendations for a retaining structure at the proposed lift station, a dewatering well point system for construction of the lift station, and a permanent hydrostatic pressure relief system.

Our scope of services included cone penetration tests (CPTs) at the proposed location of a new sanitary sewer lift station to evaluate the subsoil conditions at the site. Two static CPTs were made by Eustis Engineering, one to 21 feet and one to 76 feet below the existing ground surface. During the CPTs, pore pressure dissipation tests were conducted at various depths by halting the penetration and measuring the decay of pore water pressure with time. Measurements of pore pressure decay were taken for a minimum of 1,000 seconds at each test depth. The rate of excess pore pressure dissipation was measured and plotted versus time to estimate the horizontal coefficient of consolidation.

Based on our interpretation of the CPT results as well as soil borings and CPT results from past projects performed by our firm and the U.S. Army Corps of Engineers for this project, we developed recommendations for construction of a retaining structure, recommendations for a permanent pressure relief system, and estimates for a temporary pressure relief system.

Following our technical review of the general civil engineer's recent permit plans, Eustis Engineering's recommendations and estimates were to be incorporated into the engineer's project plans for a formal resubmission to the Pontchartrain Levee District.

Eustis Engineering presented a conceptual plan for construction of the proposed lift station. This plan was based on lift station construction using a sheetpile retaining structure and providing hydrostatic pressure relief both during construction and for the design life of the completed lift station. Our conceptual plan was based on providing one of two methods of hydrostatic pressure relief by using either (1) a conventional active system of pressure relief wells or (2) a soil improvement solution by jet grouting. These conceptual solutions were based on design criteria to resist hydrostatic heave and seepage during and after construction.

PROJECT NO. 2		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<p>As part of the project, Eustis Engineering also installed two temporary "Casagrande" type, open standpipe piezometers, one within and one outside the retaining structure. The purpose of the piezometers was to monitor excess hydrostatic pressure of the transition and aquifer strata at the retaining structure.</p> <p>Eustis Engineering remained on site during construction providing construction oversight associated with the lift station.</p>	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
April 2018 (Actual)	Unknown	\$63,400



PROJECT NO. 3

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Bellevue Country Estates Phases IV, V, and VI Pavements, Lake, and Sewer Lift Station Paulina, Louisiana Principal Engineering Project No. 1511 Eustis Engineering Project No. 23451 </p> <p align="center"> Landcraft Homes, L.L.C. Post Office Box 2470 LaPlace, Louisiana 70069 Joseph M. Scontrino III @ 985-651-3007 </p>	<p>Bellevue Country Estates in Paulina, Louisiana, was built in phases in a relatively level sugarcane field that included drainage ditches and an access road. Phases IV, V, and VI of the 81-lot development included the construction of nearly 4,000 feet of roadway pavements, a 7-ft deep lake, and a 16-ft deep sewer lift station. The lift station was to consist of a 6-ft diameter wet well with an invert located approximately 15 feet below the ground surface and the bottom slab at 16 feet. The lift station would be constructed using 6-ft diameter reinforced concrete pipe (weighing approximately 1,850 lb/lf).</p> <p>When our personnel arrived on site, they discovered standing water and soft ground conditions. After performing seven auger borings, we received authorization from the owner to use a track mounted rig instead of the planned truck mounted rig. We drilled three undisturbed soil test borings and the eighth auger boring. One soil boring was drilled to a depth of 60 feet near the location of the proposed sewer lift station, and the other two borings were drilled to depths of 15 feet each near the proposed lake. Auger borings were drilled to depths of 8 feet along the proposed roadway alignment.</p> <p>Soil mechanics laboratory tests were performed on samples collected in the field. In conjunction with the soil borings and laboratory test results, engineering analyses were made to determine recommendations regarding the suitability of excavated soil from the proposed lake site for use in other construction areas; the need for an adequate liner along the bottom and side slopes of the lake; the need for erosion control after the lake's construction; general site preparation including drainage during and after construction; subgrade preparation and stabilization for proposed roadways; select backfill and structural fill and its compaction; pavement recommendations for flexible and rigid pavements; allowable soil bearing values for the sewer lift station; allowable pile load capacities, in compression and tension, for various sizes and embedments of treated ASTM D25 quality timber piles for the lift station; stability of the lift station against a bearing capacity failure and hydrostatic uplift; estimates of settlement and differential settlement due to fill placement and between pile/grade supported features; and the use of temporary retaining structures as well as dewatering and pressure relief during construction of the sewer lift station.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">March 2017 (Actual)</p>	Unknown	\$9,000

