

## TEC Professional Services Questionnaire

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

Supplemental Surveying Services; Resolution 139554

**B. Firm Name & Address:**

Lowe Engineers, LLC  
1011 North Causeway Boulevard, Suite 34  
Mandeville, LA 70471

**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:**

John Bonneau, PLS, Survey Department Manager (Mandeville Office)  
Registered in the State of Louisiana – PLS No. 4423  
1011 North Causeway Boulevard, Suite 34  
Mandeville, LA 70471  
Phone: 985.237.9102  
Email: john.bonneau@loweengineers.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.**

Ryan Chapman, PLS, Survey Department Manager (Scott Office)  
Registered in the State of Louisiana – PLS No. 5096  
104 Speedpro Lane  
Scott, LA 70583  
Phone: 337.849.7967  
Email: ryan.chapman@loweengineers.com

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

<u>9</u> Administrative	___ Estimators	___ Specification Writers
___ Architects (Licensed)	___ Geologists	___ Structural Engineers
___ Chemical Engineers	___ Geotechnical Engineers	<u>8</u> Graduate Engineers
<u>22</u> Civil Engineers	___ Interior Designers	___ Project Managers
___ Construction Inspectors	___ Landscape Architects	<u>8</u> Clerical
___ Ecologists	<u>35</u> Land Surveyors	___ Grant/Funding Specialist
___ Electrical Engineers	___ Mechanical Engineers	___ Sanitary Engineers
___ Engineer Intern	___ Environmental Engineers	
<u>6</u> Professional Land Surveyors		___ <b>TOTAL</b>

**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. N/A	N/A	N/A
2.		
3.		

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

20

## 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 Bonneau, PLS, Survey Department Manager (Mandeville Office)

**Project Assignment:**

Principal-in-Charge

**Name of Firm with which associated:**

Lowe Engineers, LLC

**Years' experience with this Firm:**

Experience with this Firm: 4 Years  
Total Experience: 45+ Years

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

BS, Civil Engineering – Louisiana Tech University, 1976  
AS, Land Surveying – Louisiana Tech University, 1974

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

Professional Land Surveyor  
State of Louisiana  
Registration No.: 4423  
Year Registered: 1980

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

John Bonneau has over 45 years of field experience with 42 of those years as a Licensed Professional Land Surveyor. Throughout his career, he has performed sectionalized retracement surveys, topographic surveys for right-of-way acquisitions, drainage, and sewer improvements. He has worked with hundreds of private investors on a variety of land development projects, and is a qualified expert witness in several surrounding Judicial District Courts dealing with boundary and drainage issues. John is a hands-on professional managing his office staff, CAD department, and field crews on a daily basis.

John has successfully completed surveying services for clients such as Jefferson Parish, U.S. Army Corps of Engineers (New Orleans & Lake Borgne Basin Levee District), CSX Railroad Corporation, St. Tammany Parish, City of Mandeville, Plaquemines Parish, St. Bernard Parish, St. Charles Parish, City of Covington, City of Hammond, the Town of Zwolle, and numerous private clients in the past.

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<b>KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:</b>
<b>Name &amp; Title:</b> Ryan Chapman, PLS, Survey Department Manager (Scott Office)
<b>Project Assignment:</b> Professional Land Surveyor
<b>Name of Firm with which associated:</b> Lowe Engineers, LLC
<b>Years' experience with this Firm:</b> Experience with this Firm: 2 Years Total Experience: 20+ Years
<b>Education: Degree(s)/Year/Specialization:</b> BS, General Studies – University of Louisiana Lafayette, 2004 AS, Civil Engineering – Louisiana Community and Technical College, 2003
<b>Active registration: Year first registered/discipline:</b> Professional Land Surveyor State of Louisiana Registration No.: 5096 Year Registered: 2013
<b>Other experience and qualifications relevant to the proposed Project:</b> Ryan Chapman possesses over 20 years of topographic and hydrographic survey experience, with a considerable background in all types of field surveys and advanced survey technology. He further has extensive project management, logistics management, risk management, and quality control experience.  Ryan manages and oversees planning of all survey projects, ensuring compliance with all applicable industry standards, as well as local, state, and federal regulations. He ensures projects are completed on-time and within budget. He further advises field crews regarding tasks, quality control, field procedures, and day-to-day operations.

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<b>KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:</b>
<b>Name &amp; Title:</b> Steven Hebert, LSIT, Surveyor Technician (Mandeville Office)
<b>Project Assignment:</b> Surveyor Technician
<b>Name of Firm with which associated:</b> Lowe Engineers, LLC
<b>Years' experience with this Firm:</b> Experience with this Firm: 4 Years Total Experience: 20+ Years
<b>Education: Degree(s)/Year/Specialization:</b> BS, General Studies – Southeastern Louisiana University, 2015 30 hours of Survey courses – University of Wyoming, 2018
<b>Active registration: Year first registered/discipline:</b> Land Surveyor in Training State of Louisiana Registration No.: 733 Year Registered: 2022
<b>Other experience and qualifications relevant to the proposed Project:</b> Steven Hebert performs analysis of all data collected in the field, maps, and electronic deliverables. He works with survey and GIS specialists to translate the data into final deliverable form. He consults with field crews and Project Managers, and oversees preparation of AutoCAD drawings.

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<b>KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:</b>
<b>Name &amp; Title:</b> Ryan Bellendorf, CST Level 1, Survey Party Chief (Mandeville Office)
<b>Project Assignment:</b> Survey Party Chief
<b>Name of Firm with which associated:</b> Lowe Engineers, LLC
<b>Years' experience with this Firm:</b> Experience with this Firm: 4 Years Total Experience: 15+ Years
<b>Education: Degree(s)/Year/Specialization:</b> High School Diploma – Covington High School, 2007
<b>Active registration: Year first registered/discipline:</b> NSPS-Certified Survey Technician, Level 1 Nationwide Registration No.: N/A Year Registered: 2018
<b>Other experience and qualifications relevant to the proposed Project:</b> Ryan Bellendorf is a survey party chief with more than 15 years of experience performing topographic, hydrographic, construction, boundary, right-of-way, and control surveys. His background includes commercial and residential surveys that meet ALTA standards. He has expertise in field procedures, execution of field reconnaissance, and recovery of boundary evidence, along with recording of field notes, use of LEICA and GPS equipment, and oversight of LiDAR UAV use, as well as data uploads, downloads, and conversions. Ryan has performed numerous types of surveying including subdivision, commercial and state highways for design and planning, topographical surveys related to sewage, drainage, and utility development. He has also performed surveys for cell phone sites and residential mortgage surveys. He is further responsible for communication with clients for contracts and project details with requirements between engineers, architects, wetlands permitting agents and parish officials.

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<b>KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:</b>
<b>Name &amp; Title:</b>
Lance Evans, CST Level 1, Survey Party Chief (Mandeville Office)
<b>Project Assignment:</b>
Survey Party Chief
<b>Name of Firm with which associated:</b>
Lowe Engineers, LLC
<b>Years' experience with this Firm:</b>
Experience with this Firm: 2 Years Total Experience: 14+ Years
<b>Education: Degree(s)/Year/Specialization:</b>
Currently attending South Louisiana Community College, Civil Surveying Currently attending Northwestern State University, Business Administration
<b>Active registration: Year first registered/discipline:</b>
NSPS-Certified Survey Technician, Level 1 Nationwide Registration No.: N/A Year Registered: 2015
<b>Other experience and qualifications relevant to the proposed Project:</b>
Lance Evans has over 14 years of experience in surveying and mapping projects. His background includes many aspects of surveying and geomatics involving boundary/property retracement, construction layout, utility location, and diverse topographic surveys. Lance is proficient in AutoCAD Civil 3D, Leica Infinity, and QGIS. He further plans and evaluates proposed survey projects in the field, having direct oversight of field crews and collection of field data through use of robotic and GPS methods.



