# DOTD FORM: 24-102

*(Revised January 1, 2023)*

**PROPOSAL TO PROVIDE CONSULTANT SERVICES**

*Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 23 can be removed but do not remove Section title and number.*

*ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.*

| | |
|---|---|
| *1. Contract Name as shown in the advertisement* | IDIQ CONTRACT FOR DAM SAFETY AND PUBLIC WORKS STATEWIDE |
| *2. Contract Number(s) as shown in the advertisement* | 4400027092 |
| *3. State Project Number(s), if shown in the advertisement* | N/A |
| *4. Prime consultant name (name must match as registered with the Louisiana Secretary of State where such registration is required by law)* | Michael Baker International, Inc. |
| *5. Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law)* | E.F. 0000062<br>V.F. 0000010 |
| *6. Prime consultant mailing address* | 2600 CitiPlace Drive, Suite 450<br>Baton Rouge, Louisiana 70808 |
| *7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)* | |
| *8. Name, title, phone number, and email address of prime consultant's contract point of contact* | L.R. "Eric" Erikson, PE<br>Project Manager<br>225.218.2849 \| eric.erikson@mbakerintl.com |
| *9. Name, title, phone number, and email address of the official with signing authority for this proposal* | Daniel Thornhill, PE<br>Office Manager - Associate Vice President<br>225.218.2846 \| daniel.thornhill@mbakerintl.com |

*Prime consultant should enter the firm name in the footer at the bottom of this page. (It will carry over to subsequent pages.)*

**EXPERIENCED AND RESPONSIVE |** The Michael Baker team offers the DOTD: extensive IDIQ experience, an experienced project manager with DOTD Dam safety/public works department experience, and team members with office centrally located within the state to provide quick access to any site in emergency scenarios.

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| *10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.* | *Signature above shall be the same person listed in Section 9:*<br><br>*6/22/2023*<br>*Date:* |
| *11. If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.* | *Firm(s):* Civil Design and Construction, Inc. — *Firm(s)' %: Goal 7%* 8% |