PROJECT NO. 4

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Lift Station G8-2 Tolmas Drive and West Esplanade Avenue Metairie, Louisiana Eustis Engineering Project No. 22583 </p> <p align="center"> Barowka & Bonura Engineers & Consultants, LLC 209 Canal Street Metairie, Louisiana 70005 Jeffrey Bonura @ 504-828-0030 </p>	<p>Jefferson Parish planned to improve Lift Station G8-2 by installing a 12' x 12' valve pit 10 feet below the existing ground surface. To determine subsoil conditions and stratifications at the site, Eustis Engineering drilled one undisturbed soil boring to a depth of 80 feet below the existing ground surface using a truck mounted rotary type drill rig. Cohesive or semi-cohesive subsoils were sampled at close intervals or changes in stratum using a 3-in. thinwall Shelby tube sampling barrel. Once the samples were extracted from the bore hole, pocket penetrometer tests were performed on the trimmed ends of the extruded samples to provide a general indication of the soil's shear strength or consistency.</p> <p>Our laboratory technicians performed soil mechanics laboratory tests consisting of natural water content, unit weight, and unconfined compression shear on undisturbed samples obtained from the boring.</p> <p>Based on the soil boring and soil mechanics laboratory tests, Eustis Engineering developed recommendations for site preparation, excavation and dewatering, lateral earthen pressures, bedding and backfill, estimated allowable soil bearing values for mat foundations, estimates of allowable pile load capacities, estimates of settlement, and general foundation construction procedures.</p> <p>More specifically, engineering analyses included:</p> <ul style="list-style-type: none"> • use of at-rest pressures to determine the structural requirements for any buried structures; • recommendations regarding stability of the structure against hydrostatic uplift; • base preparation recommendations for the valve pit foundation including the use of geotextiles, bedding requirements, and structural fill requirements; • allowable soil bearing values for the valve pit's mat foundation; • allowable load capacities, in compression and tension, for various sizes of treated ASTM D25 quality timber piles to support the proposed valve pit; • estimates of settlement and differential settlement for both mat and timber pile foundations; • excavation and dewatering recommendations associated with construction; and • effects of areal subsidence on the project. 	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">August 2014 (Actual)</p>	<p align="center">Entire Project:</p> <p align="center">Unknown</p>	<p align="center">Work for Which Firm Was Responsible:</p> <p align="center">\$4,100</p>