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**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:	
<b>Coventry Court Drainage Improvements Project: Jefferson Highway between Moss Drive and Huntly Lane</b> Jefferson Parish, LA MSMM Engineering, LLC James A. Wilson, PE 504.570.6098 jwilson@msmmeng.com	Identification of the apparent right-of-way and any utilities servitudes (or others) along the Jefferson Highway corridor throughout the topographic limits. Utilities included drainage, water, sewer, gas, CATV, fiber optics, electrical and telephone. Work further involved locating manholes, both drainage and sewer, with pipe type, diameter, and inverts along with top of casting. Also located were existing streets, edge of pavement, gutter and top of curb, sidewalks, and all driveways 20 feet beyond the apparent right-of-way limits, as well as trees (specifying species and diameter). Cross-sections were provided at 50-foot intervals throughout project site. Scope also included tie-down of the main corners of the houses and/or businesses and providing municipal addresses. All elevations were completed using Cairo Datum. Deliverables included signed and sealed hard copies of finished survey, AutoCAD files in Civil 3D, and a PDF of completed topographic survey on a CD. Project was completed on time and within budget.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
02/2020	N/A	\$29,500

### PROJECT NO. 2

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<b>Orleans East Bank 17<sup>th</sup> Street Canal Hydrographic Surveys</b> New Orleans, LA US Army Corps of Engineers New Orleans District Damien French 504.862.1865 Michael.d.french@usace.army.mil	Multibeam survey of the 17 <sup>th</sup> Street Canal east of the Lake Pontchartrain Causeway requiring special attention to safety because of ongoing construction at the project site. Our survey crew mobilized a remote boat equipped with multibeam equipment. carried and dropped into the canal by an on-site crane, allowing for safe and controlled deployment of the survey vessel. The intent of the survey was to locate and verify an underwater obstruction requiring removal. The obstruction was successfully located, allowing for a plan to be developed for removal. Although the survey operation was performed remotely, the survey crew-maintained line of sight while operating the equipment during data acquisition.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2020	N/A	\$50,000



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<b>PROJECT NO. 3</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility</b>	
<b>City of New Orleans</b> <b>22<sup>nd</sup> Street Topographic Survey</b> New Orleans, LA MSMM Engineering, LLC James A. Wilson, PE 504.570.6098 jwilson@msmmeng.com	Full topographic survey of 22 <sup>nd</sup> Street in the West End area of New Orleans. The limits are from Fleur de Lis Drive to Pontchartrain Boulevard. Cross-sections were surveyed every 25', including centerline, gutter line, top/back of curb, both edges of the sidewalks, and 10' outside the right-of-way. Also surveyed were all driveways including 10' and 20' outside of the right-of-way, all existing drainage structures (including top of castings, pipe sizes, directions, and invert elevations), all existing sanitary sewer structures (including top of castings, pipe sizes, directions, and invert elevations), and any other feature, such as hydrants, valves, mailboxes, sign, trees, etc.	
Completion Date (Actual or estimated)	<b>Estimated Cost:</b>	
	<b>Entire Project:</b>	<b>Work for which Firm was Responsible:</b>
02/2020	N/A	\$12,500

<b>PROJECT NO. 4</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility:</b>	
<b>Ochsner Boulevard Extension Survey</b> Mandeville, LA Richard C. Lambert Consultants Frank Zemmer 985.727.4440 rclc@rclconsultants.com	Topographic survey and preparation of a right-of-way acquisition plat required to acquire right-of-ways to construct the proposed connector road extending from the existing Ochsner Boulevard Extension to LA Hwy 1077 in unincorporated St. Tammany Parish. Work also included collection of title research data as well as surveying services to identify the right-of-ways. Abstracting took place initially and a base map was created that captured the entire route of the project. Once a proposed right-of-way was designed with its location and width, it was imported into the project's base map for the creation of right-of-way parcels, which were described with bearing and distances, then put on plats for property acquisition.	
Completion Date (Actual or estimated):	<b>Estimated Cost:</b>	
	<b>Entire Project:</b>	<b>Work for which Firm was Responsible:</b>
09/2019	N/A	\$19,000

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<b>PROJECT NO. 5</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility:</b>	
<b>Blue Swamp Creek Survey</b> Covington, LA Burke-Kleinpeter, Inc. Henry M. Picard, III 504.486.5901 hpicard@bkiusa.com	Topographic survey of approximately 12,500 linear feet (length of the creek). Work included data collection to identify the apparent right-of-way of the waterway, along with all utilities. Construction benchmarks were also set and elevation cross-sections of the existing waterway were provided at 50' intervals. The survey extended 100' in both directions. For this 2-mile stretch of creek, baselines were drawn in based on coordinates from OPUS static sessions obtained at various points along the route. Abstracting and research was completed for 140 adjoining parcels of land plotted over found and measured property corners. This showed properties impacted by the drainage lateral. Linework of the topography showed all improvements within the scope of work, as well as a detailed record of utilities such as drainage pipes and invert elevations. A Tin Surface model with 1' contour intervals was created.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
06/2018	N/A	\$39,000

<b>PROJECT NO. 6</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility:</b>	
<b>Mariners Village Survey</b> Mandeville, LA Kyle Associates, LLC James Eddie Powell, PE 985.727.9377 epowell@kyleassociates.net	Part of a major overhaul of the City of Mandeville's water line utilities, Lowe provided comprehensive topographic and utility surveys consisting of +/-7,000 linear feet. Drafting including line work for all topography as well as above-ground and subsurface utilities and trees within the street right-of-way lines. 60 lots were surveyed. A part of the subsurface survey was measuring and obtaining invert elevations for all sewer and drainage structures. Lowe located monuments for many properties to prove the right-of-way for all streets. Parent tracts were surveyed and subsequently subdivided as part of easement acquisition. The subdivision was drawn out and rotated amongst found and located property corners for creating new waterline servitudes. A traverse was completed through the entire subdivision and was closed (horizontal and vertical), and accepted. The final product included topography, individual servitude maps, and legal descriptions describing the new waterline servitudes.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
12/2014	N/A	\$22,000

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<b>PROJECT NO. 7</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility:</b>	
<b>Bootlegger Road Survey</b> Covington, LA Flemming Construction Co., LLC Paul Ramagos 504.464.4000 pramagos@flemco.net	Stake out of new proposed right-of-way for the roadway and intersection of Bootlegger Road, Francis Road, and Ochsner Boulevard Extension in unincorporated St. Tammany Parish. This project included data collection in the form of title research as well as surveying services necessary to identify the right-of-way near the roadway and intersection. Control points were established for construction of the proposed roundabout, grade stakes were set for vertical curve, and gutter lines were staked to ensure proper drainage. Lowe also set grades for all the gutter stakes and set benchmarks for the contractor to use to pour the curbing and roadway. The boundary survey included all right-of-way monuments and those for the adjoining and abutting properties.	
<b>Completion Date (Actual or estimated):</b>	<b>Estimated Cost:</b>	
	<b>Entire Project:</b>	<b>Work for which Firm was Responsible:</b>
07/2014	N/A	\$6,000

<b>PROJECT NO. 8</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility:</b>	
<b>Soult Street Improvements Survey</b> Mandeville, LA HNTB Corporation Rick Hathaway 504.872.9016 rihathaway@HNTB.com	Boundary/topographic survey of the Soult Street roadway project from US 190 to LA Hwy 1088 in St. Tammany Parish. The project included data collection for identifying the apparent right-of-way as well as any and all improvements, storm drainage structures, and utilities. The baseline for the project was set to correspond to the existing LA DOTD survey control system and stationing. Elevation cross-sections of the existing roadway and ditch at 50' intervals were also provided.	
<b>Completion Date (Actual or estimated):</b>	<b>Estimated Cost:</b>	
	<b>Entire Project:</b>	<b>Work for which Firm was Responsible:</b>
01/2019	N/A	\$38,000

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<b>PROJECT NO. 9</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility:</b>	
<b>3<sup>rd</sup> Avenue Bridge Survey</b> Covington, LA St. Tammany Parish Public Works Kelly Seward 985.898.2552	Abstracting properties, locating monuments for 20+ parcels along 3 <sup>rd</sup> Avenue, Judy Avenue, Janice Avenue, and Bode Avenue to establish the right-of-way along these roadways. There was an existing baseline which Lowe located and used for this work. For the entirety of the job, the field crews used GPS to prove baseline location. Field work was performed conventionally, and a traverse was completed, closed, and accepted. Lowe's CAD department then provided acquisition maps and legal descriptions which St. Tammany Parish's Law Department used to acquire necessary right-of-ways for the new location of the 3 <sup>rd</sup> Avenue bridge. Lowe was hired by Omega Foundation Services, Inc. to do stake-out work for the new right-of-way and stake pile locations. Phase 2 is ongoing.	
<b>Completion Date (Actual or estimated):</b>	<b>Estimated Cost:</b>	
	<b>Entire Project:</b>	<b>Work for which Firm was Responsible:</b>
02/2020	N/A	\$4,000

<b>PROJECT NO. 10</b>		
<b>Project Name, Location and Owner's contact information:</b>	<b>Nature of Firm's Responsibility:</b>	
<b>LA Hwy 59 @ Sharp Road Turn About Survey</b> Mandeville, LA Richard C. Lambert Consultants Frank Zemmer 985.727.4440 rclc@rclconsultants.com	Topographic survey of the proposed roadway area near the intersection of LA Hwy 59 and Sharp Road in unincorporated St. Tammany Parish. This project included data collection for completion of an ALTA topographic survey extending 1,000' north and 1,000' south of the intersection.	
<b>Completion Date (Actual or estimated):</b>	<b>Estimated Cost:</b>	
	<b>Entire Project:</b>	<b>Work for which Firm was Responsible:</b>
11/2015	N/A	\$17,000

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

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

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

Additional information can be found on the next page. Following the additional information are resumes and more in-depth summaries of the projects listed in Section L.

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

Signature:  Print Name: John Bonneau, PLS \_\_\_\_\_

Title: Survey Department Manager (Mandeville) \_\_\_\_\_ Date: August 17, 2022 \_\_\_\_\_

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## **INTRODUCTION TO LOWE ENGINEERS**

Lowe Engineers (Lowe), a Service-Disabled Veteran-Owned Small Business, will be managing this bid and providing direct points of contact from our Louisiana-based operations centers. Our offices in Mandeville and Scott provide topographic and hydrographic surveying services respectively, as well as mapping and GIS services. Corporate support will be made available from Lowe's Atlanta-based headquarters, as required.