PROJECT NO. 5

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> City of Kenner Lift Station No. 4102 Airline Highway and Minden Avenue Jefferson Parish, Louisiana Eustis Engineering Project No. 22317 </p> <p align="center"> Hartman Engineering, Inc. Suite 300 527 West Esplanade Avenue Kenner, Louisiana 70065 Priyo Majumdar @ 504-466-5667 </p>	<p>The City of Kenner planned to renovate the existing Sewer Lift Station No. 4102. The renovation involved adding a buried valve pit adjacent to the existing lift station. The valve pit was to be 8 to 10 feet in diameter and placed 6 feet below the existing ground surface. A small cofferdam was considered for construction. Eustis Engineering was retained to perform professional geotechnical services consisting of field, laboratory, and engineering services.</p> <p>In the field, Eustis Engineering drilled one undisturbed soil boring to a depth of 60 feet to determine subsoil conditions and stratification at the project site. The drill crew also made one auger boring to a depth of 12 feet below the existing grade to measure ground water conditions at the time of the exploration. For the undisturbed boring only, team members obtained samples of cohesive or semi-cohesive subsoils at close intervals or changes in stratum using a 3-in. diameter thinwall Shelby tube sampling barrel. The samples were extruded, inspected, and visually classified in the field. Our soil technician performed pocket penetrometer tests on the samples to give a general indication of the soil's shear strength and consistency. Samples were placed in moisture proof containers to preserve their natural water content prior to laboratory testing.</p> <p>Our laboratory technicians performed soil mechanics laboratory tests on these samples to evaluate the physical properties of the various substrata.</p> <p>Engineering analyses, based on the undisturbed soil boring and soil mechanics laboratory test results, were used to develop recommendations regarding:</p> <ul style="list-style-type: none"> • site preparation including drainage, trenching and excavations, dewatering and pressure relief, and lateral movement and settlement of the adjacent ground surface; • bottom preparation including bedding, the use of geotextile fabric, and the effects of uplift pressure during/after construction; • estimated gross and net allowable soil bearing values for the valve pit's mat foundation; • allowable pile load capacities, in compression and tension, for treated timber piles; • estimates of settlement; and • general construction recommendations. 	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">October 2013 (Actual)</p>	<p align="center">Unknown</p>	<p align="center">\$3,200</p>

PROJECT NO. 6

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

Nature of Firm's Responsibility:

**City of Kenner
Sewer Capital Improvement Program
Sewage Pumping Station Upgrade
31st Street and Jasper Street Lift Station
Jefferson Parish, Louisiana
Eustis Engineering Project Nos.
21834 and 22559**

City of Kenner
Department of Public Works Through
Design Engineering, Inc.
Suite 205
3330 West Esplanade Avenue
Metairie, Louisiana 70002
John Holtgreve @ 504-836-2155

Construction was to consist of a new wet well 20 to 25 feet below the existing ground surface, a valve pit 6 to 8 feet below the existing ground surface, and an electrical panel located at the ground surface. The wet well and valve pit would each have a 12' x 12' pad. The electrical panel would have a 2' x 5' pad. Both shallow foundation systems and treated timber piles were being considered for support of the project features.

One undisturbed soil test boring was made at the site. The boring was drilled to a depth of 80 feet below the existing ground surface. Upon completion of the drilling operations, the boring was backfilled in accordance with current regulatory requirements and the pavement patched. GPS coordinates of the boring were obtained using a handheld device.

Soil mechanics laboratory tests, performed on samples obtained from the boring, were used to evaluate the physical properties of the various substrata.

Engineering analyses, based on the soil boring and laboratory test results, were made to determine recommendations regarding site preparation and drainage, pipe bedding, estimates of allowable soil bearing values, estimates of allowable load capacities for timber piles, estimates of settlement, a temporary restraining system, and foundation construction procedures as well as recommendations for rigid and flexible pavements.

Eustis Engineering also provided construction materials testing services for this project. Those services included:

- soil mechanics laboratory tests including moisture content, Atterberg limits, mechanical analysis, and standard Proctor;
- inplace density tests on sand, limestone, and crushed concrete for use as structural backfill, bedding, and base course;
- visual and physical inspection of more than 1,620 feet of timber piles;
- pile logging during installation;
- performance of vibration and acoustical monitoring during pile installation;
- review of asphalt and concrete mix designs intended for use on the project;
- visual and physical inspection of concrete placed for the lift station slab, seal slab, foundation slab, skid foundation, tank bottom, manhole, electrical pad, sidewalk, and roadway;

PROJECT NO. 6		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<ul style="list-style-type: none"> • compressive strength tests on concrete cylinders made during the above inspection; and • the coring and inspection of asphalt. 	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
April 2015 (Actual)	Unknown	\$19,300



PROJECT NO. 7

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Town of Henderson Sewer Improvements North of Interstate 10 Pump Station Henderson, Louisiana Eustis Engineering Project No. L0462 </p> <p> Town of Henderson, Louisiana Post Office Box 595 Henderson, Louisiana 70517 Sherbin Collette @ 337-228-7109 </p>	<p>Sewer improvements were planned for the Town of Henderson, Louisiana. A new pump station, comprising a wet well and valve pit, would be constructed on North Barn Road.</p> <p>Plans called for the wet well to be supported by an 18-in. thick concrete mat underlain by 12 inches of limestone bedding. It would be constructed of precast, reinforced concrete pipe sections having outside diameter dimensions of 72 inches with a square mat foundation having plan dimensions of 9.3' x 9.3'. The excavation for the wet well would be made to a depth of 21.5 feet below the existing ground surface.</p> <p>The adjacent valve pit would be constructed of precast, reinforced concrete pipe sections having outside diameter dimensions of 60 inches. Drawings indicated the valve pit would be supported by a 12-in. thick concrete mat underlain by 12 inches of limestone bedding. The valve pit would require excavation to an approximate depth of 6 feet below the existing ground surface. Plans also indicated the valve pit mat foundation would have plan dimensions of 7' x 7'.</p> <p>One soil boring was made to a depth of 60 feet using a truck mounted rotary type drill rig for the purpose of evaluating subsoil conditions and stratification, and to obtain samples of the various substrata. Soil mechanics laboratory tests consisted of natural water content, unit weight, unconfined compression shear, and unconsolidated undrained triaxial compression shear. In addition, Atterberg liquid and plastic limits tests were performed on selected soil samples.</p> <p>Engineering analyses, based on the soil boring and laboratory tests, were made to determine recommendations regarding site preparation; estimates of allowable soil bearing values; geotextile use, lateral earth pressure, and uplift pressure of the wet well; settlement, excavations, dewatering, and pressure relief of the temporary retaining structures (for cost estimating purposes only); and construction monitoring.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">August 2016 (Actual)</p>	<p align="center">Entire Project:</p>	<p align="center">Work for Which Firm Was Responsible:</p>
	<p align="center">Unknown</p>	<p align="center">\$7,200</p>

PROJECT NO. 8

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p>Sewerage & Water Board of New Orleans Wastewater Rehabilitation Program at Multiple Sewer Pump Station Sites New Orleans, Louisiana Eustis Engineering Project Nos. 20701 and 22393</p> <p>Sewerage & Water Board of New Orleans Through Design Engineering, Inc. Suite 205 3330 West Esplanade Avenue Metairie, Louisiana 70002 John Holtgreve @ 504-836-2155</p>	<p>This project required geotechnical information for seven sewer pump stations with plan dimensions of approximately 18' x 22'. The structures would be located approximately 7 feet below existing grade and would be supported on driven pile foundations. Piling under consideration included treated timber and square, prestressed, precast concrete piles.</p> <p>An elevated 8' X 15' electrical platform would be supported at grade on a 10' x 15' foundation slab. The total weight of the platform with roof and live loads was 68 kips. Roof uplift would create a net tension load of 17 kips on the platform. The distributed uniform loading on the 10' x 15' foundation slab was estimated to be 453 psf (not including the weight of the foundation slab).</p> <p>The existing pump stations were pile supported. At five of the seven pump station sites, specific information was provided by Design Engineering, Inc., for influent and discharge pipe depths, and for new and existing foundation depths below existing grade. We estimated pipe and foundation depths at the remaining two pump stations. New pipe diameters were estimated to range from 12 to 18 inches.</p> <p>Seven undisturbed soil test borings were drilled for the project. Six borings were made to depths of 100 feet, and one terminated at a depth of 85 feet below the existing ground surface. The undisturbed borings were made with a truck mounted Failing 3600 wet rotary type drill rig. Upon completion of the drilling operations, the borings were backfilled with cement-bentonite grout in accordance with current regulatory requirements. Soil mechanics laboratory tests, performed on samples obtained from the borings, were used to evaluate the physical properties of the subsoils.</p> <p>Engineering analyses, based on the soil borings and laboratory tests, were performed to develop recommendations regarding site preparation, placement and compaction of fill, allowable soil bearing values, allowable pile load capacities, and estimated settlement. Construction recommendations were also provided for excavations and dewatering.</p> <p>Eustis Engineering provided professional geotechnical engineering services during construction for six of the pump stations previously analyzed for the design phase of the project. Our services included a review of temporary retaining structures (sheetpile walls), dynamic pile testing, wave equation analyses of pile driving methods, vibration monitoring, and observation services during the cutting of concrete cores.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">November 2015 (Actual)</p>	<p align="center">Entire Project:</p>	<p align="center">Work for Which Firm Was Responsible:</p>
	<p align="center">Unknown</p>	<p align="center">\$62,800</p>