In our Mandeville office is a professional land surveying, urban planning and consultant team who have been Louisiana-based since their founding in 1983 (John E. Bonneau & Associates) and were acquired by Lowe in 2019 after many years of collaborative business. Prior to this change in status, they were Certified-Active as a Small Entrepreneurship with Louisiana Economic Development's Hudson Initiative. This team is currently headquartered at:

1011 North Causeway Boulevard, Suite 34,  
Mandeville, LA 70471

The Mandeville office serves a diverse list of clients throughout the southern United States, which includes many state and municipal clients. They have also partnered with a variety of private clients as well as engineering firms, corporations, and state and local government agencies, generating the expertise necessary to meet the unique demands of Louisiana. They are equipped with experienced and fully qualified personnel and contemporary survey technologies that allows effective and timely management of the typical demands and timelines required by our regional clients. Services currently offered include, but are not limited to, the following:

- ALTA/ACSM Title Surveys
- Land Boundary Surveys
- Topographic Surveys
- As-Built Surveys
- Drainage Surveys
- Telecommunication Sites
- Subdivision Planning
- Site Planning Design
- Construction Staking
- Oil & Gas Well Staking
- Environmental Well Locations
- Utility Right-of-Way
- Highway Right-of-Way
- GPS Control Networks
- GIS Mapping Services
- CAD/Drafting & Platting
- Wetland Delineations
- No-Work Affidavits
- Elevation Certificates
- Land Descriptions

The Mandeville team is proudly associated with the following professional organizations, which attests to their integrity as a long-standing Louisiana entity:

LSPS: Louisiana Society of Professional Surveyors  
NSPS: National Society of Professional Surveyors  
Chi Epsilon: National Civil Engineering Honor Society  
LES: Louisiana Engineering Society

Lowe's Scott office provides similar land survey services to that in Mandeville with hydrographic survey assets and services also positioned there. This central Gulf Coast location allows us to quickly access the whole region but especially our Louisiana-based clients. Our experience performing high-precision surveys in and around industrial plants, hydrographic surveys of waterways, topographic cross-sections of levees, and the setting of horizontal and vertical control offshore is considerable. Because of our experience in the region and with CPRA, our staff understands the type of work and level of expectation CPRA has for projects in south Louisiana.

Our hydrographic survey teams are equipped with robust, locally-designed vessels—some with air-conditioned cabins for 24/7/365 operations—and modern survey equipment to perform their duties accurately and efficiently. Our standard equipment for this work includes, but is not limited to, the following: robotic total stations, GPS (RTK/Static), and digital data-collector for topographic work and integrated hydrographic survey suites featuring both single and multibeam sonars, side-scan sonar, sound velocity profilers, inertial motion units (IMUs), RTK/PPK/PPP GPS positioning solutions, and other geophysical and environmental equipment such as magnetometers, seabed and water sampling systems, etc. in a wide variety of environments and water depths, from deep-ocean geophysical and oceanographic surveying to nearshore and coastal surveys, utilizing a variety of sensor types and techniques from surface, subsurface, and airborne platforms alike. Our hydrographic support to CPRA is therefore extremely developed, ensuring all projects are planned, executed, processed, and assessed to the highest standards.





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Our topographic survey heritage extends back over 60 years and is built upon the sheer amount of work we undertake in the surveying, construction, and civil engineering fields. We have a dedicated technical refresh strategy that triggers a sensor and system review and upgrade program every three years to ensure our clients are supported with the best available equipment. Some of the less traditional equipment that our survey crews employ for difficult wetland areas include sUAS (i.e., drones), LiDAR scanners, airboats, and marsh buggies. Whatever typical nearshore/onshore projects demand, our multiple survey crews are accustomed to the harsh work environment that is commonplace in south Louisiana. Lowe uses the latest in robotic total stations and data collectors for electronic data collection and data processing. Lowe also uses the latest in GPS technology to perform topographic surveys.

Our experience and methods of field survey data collection has changed over the years as technology has increased our productivity and accuracy. Lowe's survey crews use RTK GPS rovers for electronic topographic mapping and can perform static/relative positioning GPS observations using existing horizontal and vertical control, including HARN, CORS, and other fiducial stations for high-accuracy blue-booking geodetic networks.

Additionally, we can perform all aerial mapping requirements and in-house aerial triangulation as well as stereo compilation. We can further combine aerial mapping methods with our field run methods to produce accurate and cost-effective topographic mapping.



### **APPROACH TO SCOPE OF WORK**

At the beginning of a project, Lowe leads a kick-off meeting that includes client stakeholders and all staff responsible for the project in the field and in the office. Each project is a shared and combined effort to successfully execute the scope of work, so clear communication at the beginning of each project is essential to getting off on the right foot. For projects with a topographic focus, information is obtained conventionally by GPS technology. Data sets are transferred daily and technicians process, organize, and check the data for completeness and accuracy to ensure data complies with requisite standards and project objectives outlined in the scope of work. Upon completion of each project, these same technicians create CAD files that generate contour maps and produce plan drawings as well as cross-sectional diagrams as required.

Specific services enumerated in the scope of work are as follows, with further explanatory comments regarding Lowe's expertise and methodology in each specific field of survey included:

**Topographic Surveys:** As one of our core capabilities as a company, we conduct topographic surveys on a frequent basis, maintaining currency in the discipline and high, consistent standards in the work we execute. And with a long pedigree in conducting topographic surveys to state and federal standards, Lowe has invested considerable resources to ensuring our equipment suites are the latest available. Similarly, our staff are trained and kept up to date with the latest software, firmware, hardware, and techniques necessary to achieve the required minimum standards of work. Lowe will utilize staff and equipment resources positioned in our Mandeville and Scott to manage and execute all necessary work. As required, we can call upon internal support from our larger pool of personnel and equipment based in Atlanta.

**Bathymetric and Hydrographic Surveys:** In keeping with strengthening our pool of expertise, Lowe has recently focused on hydrographic surveying with the addition of two highly experienced, Louisiana-based managers to oversee, manage, and quality-assure hydrographic and topo-hydro deliverables required by CPRA. Their deep knowledge of hydrographic surveying techniques, as they pertain to state and national/international standards of accuracy, data fidelity, and processing, will be applied to all CPRA-related work. This additional expertise augments Lowe's already experienced field and data processing teams in the execution of such work. Moreover, our Louisiana-based hydrographic operations ensure availability of vessels and associated equipment.

**Magnetometer Surveys:** When required, Lowe can call upon its many years of experience to conduct marine magnetometer surveys. These can be conducted either independently, with other hydrographic-type data acquisition, or in concert with regular bathymetric area survey techniques. Lowe's larger survey vessels are ideally suited to conduct these surveys with over-the-side marine magnetometers that accurately map on- and sub-seabed metallic structures such as pipelines, wrecks, and detritus from the considerable offshore operations along the Louisiana coast. These will be mapped using Lowe's hydrographic survey software, which allows for various sensor offsets to be



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included in the positional solution in order to accurately determine the location of targeted structures and features.

**Geophysical Surveys:** In a similar fashion, Lowe's standard hydrographic equipment suite will be augmented with both fixed, short-tow, and, where necessary, longer-tow sensors such as multi-frequency side-scan sonar, sub-bottom profilers (shallow profiles), and seismic equipment (deeper profiles) to perform additional geophysical data acquisition in support of the regular bathymetric data collected. Additionally, acoustic backscatter from the primary multibeam sonar (if required for the project) is collected in concert with and automatically by the primary sonar and can be processed to provide an additional picture of the nearshore domain.



**Benchmarks:** For nearly 65 years, Lowe survey crews have set countless benchmarks all over the world. We have set hundreds of stainless-steel rods, driven to refusal, in south Louisiana. Thus, our field personnel understand the attention to detail required when setting monuments that will potentially remain for many years after they have been installed. Our survey teams are fully trained on the proper way to prepare a site, safely operate the equipment required to install the points, and correctly stamp the monument before leaving the project site. These monuments are installed with the knowledge that, if required, GPS observations require as much "sky" as possible. Lowe survey personnel are equipped with the latest technology, such as GPS (RTK) equipment, digital levels, and robotic Total Stations. They are used in conjunction with standard field procedures, and further provided alternative modes of transportation (e.g., UTVs, airboats, etc.) to expedite data collection.

### **Maps, Cross-Sections, and Data Sets:**

Lowe has decades of experience collecting and analyzing field data. Our field crews and technicians translate surveying, mapping, and geospatial data to support GIS and database administration, data collection, analysis, visualization, and presentation. With each complete survey report are maps and data sets, field books, daily reports, and digital reports of processed field data, in hardcopy and electronic maps. We use state-of-the-art technology that includes mobile data collection tools like Survey123 or Collector for ArcGIS and remote sensing such as aerial photogrammetry and LiDAR. Our team is well-versed in the use of ESRI's ArcGIS Online, Portal and Hub Sites and have utilized all platforms to publish and host various datasets, web scenes and other digital content. We regularly develop story maps, web applications and maps, geospatial dashboards and other web-based geospatial content that provides real time and interactive digital insight. Similarly, we use the latest GIS software and platforms and possess the full suite of ESRI products and tools to provide analytical and digital products. These tools are further coupled, as required, with AutoCAD and Bentley suites of software as well as Microsoft Azure, AWS, Oracle Spatial, MicroStation, Inroads, Open Roads, AutoCAD Civil 3D, Global Mapper, and Leica Infinity, and SQL Server. Our team of experienced CAD technicians is experienced in the most recent software. We can input field information into multiple platforms to create base drawings for many kinds of projects.