PROJECT NO. 9

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:
<p>Ascension Parish Government Hillaryville Wastewater Treatment Plant Pump Station, and Effluent Force Main Hillaryville, Louisiana Eustis Engineering Project Nos. 23149 (.01, .02, .03)</p> <p>Ascension Parish Government Through MSMM Engineering, LLC Suite 220 4640 South Carrollton Avenue New Orleans, Louisiana 70119 Mardia Manish @ 504-570-6098</p>	<p>Improvements, specifically an 8-ft diameter wet well and valve pit, were proposed to the existing pump station at the Hillaryville Wastewater Treatment Plant in Hillaryville, Louisiana. The top of the slab for the proposed wet well would be installed to approximate el -3.5 and the top of the slab for the valve pit would be installed to approximate el 5. The net bearing intensity of the wet well would be 250 psf; the bearing intensity of the valve pit would be less than the soil excavated for the pit.</p> <p>One 5-in. diameter undisturbed soil boring was made at the pump station location within the existing Hillaryville Wastewater Treatment Plant. One 3-in. diameter undisturbed soil boring was made near the intersection of Marchand School Road and River Road (LA Highway 942). Both were drilled with truck mounted wet rotary equipment to depths of 75 feet and 80 feet, respectively, below the existing ground surface. Upon completion of drilling, the holes were grouted in accordance with current regulatory requirements. Additional data were obtained from the U.S. Army Corps of Engineers, New Orleans District, using the Freedom of Information Act request. This information contained pertinent USACE slope stability plates and levee cross-sections for the left descending bank near Mississippi River Mile 171.4 AHP. Soil mechanics laboratory tests, primarily consisting of natural water content, unit weight, and unconfined compression shear, or unconsolidated undrained triaxial compression shear, were used to evaluate the physical properties of the various substrata.</p> <p>Based on the available soil boring and laboratory test data, engineering analyses and foundation recommendations included estimated allowable soil bearing values to sustain the structural loads of the mat-supported wet well and valve pit; sheetpile and bracing recommendations to maintain stability of the excavations; dewatering and pressure relief; lateral movement and settlement of the adjacent ground surface; analysis of temporary retaining structures; lateral earth pressures; recommended bedding and structural fill associated with the construction of the wet well and valve pit foundations; estimates of settlement and differential settlement associated with the project; allowable soil bearing values for the proposed pipe rack footings and access bridge abutment; and global and local stability analyses associated with these same structures.</p> <p>After completing the initial investigation, Eustis Engineering was requested to evaluate preliminary allowable single pile load capacities to aid in project construction budget estimates. Using available data, our engineers completed preliminary estimates of single pile load capacities, in compression and tension, for treated ASTM D25 quality timber piles.</p> <p>Shortly thereafter, Eustis Engineering was asked to provide additional geotechnical services, this time for the replacement of the wastewater treatment plant. The project was to consist of buildings proposed on</p>

PROJECT NO. 9

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<p>grade; reinforced and partially buried concrete tanks; a pump station with an approximate 20-ft depth; asphalt roadways within the site; and buried piping. New features would include an influent pump station and effluent pump station, an effluent force main, headworks, aeration basins, a sludge area controller, a chlorine disinfection unit, an aerobic digester, a filter press building, administrative building, and a maintenance building.</p> <p>The field exploration included three undisturbed borings between 80 and 100 feet below the existing ground surface; ten auger borings to depths of 8 feet; and 11 cone penetration tests to 80 feet. The field investigation was followed by the performance of soil mechanics laboratory tests to classify the subsoils and determine their relative compressibility.</p> <p>Engineering analyses and recommendations for this portion of the project included:</p> <ul style="list-style-type: none"> • ground water management; • site preparation including subgrade preparation, recommended structural fill and its compaction, and estimated fill settlement; • excavation and dewatering recommendations as well as recommendations with regard to lateral movement and settlement of the adjacent ground surface; • earth and water pressures (at-rest, active, passive, uplift); • site preparation associated with below grade structures including base preparation, material separation, and bedding recommendations; • pipeline recommendations including material separation, recommended bedding/backfill materials and their compaction, and settlement estimates; • shallow foundation recommendations including allowable soil bearing values for footings and settlement estimates; • mat foundation recommendations including allowable soil bearing values, net applied pressure intensity, and settlement estimates; • allowable pile load capacities for treated timber, timber composite, and precast concrete piles; • pile settlement estimates due to structural loads and fill placement; • pile installation recommendations; and • recommendations for flexible and rigid pavements. <p>Finally, Eustis Engineering participated in design team meetings and performed requested submittal reviews.</p>	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
August 2020 (Actual)	Unknown	\$45,200

PROJECT NO. 10

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Sewerage & Water Board of New Orleans Modifications to East Bank Wastewater Treatment Plant Construction of Monoliths 118-120 Orleans Parish, Louisiana Eustis Engineering Project No. 22627 </p> <p> Sewerage & Water Board of New Orleans Through Integrated Management Services 126 East Amite Street Jackson, Mississippi 39201 Tommy Avant @ 901-968-9194 </p>	<p>Eustis Engineering was contracted to provide geotechnical engineering analyses for the construction of three monoliths at the East Bank Wastewater Treatment Plant in New Orleans. The construction of these monoliths had been postponed due to their close proximity to two pipelines. Initial plans had called for the relocation of these pipelines. However, due to the condition of the lines, relocation proved to be unfeasible. Leaks in these lines had been repaired by the installation of a pipe liner within each pipe.</p> <p>The proximity of construction activities and the condition and importance of these pipelines meant alternative methods of installing piles had to be explored to reduce vibrations at the sewer force mains during pile driving operations. The options being evaluated for this project included:</p> <ul style="list-style-type: none"> • using steel H-piles in lieu of concrete piles, • installing piles vertically rather than on a batter, • installing piles with the aid of predrilling, and • determining how far the piles would need to be spaced from the existing sewer force main to reduce vibrations. <p>Recommendations were based on review of available data from previous exploration and construction, estimates of allowable pile load capacities for steel H-piles, evaluation of pile installation techniques (such as predrilling), and estimates of minimum distances between pile driving operations and existing sewer force mains.</p>	
<p align="center">Completion Date (Actual or Estimated)</p> <p align="center">August 2014 (Actual)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
	<p align="center">Unknown</p>	<p align="center">\$6,000</p>

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.		



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.

When Eustis Engineering opened its first office in Vicksburg, Mississippi, in 1946, it housed its entire operation in less than 500 square feet of space. *Seventy-five 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 two-man office to approximately 100 individuals, 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, less than five miles from the project location at the intersection of Transcontinental Drive and Belle Drive. We also operate branch offices in Lafayette and Baton Rouge, Louisiana; in Gulfport, Mississippi; and in 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:

- exploration (drilling of soil borings and cone penetration testing),
- soil mechanics laboratory tests,
- field instrumentation and monitoring,
- dynamic pile testing and non-destructive testing of piles/shafts,
- geotechnical engineering design, and
- construction quality control and materials testing services.

Eustis Engineering has worked on more than 25,000 projects since its inception. Over 4,000 of these projects were located in Jefferson Parish, and more than 1,000 have involved sewer systems in some capacity. This work history gives our engineering staff unparalleled familiarity with the foundation conditions in the Greater New Orleans area. Our engineers have provided geotechnical services at various levels in 22 states and one dozen foreign countries throughout the years.