Lowe's expertise further includes reduction of drone-based aerial imagery and LiDAR from terrestrial, mobile, and aerial platforms. This data can produce very fine-detailed drawings and eliminates the need for return visits in the field to collect missing information. This is coupled with a multi-step process of quality control and assurance to ensure we deliver a quality product. Field data is reduced by the CAD technician and imported into the appropriate CAD environment where it is processed to create relevant models, maps, and drawings. An independent check of the is then performed to remove any erroneous data or discrepancies. Finally, a field walk of the site is performed and any issues are noted. When all issues have been edited, the final drawings are prepared and reviewed by the Professional Land Surveyor. These drawings, if acceptable, are stamped and delivered along with the electronic files to the client.

### **Property and Right-of-Way Surveys:**

In the case of property and right-of-way surveys, upon mobilization to a project site, survey crews begin the process of establishing controls to delineate property lines and/or delineate between public right-of-way and privately-owned property. Lowe uses conventional and digital levels on all projects. Our initial setup consists of a minimum 2-hour static session (some projects require 8-hour sessions) and 1,000 epochs on several control points throughout the job site. Lowe calculates proposed location of the back of curb and gutter for delineation targets. Where appropriate, Lowe also sets grades for all gutter stakes and sets benchmarks for the contractor to use. We then run a conventional level loop through our control points, setting temporary or permanent benchmarks depending on the scope of work. We close on every control point as well as the entire leveled loop. It is the surveyor's responsibility to prepare complete and accurate field data. All deliverables will be submitted according to the file formats laid out in the RFP.

**Control Accuracy Standards:** Lowe is fully understands the standards necessary to meet CPRA's requirements. In the natural course of any workday, we are continually assessing our field work against requisite accuracy standards for a particular project. As the establishment of geodetic control is a fundamental aspect of all survey work undertaken by Lowe, our Party Chiefs, Survey Managers, and Data Analysts are highly familiar with the need to establish and maintain this critical aspect of any survey. GPS survey planning for geodetic control includes careful consideration of GPS/GNSS satellite constellation geometry and SV health, such that any GPS data acquisition in the field utilizes

## **TEC Professional Services Questionnaire**

only those satellites whose health and geometry combine to form the most consistent and accurate positional solution (even before any base station corrective methods are applied). We plan each and every survey accordingly to ensure any positional errors of the various data collected are at an absolute minimum.

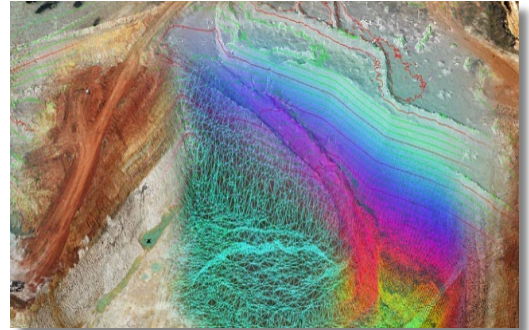
### **COMPLIMENTARY AND ADDITIONAL SERVICES**

Lowe also has other in-depth and complimentary capabilities that are further described in the following summaries.

#### **GEOSPATIAL INFORMATION SYSTEMS (GIS) AND MAPPING**

Lowe provides clients with the most comprehensive mapping available via its geospatial services team. From GIS to conventional mapping, Lowe has the equipment and experience to produce highly effective geospatial intelligence and information. Through use of photogrammetry and CADD, our geospatial analysts provide complete mapping services utilizing efficient soft-copy workstations and various computer software programs and hardware peripherals. Lowe also provides clients with both digital and conventional imagery forms including orthographically rectified raster and hardcopy formats. Conventional imagery includes natural color, color infrared, black and white infrared, and panchromatic forms. Our mapping capabilities include:

- Conventional Stereo Compilation
- Aerial Triangulation
- Feature Extraction
- Topographic Line Maps



- HRTe

#### **OTHER SURVEYING**

Surveying was one of the first services that Lowe Engineers began offering in 1957, and our survey department has come a long way from its origins. Surveying continues to be one of our most robust services and our project managers and crews have wide-ranging experience with projects around the world. Our teams use cutting-edge technology and equipment to perform geodetic, topographic, geophysical, and hydrographic surveys in a variety of capacities. We can responsively mobilize multiple crews, all trained and experienced in the development of plats, surveys on interactive graphics systems, 3D laser scanning, and Global Positioning Systems (GPS) survey tools. All of our offices routinely have multiple field survey teams engaged in a variety of project-specific survey activities and our policy of employing local staff ensures that they have familiarity with the unique conditions experienced in the region and, in particular, in Louisiana. Some of our surveying capabilities include:

- Boundary/As-Built Analysis/Utility Surveys
- 3D Laser Scanning
- Construction Surveys
- Geodetic/Topographic Surveys
- Automated Hydrographic Surveys
- Cross-Sectional Analyses for Flood Studies
- Unmanned Aerial Vehicles (UAVs) for Surveying and Mapping



Firm employed by <a href="#">Lowe Engineers, LLC</a>				
Name	<a href="#">John E. Bonneau</a>		Years of relevant experience with this employer	38
Title	<a href="#">Professional Land Surveyor</a>		Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization		<a href="#">Bachelor of Science, Civil Engineering – Louisiana Tech University, 1976</a> <a href="#">Associate of Science, Land Surveying – Louisiana Tech University, 1974</a>		
Active registration number / state / expiration date		<a href="#">No. 4423 / LA / Expires 03/31/2023</a>		
Year registered	<a href="#">1980</a>	Discipline	<a href="#">PLS</a>	
Contract role(s) / brief description of responsibilities		<a href="#">Program Manager</a> – Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
09/18 – 03/19	<a href="#">Soult Street Survey, HNTB Corporation, Mandeville, LA</a> <b>Program Manager</b> – Boundary/topographic survey of the Soult Street roadway project from US 190 to LA Hwy 1088 in St. Tammany Parish. The project included data collection for identifying the apparent right-of-way as well as any and all improvements, storm drainage structures, and utilities. The baseline for the project was set to correspond to the existing LA DOTD survey control system and stationing. Elevation cross-sections of the existing roadway and ditch at 50’ intervals were also provided. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.			
03/16 – 09/19	<a href="#">Ochsner Boulevard Extension Survey, Richard C. Lambert Consultants, Mandeville, LA</a> <b>Program Manager</b> – Topographic survey and preparation of a right-of-way acquisition plat required to acquire right-of-ways to construct the proposed connector road extending from the existing Ochsner Boulevard Extension to LA Hwy 1077 in unincorporated St. Tammany Parish. Work also included collection of title research data as well as surveying services to identify the right-of-ways. Abstracting took place initially and a base map was created that captured the entire route of the project. Once a proposed right-of-way was designed with its location and width, it was imported into the project’s base map for the creation of right-of-way parcels, which were described with bearing and distances, then put on plats for property acquisition. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.			
02/18 – 06/18	<a href="#">Blue Swamp Creek Survey, Burke-Kleinpeter, Inc., Covington, LA</a> <b>Program Manager</b> – Topographic survey of approximately 12,500 LF, the length of the creek. Project included data collection to identify the apparent right-of-way of the waterway, along with any and all utilities. Construction benchmarks were also set and cross-sections of the existing waterway were provided at 50’ intervals. Baselines were drawn in based on coordinates from 2-hour OPUS static sessions obtained at various points along the route. Abstracting and research was completed for 140 adjoining parcels of land, which were plotted over found and measured property corners to fit and be			

	shown as a background on the final plats. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.
08/17 – 10/17	<b>15<sup>th</sup> Avenue Bridge Replacement Survey, Richard C. Lambert Consultants, Covington, LA</b> <b>Program Manager</b> – Topographic survey of the existing roadway near the bridge area on 15 <sup>th</sup> Avenue. Scope included data collection extending 100 feet in each direction from the center of the bridge. The finalized plat included cross-section inverts of ditches on both sides of the bridge, utility locations, and utility crossings. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.
09/16 – 08/17	<b>Ozone Woods Drainage Improvements Survey, Principal Engineering, Inc., St. Tammany Parish, LA</b> <b>Program Manager</b> – Topographic survey for a large drainage structures survey with data collected on culvert information such as pipe length, material type, and overall condition along inverts of each side of drainage pipe. Deliverables submitted in AutoCAD format ahead of schedule and within budget. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.
11/13 – 11/15	<b>LA Hwy 59 / Sharp Road Turn About, Richard C. Lambert Consultants, Mandeville, LA</b> <b>Program Manager</b> – Topographic survey of the proposed roadway area near the intersection of LA Hwy 59 and Sharp Road in unincorporated St. Tammany Parish. This project included data collection for completion of an ALTA topographic survey extending 1,000' north and 1,000' south of the intersection. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.
10/14 – 12/14	<b>Mariners Village Survey, Kyle Associates, LLC, Mandeville, LA</b> <b>Program Manager</b> – Comprehensive topographic and utility surveys. Drafting including line work for all topography as well as above- and below-ground utilities within the street right-of-way lines in the Mariners Village subdivision, which had 60 lots involved in the survey. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.
08/13 – 07/14	<b>Bootlegger Road Survey, Flemming Construction Company, LLC, Covington, LA</b> <b>Program Manager</b> – Stake out of new proposed right-of-way for the roadway and intersection of Bootlegger Road, Francis Road, and Ochsner Boulevard Extension in unincorporated St. Tammany Parish. Responsible for management and oversight of survey standards compliance, quality assurance, and assistance with data analysis, as well as keeping projects on time and on budget.