ENGINEERING

Eustis Engineering has engineering capabilities to fulfill the requirements of nearly any project. We have developed pile capacity and bearing capacity analyses for projects throughout the coastal areas of the United States. We consider net and gross allowable bearing pressures in the design of below grade features. 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.

We perform settlement studies including estimates of settlement and time-rate of settlement, including the effects of drawdown on adjacent features. We evaluate appropriate backfills and bedding, and provide recommendations for their placement and compaction.

Our capabilities extend to performance of deep-seated global stability analyses for structures using Spencer's Method as coded in SLOPE/W and the LMVD Method of Planes as coded in UPLIFT. These programs are also used for the design and verification of levees, reinforced embankments, revetments, channel slopes, and open excavations. Our staff

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

evaluates local and global stability of temporary and permanent retaining structures. We provide recommendations for dewatering and pressure relief during construction and operation of below grade structures.

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 moment (SIBM). Eustis Engineering is also utilizing a numerical model program SIGMA/W in association with the rigorous settlement program Settle3.

Finally, Eustis Engineering has performed seepage analyses for evaluation of heave, uplift, and piping. We use EM 1110-2-1913, EM 1110-2-1901, and DNR 1110-1-400 for manual calculations that consider blanket theory for earthen embankments and levees. We also use SEEP/W for a computer model and typically compare the results of manual calculations to the SEEP/W model as a quality assurance procedure.

Staffing

Our engineering staff has 15 Master's degrees in Civil Engineering, Engineering, Engineering Management, 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, are very important to Eustis Engineering. Our engineers also regularly present in 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	20	24
Brian A. Deschamp	B.S. / Civil & Environmental Engineering	9	9
	B.A. / Business Administration		
James J. Hance	M.S. / Civil Engineering	18	22
	M.B.A. / Business Administration		
Chad L. Held	M.S. / Civil Engineering	30	30
David J. Indest	M.S. / Civil Engineering	20	20
Matthew K. Morales	B.S. / Civil Engineering	12	12
Travis R. Richards	M.S. / Engineering	15	22
	M.S. / Engineering Management		
	Coastal Engineering Certificate		
Gwendolyn P. Sanders	M.S. / Engineering	28	28
Shaun R. Simon	M.S. / Civil Engineering	21	21
Patrick A. Thurmond	M.S. Engineering Management	6	6
	M.S. / Civil Engineering		
	Coastal Engineering Certificate		
Sean G. Walsh	M.S. / Civil Engineering	9	14
Benjamin G. Weinberg ⁽¹⁾	B.S. / Civil & Environmental Engineering	1	8
	M.B.A. / Business Administration		

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

Employee	Education	Experience	
		Years with Eustis Engineering	Total Years
Henry C. Worley	B.S. / Civil Engineering	3	5
	Coastal Engineering Certificate		
Engineering Interns (E.I.)			
Patrick T. Duckworth	M.S. / Civil Engineering	1	1
Lars A. Erickson	B.S. / Civil & Environmental Engineering	5	5
	Coastal Engineering Certificate		
Tomas K. Morales ⁽³⁾	B.S. / Civil Engineering	8	8
Joel R. Smith	B.S. / Civil Engineering	1	5
James M. Williams ⁽²⁾	M.S. / Civil Engineering	3	3
Engineering Graduates			
Lesley L. Reitmeyer	B.S. / Civil Engineering	12	12
Sean T. Smith ⁽³⁾	B.S. / Civil Engineering	5	5
Geologists			
Matthew J. Blasini	B.S. / Geology	1	2
Total Years of Experience		228	262

- (1) P.E. outside Louisiana.
- (2) Passed P.E. Exam, licensure pending one more year of experience.
- (3) Long Term Subcontractor

Cone Penetration Testing Capabilities

Eustis Engineering owns two dedicated track mounted CPT rigs and operates four other multi-purpose rigs that can perform CPTs. Operators are either specifically trained engineering technicians or engineers who perform the 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 CPT rigs can be placed on a cargo buggy, shallow draft barge, or airboat to access coastal marsh or open water.