Firm employed by <a href="#">Lowe Engineers, LLC</a>				
Name	<a href="#">Ryan Chapman, PLS</a>		Years of relevant experience with this employer	<a href="#">2</a>
Title	<a href="#">Professional Land Surveyor</a>		Years of relevant experience with other employer(s)	<a href="#">18</a>
Degree(s) / Years / Specialization		<a href="#">Bachelor of Science, General Studies – University of Louisiana, 2004</a> <a href="#">Associate of Science, Civil Engineering Technology – Louisiana Community and Technical College System, 2003</a>		
Active registration number / state / expiration date		<a href="#">No. 5096 / LA / Expires 09/30/2023</a>		
Year registered	<a href="#">2013</a>	Discipline	<a href="#">PLS</a>	
Contract role(s) / brief description of responsibilities		<a href="#">Project Manager</a> – Responsible for management of field crews, oversight of survey planning, standards compliance, quality assurance, and assistance with data analysis.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
<a href="#">03/19 – 02/20</a>	<a href="#">Upper Fifth Levee Enlargement, USACE New Orleans District, Concordia Parish, LA</a> Professional Land Surveyor – Hydrographic and topographic survey for proposed levee enlargement. Sections collected at 100-foot intervals along a 3.5-mile part of the existing levee centerline using RTK and/or Total Stations. Cross-sections were collected in flooded portions in three borrow pit areas. If depth exceeded 10 feet, a water shot and sounding were collected. Due to location, crews used airboats, marsh buggies, Jon boats, and pirogues to navigate terrain. Data processed and reviewed for quality assurance. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards.			
<a href="#">09/19 – 11/19</a>	<a href="#">West Shore Lake Pontchartrain Levee Expansion Survey, USACE New Orleans District, New Orleans, LA</a> Professional Land Surveyor – Hydrographic and topographic survey for proposed levee expansion. Sections collected at 100’ intervals along a 9-mile portion of the proposed levee centerline using RTK and/or Total Stations. Crews used airboats, marsh buggies, Jon boats and pirogues to navigate the terrain. Based on scope, point spacing along sections did not exceed 25’. Data was processed and reviewed for quality assurance. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards.			
<a href="#">06/20 – 08/20</a>	<a href="#">Cow Bayou Survey, USACE New Orleans District, Orange County, TX</a> Professional Land Surveyor – Hydrographic, topographic, boundary, and SUE surveys. The scope required setting three new control points, one deep rod driven to refusal and two secondary monuments. Proposed locations were identified in the initial site visit and approved by the Corps. Once the monuments were set, a static network consisting of these and four existing NGS monuments were collected. The static network collection consisted of four 4-hour static sessions collected on each monument over a 2-day period. GPS units were swapped between static sessions to improve the network. Network data was processed using a dependent-constrained adjustment to establish horizontal and vertical coordinates			



	<p>for the three new monuments. The scope also required 1,000' cross-sections along the proposed levee centerline every 100' for 1.5 miles at a minimum shot spacing of 25'. Project scope also required data collection of any topographic features within the project corridor. Conventional RTK and robotic Total Station equipment were used for most required cross-sections. Due to site conditions, multiple airboats, marsh buggies, and UTVs were used to access survey areas. All hydrographic and topographic data collected was merged into one CAD file and submitted with other pertinent scope items such as, field books, survey report, pictures, and other reports. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards.</p>
11/20 – 03/21	<p><b>Freeport Valesco Drainage District Boundary Survey, HDR, Inc., Brazoria County, TX</b>  <b>Professional Land Surveyor</b> – A boundary retracement survey of the entire hurricane flood protection system along a 36-mile section of the existing levee, covering approximately 140 easements. This included review of easement documents, access, and review of documents at the County Recorders' office, and incorporation into the records index using the client-provided file template. Lowe was required to set and/or reset any monuments if corners or change of direction were missing or greatly disturbed. As required by the scope, all new or reestablished monuments set were a 5/8" reinforcing rods with a bronze cap set flush with the ground. All found and set monuments were double-tied with RTK GPS equipment from two separate control points provided by the client. If a set of coordinates did not previously meet set tolerances, both points were removed and a new set was collected. After all research, data collection, and calculations were conducted, a plat for each easement showed tract ownership(s) area, distances, corners, and property boundaries in state plane coordinates. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards.</p>
04/20 – 05/20	<p><b>Bonnet Carre Spillway, Upper Guide Levee Survey, USACE New Orleans District, St. Charles Parish, LA</b>  <b>Professional Land Surveyor</b> – Topographic and hydrographic survey on the flood side only from Sta 1+00 to Sta 307+00 with levee centerline profile shots at 50' intervals. Flood side cross-sections extend on the flood side from levee centerline to 100' past the toe of the levee. No utilities are needed other than those that cross the levee or drainage structures. Collection of footprints only of roads, gravel roads, ramps, and bridges such as Airline Hwy, railroads, etc. This project utilized an unmanned aerial system (UAS, i.e., drone) and laser scanning. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards.</p>
08/19 – 06/20	<p><b>Orleans East Bank, 17<sup>th</sup> Street Canal, USACE New Orleans District, New Orleans, LA</b>  <b>Professional Land Surveyor</b> – Multibeam survey of the 17<sup>th</sup> Street Canal east of the Lake Pontchartrain Causeway requiring special attention to safety because of ongoing construction at the project site. Our survey crew mobilized a remote boat equipped with multibeam equipment. carried and dropped into the canal by an on-site crane, allowing for safe and controlled deployment of the survey vessel. The intent of the survey was to locate and verify an underwater obstruction, allowing for a removal plan to be developed. Though performed remotely, the survey crew-maintained line of sight during data acquisition. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards.</p>

Firm employed by <a href="#">Lowe Engineers, LLC</a>				
Name	<a href="#">Ryan Bellendorf, CST Level I</a>		Years of relevant experience with this employer	13
Title	<a href="#">Field Supervisor</a>		Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		<a href="#">High School Diploma, Covington High School, 2007</a>		
Active registration number / state / expiration date		<a href="#">No Registration Number / Nationwide / June 30, 2021</a>		
Year registered	<a href="#">2018</a>	Discipline	<a href="#">NSPS-Certified Survey Technician (CST), Level I</a>	
Contract role(s) / brief description of responsibilities		<a href="#">Property Survey Lead</a> – Responsible for management of field crews, planning and execution of property survey projects.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
09/18 – 03/19	<a href="#">Soult Street Improvements Survey, HNTB Corporation, Mandeville, LA</a> Field Supervisor / Crew Chief – Boundary/topographic survey of the Soult Street roadway project from US 190 to LA Hwy 1088 in St. Tammany Parish. The project included data collection for identifying the apparent right-of-way as well as any and all improvements, storm drainage structures, and utilities. The baseline for the project was set to correspond to the existing LA DOTD survey control system and stationing. Elevation cross-sections of the existing roadway and ditch at 50’ intervals were also provided. Applied expertise to obtain accurate field reconnaissance to establish boundary and right-of-way; oversaw use of Total Stations and GPS equipment; provided clear, precise field notes for data processing.			
03/16 – 09/19	<a href="#">Ochsner Boulevard Extension Survey, Richard C. Lambert Consultants, Mandeville, LA</a> Field Supervisor / Crew Chief – Topographic survey and preparation of a right-of-way acquisition plat required to acquire right-of-ways to construct the proposed connector road extending from the existing Ochsner Boulevard Extension to LA Hwy 1077 in unincorporated St. Tammany Parish. Work also included collection of title research data as well as surveying services to identify the right-of-ways. Abstracting took place initially and a base map was created that captured the entire route of the project. Once a proposed right-of-way was designed with its location and width, it was imported into the project’s base map for the creation of right-of-way parcels, which were described with bearing and distances, then put on plats for property acquisition. Applied expertise to obtain accurate field reconnaissance to establish boundary and right-of-way; oversaw use of Total Stations and GPS equipment; provided clear, precise field notes for data processing.			
02/18 – 06/18	<a href="#">Blue Swamp Creek Survey, Burke-Kleinpeter, Inc., Covington, LA</a> Field Supervisor / Crew Chief – Topographic survey of approximately 12,500 LF, the length of the creek. Project included data collection to identify the apparent right-of-way of the waterway, along with any and all utilities. Construction benchmarks were also set and cross-sections of the existing waterway were provided at 50’ intervals. Baselines were drawn in based on coordinates from 2-hour OPUS static sessions obtained at various points along the route. Abstracting and research was completed for 140 adjoining parcels of land, which were plotted over found and measured property corners to fit and be shown as a background on the final plats. Applied expertise to obtain accurate field reconnaissance to establish boundary and right-of-way; oversaw use of Total Stations and GPS equipment; provided clear, precise field notes for data processing.			



08/17 – 10/17	<p><b>15<sup>th</sup> Avenue Bridge Replacement Survey, Richard C. Lambert Consultants, Covington, LA</b></p> <p><b>Field Supervisor / Crew Chief</b> – Topographic survey of the existing roadway near the bridge area on 15<sup>th</sup> Avenue. Scope included data collection extending 100 feet in each direction from the center of the bridge. The finalized plat included cross-section inverts of ditches on both sides of the bridge, utility locations, and utility crossings. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards. Applied expertise to obtain accurate field reconnaissance to establish boundary and right-of-way; oversaw use of Total Stations and GPS equipment; provided clear, precise field notes for data processing.</p>
10/14 – 12/14	<p><b>Mariners Village Survey, Kyle Associates, LLC, Mandeville, LA</b></p> <p><b>Field Supervisor / Crew Chief</b> – Comprehensive topographic and utility surveys. Drafting including line work for all topography as well as above- and below-ground utilities within the street right-of-way lines in the Mariners Village subdivision, which had 60 lots involved in the survey. Applied expertise to obtain accurate field reconnaissance to establish boundary and right-of-way; oversaw use of Total Stations and GPS equipment; provided clear, precise field notes for data processing.</p>
09/16 – 08/17	<p><b>Ozone Woods Drainage Improvements Survey, Principal Engineering, Inc., St. Tammany Parish, LA</b></p> <p><b>Field Supervisor / Crew Chief</b> – Topographic survey for a large drainage structures survey with data collected on culvert information such as pipe length, material type, and overall condition along inverts of each side of drainage pipe. Deliverables submitted in AutoCAD format ahead of schedule and within budget. Applied expertise to obtain accurate field reconnaissance to establish boundary and right-of-way; oversaw use of Total Stations and GPS equipment; provided clear, precise field notes for data processing.</p>
11/13 – 11/15	<p><b>LA Hwy 59 / Sharp Road Turn About, Richard C. Lambert Consultants, Mandeville, LA</b></p> <p><b>Field Supervisor / Crew Chief</b> – Topographic survey of the proposed roadway area near the intersection of LA Hwy 59 and Sharp Road in unincorporated St. Tammany Parish. This project included data collection for completion of an ALTA topographic survey extending 1,000' north and 1,000' south of the intersection. Applied expertise to obtain accurate field reconnaissance to establish boundary and right-of-way; oversaw use of Total Stations and GPS equipment; provided clear, precise field notes for data processing.</p>

Firm employed by <a href="#">Lowe Engineers, LLC</a>				
Name	<a href="#">Steven Hebert, LSIT, CST Level I</a>		Years of relevant experience with this employer	17
Title	<a href="#">Project Manager</a>		Years of relevant experience with other employer(s)	3
Degree(s) / Years / Specialization		<a href="#">Bachelor of Science – Southeastern Louisiana University, 2015</a> <a href="#">30 Hours Surveying Courses – University of Wyoming, 2018</a> <a href="#">Certified Draftsman – Delgado Community College, New Orleans</a>		
Active registration number / state / expiration date		<a href="#">LSIT No. 0000733 / LA / September 30, 2022</a> <a href="#">NSPS-Certified Survey Technician, Level 1, Nationwide, July 31, 2023</a>		
Year registered	<a href="#">2022 (LSIT) / 2018</a>	Discipline	<a href="#">Land Surveying</a>	
Contract role(s) / brief description of responsibilities		<a href="#">Right-of-Way Maps Lead</a> – Responsible for management of data analysis, and maps that clearly illustrate right-of-way easements.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
09/18 – 03/19	<a href="#">Soult Street Improvements Survey, HNTB Corporation, Mandeville, LA</a> <b>Lead Draftsman / Abstractor</b> – Boundary/topographic survey of the Soult Street roadway project from US 190 to LA Hwy 1088 in St. Tammany Parish. The project included data collection for identifying the apparent right-of-way as well as any and all improvements, storm drainage structures, and utilities. The baseline for the project was set to correspond to the existing LA DOTD survey control system and stationing. Elevation cross-sections of the existing roadway and ditch at 50’ intervals were also provided. Created boundary plat maps to portray a clear summary of boundary, right-of-way ownership. Drafted required plat maps prepared to client requirements.			
03/16 – 09/19	<a href="#">Ochsner Boulevard Extension Survey, Richard C. Lambert Consultants, Mandeville, LA</a> <b>Lead Draftsman</b> – Topographic survey and preparation of a right-of-way acquisition plat required to acquire right-of-ways to construct the proposed connector road extending from the existing Ochsner Boulevard Extension to LA Hwy 1077 in unincorporated St. Tammany Parish. Work also included collection of title research data as well as surveying services to identify the right-of-ways. Abstracting took place initially and a base map was created that captured the entire route of the project. Once a proposed right-of-way was designed with its location and width, it was imported into the project’s base map for the creation of right-of-way parcels, which were described with bearing and distances, then put on plats for property acquisition. Created boundary plat maps to portray a clear summary of boundary, right-of-way ownership. Drafted required plat maps prepared to client requirements.			
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08/17 – 10/17	<b>15<sup>th</sup> Avenue Bridge Replacement Survey, Richard C. Lambert Consultants, Covington, LA</b> <b>Lead Draftsman</b> – Topographic survey of the existing roadway near the bridge area on 15 <sup>th</sup> Avenue. Scope included data collection extending 100' in each direction from center of the bridge. Final plat included cross-section inverts of ditches on both sides of the bridge, utility locations, and utility crossings. Managed field crews, oversaw extensive land record research, and assisted with data analyses necessary for completion of topographic surveys and plat maps prepared to local, state, and parish standards. Created boundary plat maps to portray a clear summary of boundary, right-of-way ownership. Drafted required plat maps prepared to client requirements.
09/16 – 08/17	<b>Ozone Woods Drainage Improvements Survey, Principal Engineering, Inc., St. Tammany Parish, LA</b> <b>Lead Draftsman</b> – Topographic survey for a large drainage structures survey with data collected on culvert information such as pipe length, material type, and overall condition along inverts of each side of drainage pipe. Deliverables submitted in AutoCAD format ahead of schedule and within budget. Created boundary plat maps to portray a clear summary of boundary, right-of-way ownership. Drafted required plat maps prepared to client requirements.
11/13 – 11/15	<b>LA Hwy 59 / Sharp Road Turn About, Richard C. Lambert Consultants, Mandeville, LA</b> <b>Lead Draftsman</b> – Topographic survey of the proposed roadway area near the intersection of LA Hwy 59 and Sharp Road in unincorporated St. Tammany Parish. This project included data collection for completion of an ALTA topographic survey extending 1,000' north and 1,000' south of the intersection. Created boundary plat maps to portray a clear summary of boundary, right-of-way ownership. Drafted required plat maps prepared to client requirements.
10/14 – 12/14	<b>Mariners Village Survey, Kyle Associates, LLC, Mandeville, LA</b> <b>Lead Draftsman</b> – Comprehensive topographic and utility surveys. Drafting including line work for all topography as well as above- and below-ground utilities within the street right-of-way lines in the Mariners Village subdivision, which had 60 lots involved in the survey. Created boundary plat maps to portray a clear summary of boundary, right-of-way ownership. Drafted required plat maps prepared to client requirements.
08/13 – 07/14	<b>Bootlegger Road Survey, Flemming Construction Company, LLC, Covington, LA</b> <b>Lead Draftsman</b> – Stake out of new proposed right-of-way for the roadway and intersection of Bootlegger Road, Francis Road, and Ochsner Boulevard Extension in unincorporated St. Tammany Parish. Created boundary plat maps to portray a clear summary of boundary, right-of-way ownership. Drafted required plat maps prepared to client requirements.