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 and closed end steel pipe piles, and steel H-piles.

We recently upgraded our data collectors and now operate four Pile Driving Analyzers® (PDAs) - two PAX units and two 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 have used underwater gauges to monitor pile driving in marine environments when the pile head descends below the water surface.

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

To support our four PDA units, Eustis Engineering maintains an extensive inventory of calibrated gauges and accessories. To provide quality assurance and rapid response 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 SPT hammers on our drill rigs.

Other Non-Destructive Testing Capabilities

Our engineering staff at Eustis Engineering also 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

Eustis Engineering has installed geotechnical instrumentation for decades. Our instrumentation programs have resulted in substantial cost savings to our clients by reducing preload durations, providing refinement of geotechnical design parameters through full scale testing, and verifying the performance of cutting edge designs. Our services go beyond the construction phase, as long term monitoring programs enable owners to maximize utilization of their facilities throughout the design life by verifying soil behavior is within acceptable limits.

Eustis Engineering provides the following instrumentation services.

- Vibrating wire devices including piezometers, extensometers, settlement gauges, and strain gauges
- Data loggers to enable periodic collection of data for vibrating wire devices
- Data links for remote web access to loggers in near real time
- Settlement plates
- Conventional slope inclinometers or MEM sensor array inclinometers
- Monitoring services of all instrumentation devices with geotechnical interpretation

Instrumentation is a natural complement to our design services, providing data to verify or modify recommendations based on the observational method. Ongoing monitoring enables us to provide continuing services from project inception to the end of a project's design life.

DRILLING

Eustis Engineering possesses licenses and credentials to perform geotechnical drilling in Louisiana and Mississippi (no license is needed in Texas). With our licenses and credentials, Eustis Engineering drills soil borings and performs sampling operations for our clients' projects in all types of environments including land, marsh, swamp, and marine. Our personnel have the capability and experience to provide these services from trucks, barges, pontoons, and swamp or marsh buggies.

Personnel

We can provide up to eight drillers and drill rigs capable of obtaining standard 3-in. diameter Shelby tube samples and 5-in. diameter fixed piston samples on land, and in water and marsh environments as indicated in the following table.

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

Capabilities of Eustis Engineering's Drill Staff	Scott Bombard	Jordan Brightwell	James Cordes	Rene Davidson	Eric Held	Julius Ivery	James Lubben	George Reitmeyer	Lawrence Rome
Hand Auger Borings	X	X	X	X	X	X	X		X
General Type (3-in. Diameter Borings)	X	X	X	X	X	X	X		X
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
Boring Location Information (Elevation, Latitude, Longitude, Station, Offset)		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

Equipment

Eustis Engineering owns and operates six wet rotary drill rigs, both truck 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 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.

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

LABORATORY

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

Eustis Engineering has also recently 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 will provide Eustis Engineering's team members access to a data source via connected applications or a web portal, increasing collaboration and efficiency. The 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 easily customized worksheets and reports.

Technical testing common to our laboratories includes ASTM, ACI, LaDOTD, AASHTO, FAA, and U.S. Army Corps of Engineers. Our laboratories hold accreditations from AASHTO, LaDOTD, and the U.S. Army Corps of Engineers.

Staffing

Eustis Engineering currently has more than a dozen technicians to perform soil mechanics laboratory testing. These technicians are versed in the latest standards from ASTM, LaDOTD, MDOT, AASHTO, FAA, and the U.S. Army Corps of Engineers. 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 U.S. Army Corps of Engineers, 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's laboratory is accredited with the AASHTO Materials Reference Laboratory (AMRL) in the areas of soil, aggregate, and Portland Cement Concrete.

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 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.

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

Metairie	Baton Rouge	Gulfport
Aggregate		Aggregate
Asphalt	Aggregate	Asphalt
Concrete	Soil	Concrete
Masonry	Spray Fire-Resistive Material	Soil
Soil		Spray Fire-Resistive Material

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: 10 May 2021