Firm employed by <a href="#">Lowe Engineers, LLC</a>				
Name	<a href="#">Lance Evans, CST Level I</a>		Years of relevant experience with this employer	<a href="#">2</a>
Title	<a href="#">Project Manager</a>		Years of relevant experience with other employer(s)	<a href="#">13</a>
Degree(s) / Years / Specialization		<a href="#">Currently attending Northwestern State University, Business Administration</a> <a href="#">Currently attending South Louisiana Community College, Civil Surveying</a>		
Active registration number / state / expiration date		<a href="#">No Registration Number / Nationwide / June 30, 2022</a>		
Year registered	<a href="#">2015</a>	Discipline	<a href="#">NSPS-Certified Survey Technician (CST), Level I</a>	
Contract role(s) / brief description of responsibilities		<a href="#">Right-of-Way Maps Lead</a> – Responsible for management of data analysis, and maps that clearly illustrate right-of-way easements.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/19 – 02/20	<a href="#">Upper Fifth Levee Enlargement, USACE New Orleans District, Concordia Parish, LA</a> <b>Lead Draftsman</b> – Hydrographic and topographic survey for proposed levee enlargement. Sections collected at 100-foot intervals along a 3.5-mile part of the existing levee centerline using RTK and/or Total Stations. Cross-sections were collected in flooded portions in three borrow pit areas. If depth exceeded 10 feet, a water shot and sounding were collected. Due to location, crews used airboats, marsh buggies, Jon boats, and pirogues to navigate terrain. Data processed and reviewed for quality assurance. Created maps to portray a clear summary of boundary, right-of-way ownership. Drafted required maps prepared to client requirements.			
09/19 – 11/19	<a href="#">West Shore Lake Pontchartrain Levee Expansion Survey, USACE New Orleans District, New Orleans, LA</a> <b>Lead Draftsman</b> – Hydrographic and topographic survey for proposed levee expansion. Sections collected at 100’ intervals along a 9-mile portion of the proposed levee centerline using RTK and/or Total Stations. Crews used airboats, marsh buggies, Jon boats and pirogues to navigate the terrain. Based on scope, point spacing along sections did not exceed 25’. Data was processed and reviewed for quality assurance. Created maps to portray a clear summary of boundary, right-of-way ownership. Drafted required maps prepared to client requirements.			
06/20 – 08/20	<a href="#">Cow Bayou Survey, USACE New Orleans District, Orange County, TX</a> <b>Lead Draftsman</b> – Hydrographic, topographic, boundary, and SUE surveys. The scope required setting three new control points, one deep rod driven to refusal and two secondary monuments. Proposed locations were identified in the initial site visit and approved by the Corps. Once the monuments were set, a static network consisting of these and four existing NGS monuments were collected. The static network collection consisted of four 4-hour static sessions collected on each monument over a 2-day period. GPS units were swapped between static sessions to improve the network. Network data was processed using a dependent-constrained adjustment to establish horizontal and vertical coordinates for the three new monuments. The scope also required 1,000’ cross-sections along the proposed levee centerline every 100’ for 1.5 miles at a minimum shot spacing of 25’. Project scope also required data collection of any topographic features. Conventional RTK and robotic Total Station equipment were used for most cross-sections. Due to site conditions, multiple airboats, marsh			

	<p>buggies, and UTVs were used to access areas. All hydrographic and topographic data collected was merged into one CAD file and submitted with other pertinent scope items such as, field books, survey report, pictures, and other reports. Created maps to portray a clear summary of boundary, right-of-way ownership. Drafted required maps prepared to client requirements.</p>
11/20 – 03/21	<p><b>Freeport Valesco Drainage District Boundary Survey, HDR, Inc., Brazoria County, TX</b>  <b>Lead Draftsman</b> – A boundary retracement survey of the entire hurricane flood protection system along a 36-mile section of the existing levee, covering approximately 140 easements. This included review of easement documents, access, and review of documents at the County Records' office, and incorporation into the records index using the client-provided file template. Lowe was required to set and/or reset any monuments if corners or change of direction were missing or greatly disturbed. As required by the scope, all new or reestablished monuments set were a 5/8" reinforcing rods with a bronze cap set flush with the ground. All found and set monuments were double-tied with RTK GPS equipment from two separate control points provided by the client. If a set of coordinates did not previously meet set tolerances, both points were removed and a new set was collected. After all research, data collection, and calculations were conducted, a plat for each easement showed tract ownership(s) area, distances, corners, and property boundaries in state plane coordinates. Created maps to portray a clear summary of boundary, right-of-way ownership. Drafted required maps prepared to client requirements.</p>
04/20 – 05/20	<p><b>Bonnet Carre Spillway, Upper Guide Levee Survey, USACE New Orleans District, St. Charles Parish, LA</b>  <b>Lead Draftsman</b> – Topographic and hydrographic survey on the flood side only from Sta 1+00 to Sta 307+00 with levee centerline profile shots at 50' intervals. Flood side cross-sections extend on the flood side from levee centerline to 100' past the toe of the levee. No utilities are needed other than those that cross the levee or drainage structures. Collection of footprints only of roads, gravel roads, ramps, and bridges such as Airline Hwy, railroads, etc. This project utilized an unmanned aerial system (UAS, i.e., drone) and laser scanning. Created maps to portray a clear summary of boundary, right-of-way ownership. Drafted required maps prepared to client requirements.</p>
08/19 – 06/20	<p><b>Orleans East Bank, 17<sup>th</sup> Street Canal, USACE New Orleans District, New Orleans, LA</b>  <b>Lead Draftsman</b> – Multibeam survey of the 17<sup>th</sup> Street Canal east of the Lake Pontchartrain Causeway requiring special attention to safety because of ongoing construction at the project site. Our survey crew mobilized a remote boat equipped with multibeam equipment. carried and dropped into the canal by an on-site crane, allowing for safe and controlled deployment of the survey vessel. The intent of the survey was to locate and verify an underwater obstruction, allowing for a removal plan to be developed. Though performed remotely, the survey crew-maintained line of sight during data acquisition. Drafted required project maps.</p>



Firm name	Lowe Engineers, LLC		
Project name	Coventry Court Drainage Improvements Project: Jefferson Highway between Moss Drive and Huntly Lane		Firm responsibility (prime or sub?) Sub
Project number	N/A	Owner's name	MSMM Engineering, LLC
Project location	Jefferson Parish, LA	Owner's Project Manager	James A. Wilson, PE
Owner's address, phone, email	4508 Clearview Parkway, Suite 200, Metairie, LA 70006, 504.570.6098, jwilson@msmmeng.com		
Services commenced by this firm (mm/yy)	06/20	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	09/20	Cost of consultant services provided by this firm (\$1,000's)	\$29,500

Describe the project including the firm's role and members involved.

Identification of the apparent right-of-way and any utilities servitudes (or others) along the Jefferson Highway corridor throughout the topographic limits. Utilities included drainage, water, sewer, gas, CATV, fiber optics, electrical and telephone. Work further involved locating manholes, both drainage and sewer, with pipe type, diameter and inverts along with top of casting. Also located were existing streets, edge of pavement, gutter and top of curb, sidewalks, and all driveways 20 feet beyond the apparent right-of-way limits, as well as trees, specifying species and diameter. Cross-sections were provided at 50-foot intervals throughout project site. Scope also included tie-down of the main corners of the houses and/or businesses and providing municipal addresses. All elevations were completed using Cairo Datum. Deliverables included signed and sealed hard copies of finished survey, Autocad files in Civil 3D, and a PDF of completed topographic survey on a CD. Project was completed on time and within budget.



Firm name	Lowe Engineers, LLC		
Project name	Orleans East Bank, 17 <sup>th</sup> Street Canal Hydrographic Surveys	Firm responsibility (prime or sub?)	Prime
Project number	19-C-0011	Owner's name	US Army Corps of Engineers, New Orleans District
Project location	New Orleans, LA	Owner's Project Manager	Damien French
Owner's address, phone, email	700 Leake Avenue, New Orleans, LA 70118, 504.862.1865, michael.d.french@usace.army.mil		
Services commenced by this firm (mm/yy)	08/19	Total consultant contract cost (\$1,000's)	\$6 million
Services completed by this firm (mm/yy)	06/20	Cost of consultant services provided by this firm (\$1,000's)	\$45,425

Describe the project including the firm's role and members involved.

Multibeam survey of the 17<sup>th</sup> Street Canal east of the Lake Pontchartrain Causeway requiring special attention to safety because of ongoing construction at the project site. Our survey crew mobilized a remote boat equipped with multibeam equipment. carried and dropped into the canal by an on-site crane, allowing for safe and controlled deployment of the survey vessel. The intent of the survey was to locate and verify an underwater obstruction requiring removal. The obstruction was successfully located, allowing for a plan to be developed for removal. Although the survey operation was performed remotely, the survey crew-maintained line of sight while operating the equipment during data acquisition.

Surveys included:

- Shallow Inland Hydrographic Survey
- HYPACK Hydrographic Survey
- Topographic Survey (RTK GPS)
- Bathymetric Survey
- Surveying for Beach Nourishment
- Underwater Hazard Detection
- Construction and Dredging Measurement
- Differential GPS, Acoustic, and Conventional Techniques
- Shallow Water Multi-Beam Sounding
- Horizontal and Vertical Control
- Hurricane Risk Reduction
- sUAS (Drone) Survey
- Quality Control Plans





Firm name	Lowe Engineers, LLC		
Project name	City of New Orleans 22 <sup>nd</sup> Street Topographic Survey	Firm responsibility (prime or sub?)	Sub
Project number	N/A	Owner's name	MSMM Engineering, LLC
Project location	New Orleans, LA	Owner's Project Manager	James A. Wilson, PE
Owner's address, phone, email	4508 Clearview Parkway, Suite 200, Metairie, LA 70006, 504.570.6098, jwilson@msmmeng.com		
Services commenced by this firm (mm/yy)	02/20	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	03/20	Cost of consultant services provided by this firm (\$1,000's)	\$12,500

Describe the project including the firm's role and members involved.

Full topographic survey of 22<sup>nd</sup> Street in the West End area of New Orleans. The limits are from Fleur de Lis Drive to Pontchartrain Boulevard. Cross-sections were surveyed every 25', including centerline, gutter line, top/back of curb, both edges of the sidewalks, and 10' outside the right-of-way. Also surveyed were all driveways including 10' and 20' outside of the right-of-way, all existing drainage structures (including top of castings, pipe sizes, directions, and invert elevations), all existing sanitary sewer structures (including top of castings, pipe sizes, directions, and invert elevations), and any other feature, such as hydrants, valves, mailboxes, sign, trees, etc.



Firm name	Lowe Engineers, LLC		
Project name	Ochsner Boulevard Extension Survey		Firm responsibility (prime or sub?) Sub
Project number	300-00-13-08-04	Owner's name	Richard C. Lambert Consultants
Project location	Mandeville, LA	Owner's Project Manager	Frank Zemmer
Owner's address, phone, email	900 West Causeway Approach, Mandeville, LA 70471, 985.727.4440, rclc@rclconsultants.com		
Services commenced by this firm (mm/yy)	03/16	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	09/19	Cost of consultant services provided by this firm (\$1,000's)	\$19,000

Describe the project including the firm's role and members involved.

Topographic survey and preparation of a right-of-way acquisition plat required to acquire right-of-ways to construct the proposed connector road extending from the existing Ochsner Boulevard Extension to LA Hwy 1077 in unincorporated St. Tammany Parish. Work also included collection of title research data as well as surveying services to identify the right-of-ways. Abstracting took place initially and a base map was created that captured the entire route of the project. Once a proposed right-of-way was designed with its location and width, it was imported into the project's base map for the creation of right-of-way parcels, which were described with bearing and distances, then put on plats for property acquisition.





Firm name	Lowe Engineers, LLC		
Project name	Blue Swamp Creek Survey		Firm responsibility (prime or sub?) Sub
Project number	17.028	Owner's name	Burke-Kleinpeter, Inc.
Project location	Covington, LA	Owner's Project Manager	Henry M. Picard, III
Owner's address, phone, email	4716 Canal Street, New Orleans, LA 70119, 504.486.5901, hpicard@bkusa.com		
Services commenced by this firm (mm/yy)	02/18	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	06/18	Cost of consultant services provided by this firm (\$1,000's)	\$39,000

**Describe the project including the firm's role and members involved.**

Topographic survey of approximately 12,500 linear feet, the length of the creek. Project included data collection to identify the apparent right-of-way of the waterway, along with all utilities. Construction benchmarks were also set and elevation cross-sections of the existing waterway were provided at 50' intervals. The survey extended 100' in both directions, where Famers Creek and Mile Branch intersect Blue Swamp Creek. For this 2-mile stretch of creek draining a good portion of Covington, baselines were drawn in based on coordinates from 2-hour OPUS static sessions obtained at various points along the route. Abstracting and research was completed for 140 adjoining parcels of land plotted over found and measured property corners to fit and be shown as a background on the final plats. This helped the client understand what properties were impacted and affected by the drainage lateral. Linework of the topography showed all improvements within the scope of work, as well as a detailed record of what was found on the ground, including utilities such as drainage pipes and invert elevations. A Tin Surface model with 1-foot contour intervals was created over the area.



Firm name	Lowe Engineers, LLC		
Project name	Mariners Village Survey	Firm responsibility (prime or sub?)	Sub
Project number	N/A	Owner's name	Kyle Associates, LLC
Project location	Mandeville, LA	Owner's Project Manager	James Eddie Powell, PE
Owner's address, phone, email	638 Village Lane North, Mandeville, LA 70471, 985.727.9377, epowell@kyleassociates.net		
Services commenced by this firm (mm/yy)	10/14	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	12/14	Cost of consultant services provided by this firm (\$1,000's)	\$22,000

**Describe the project including the firm's role and members involved.**

Part of a major overhaul of the City of Mandeville's water line utilities, Lowe provided comprehensive topographic and utility surveys consisting of +/- 7,000 linear feet. Drafting including line work for all topography as well as above-ground and subsurface utilities and trees within the street right-of-way lines in the Mariners Village subdivision, which had 60 lots involved in the survey. A part of the subsurface survey was measuring and obtaining invert elevations for all sewer and drainage structures. Lowe located monuments for many properties to prove the right-of-way for all streets throughout the subdivision. The parent tracts were surveyed and subsequently subdivided as part of easement acquisition. The subdivision was drawn out and rotated amongst found and located property corners, giving the project a strong foundation for creating new waterline servitudes. A traverse was completed through the entire subdivision and was closed (horizontal and vertical), and accepted. The final product included eight 24"x36" sheets of topography, nine sheets of individual servitude maps, and nine typed legal descriptions describing the new waterline servitudes.



Firm name	Lowe Engineers, LLC		
Project name	Bootlegger Road Survey		Firm responsibility (prime or sub?) Sub
Project number	N/A	Owner's name	Flemming Construction Company, LLC
Project location	Covington, LA	Owner's Project Manager	Paul Ramagos
Owner's address, phone, email	23 East Airline Drive, Kenner, LA 70062, 504.464.4000, pramagos@flemco.net		
Services commenced by this firm (mm/yy)	08/13	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	07/14	Cost of consultant services provided by this firm (\$1,000's)	\$6,000

Describe the project including the firm's role and members involved.

Stake out of new proposed right-of-way for the roadway and intersection of Bootlegger Road, Francis Road, and Ochsner Boulevard Extension in unincorporated St. Tammany Parish. This project included data collection in the form of title research as well as surveying services necessary to identify the right-of-way near the intersection. Control points were established for construction of the proposed roundabout, grade stakes were set for vertical curve, and gutter lines were staked to ensure proper drainage. Lowe also set grades for all the gutter stakes and set benchmarks for the contractor to use to pour the curbing and roadway. The boundary survey included all right-of-way monuments and those for the adjoining and abutting properties. This job was completed on-time and on-budget.





18. Project experience **most relevant** to the scope in the advertisement.

Firm name	Lowe Engineers, LLC				
Project name	Soult Street Improvements Survey			Firm responsibility (prime or sub?)	Sub
Project number	EN18000011	Owner's name	HNTB Corporation		
Project location	Mandeville, LA		Owner's Project Manager	Rick Hathaway	
Owner's address, phone, email	2021 Lakeshore Drive, Suite 230, New Orleans, LA 70122, 504.872.9016, rihathaway@HNTB.com				
Services commenced by this firm (mm/yy)	04/16	Total consultant contract cost (\$1,000's)			N/A
Services completed by this firm (mm/yy)	01/19	Cost of consultant services provided by this firm (\$1,000's)			\$38,000

Describe the project including the firm's role and members involved.

Boundary/topographic survey of the Soul Street roadway project from US 190 to LA Hwy 1088 in St. Tammany Parish. The project included data collection for identifying the apparent right-of-way as well as any and all improvements, storm drainage structures, and utilities. The baseline for the project was set to correspond to the existing LA DOTD survey control system and stationing. Elevation cross-sections of the existing roadway and ditch at 50' intervals were also provided.



Firm name	Lowe Engineers, LLC		
Project name	3 <sup>rd</sup> Avenue Bridge Survey		Firm responsibility (prime or sub?) Prime
Project number	N/A	Owner's name	St. Tammany Parish Public Works
Project location	Covington, LA	Owner's Project Manager	Kelly Seward
Owner's address, phone, email	21454 Koop Drive, Building B, Mandeville, LA 70471, 985.898.2552, dpw@stp.gov.org		
Services commenced by this firm (mm/yy)	12/19	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	02/20	Cost of consultant services provided by this firm (\$1,000's)	\$4,000

Describe the project including the firm's role and members involved.

Abstracting properties, locating monuments for 20+ parcels along 3<sup>rd</sup> Avenue, Judy Avenue, Janice Avenue, and Bode Avenue to establish the right-of-way along these roadways. There was an existing baseline which Lowe located and used for this work. For the entirety of the job, the field crews used GPS to prove baseline location. Field work was performed conventionally, and a traverse was completed, closed, and accepted. Lowe's CAD department then provided acquisition maps and legal descriptions which St. Tammany Parish's Law Department used to acquire necessary right-of-ways for the new location of the 3<sup>rd</sup> Avenue bridge. Lowe was hired by Omega Foundation Services, Inc. to do stake-out work for the new right-of-way and stake pile locations. Phase 2 is ongoing.





Firm name	Lowe Engineers, LLC		
Project name	LA Hwy 59 / Sharp Road Turn About Survey		Firm responsibility (prime or sub?) Sub
Project number	N/A	Owner's name	Richard C. Lambert Consultants
Project location	Mandeville, LA	Owner's Project Manager	Frank Zemmer
Owner's address, phone, email	900 West Causeway Approach, Mandeville, LA 70471, 985.727.4440, rclc@rclconsultants.com		
Services commenced by this firm (mm/yy)	11/13	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	11/15	Cost of consultant services provided by this firm (\$1,000's)	\$17,000

Describe the project including the firm's role and members involved.

Topographic survey of the proposed roadway area near the intersection of LA Hwy 59 and Sharp Road in unincorporated St. Tammany Parish. This project included data collection for completion of an ALTA topographic survey extending 1,000' north and 1,000' south of the intersection.