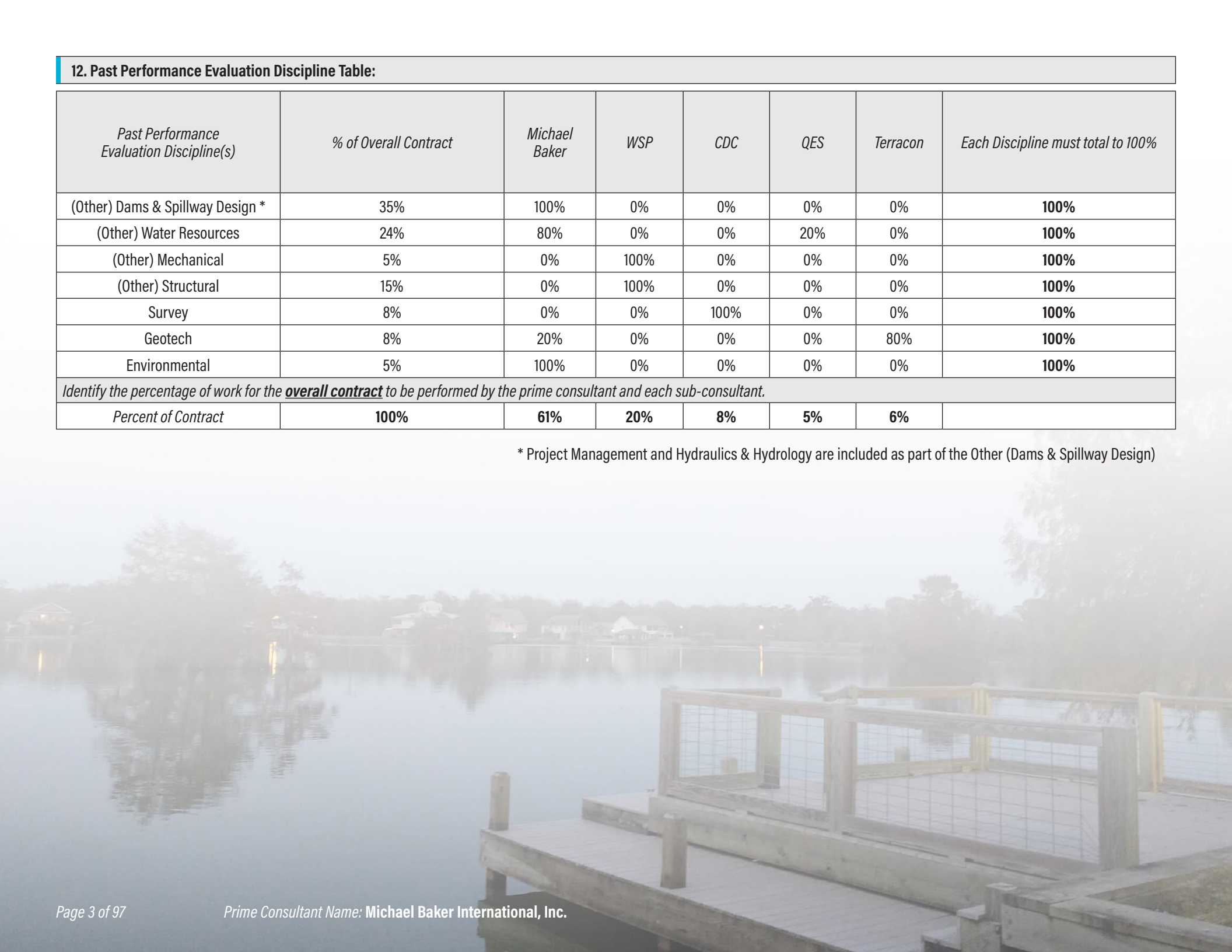
## YOUR MICHAEL BAKER TEAM


**PEOPLE MAKE THE DIFFERENCE |** DOTD will experience a dedicated team of local partners led by Michael Baker. Each firm and each team member were chosen specifically to bring a unique skill set, expertise, and experience to deliver a successful project.

**12. Past Performance Evaluation Discipline Table:**

| *Past Performance Evaluation Discipline(s)* | *% of Overall Contract* | *Michael Baker* | *WSP* | *CDC* | *QES* | *Terracon* | *Each Discipline must total to 100%* |
|---|---|---|---|---|---|---|---|
| (Other) Dams & Spillway Design * | 35% | 100% | 0% | 0% | 0% | 0% | **100%** |
| (Other) Water Resources | 24% | 80% | 0% | 0% | 20% | 0% | **100%** |
| (Other) Mechanical | 5% | 0% | 100% | 0% | 0% | 0% | **100%** |
| (Other) Structural | 15% | 0% | 100% | 0% | 0% | 0% | **100%** |
| Survey | 8% | 0% | 0% | 100% | 0% | 0% | **100%** |
| Geotech | 8% | 20% | 0% | 0% | 0% | 80% | **100%** |
| Environmental | 5% | 100% | 0% | 0% | 0% | 0% | **100%** |
| *Identify the percentage of work for the **overall contract** to be performed by the prime consultant and each sub-consultant.* | | | | | | | |
| *Percent of Contract* | **100%** | **61%** | **20%** | **8%** | **5%** | **6%** | |

* Project Management and Hydraulics & Hydrology are included as part of the Other (Dams & Spillway Design)



**13. Firm Size:**

**STRENGTH IN NUMBERS |** The Michael Baker team can successfully staff multiple, simultaneous Task Orders for this contract, even if the Task Orders are spread over a large geography. Our team has more than 23 dam and spillway rehabilitation evaluation and design experts, 250 H&H analysis staff, and 400 personnel throughout the Southeast that can be mobilized to serve DOTD on this contract.

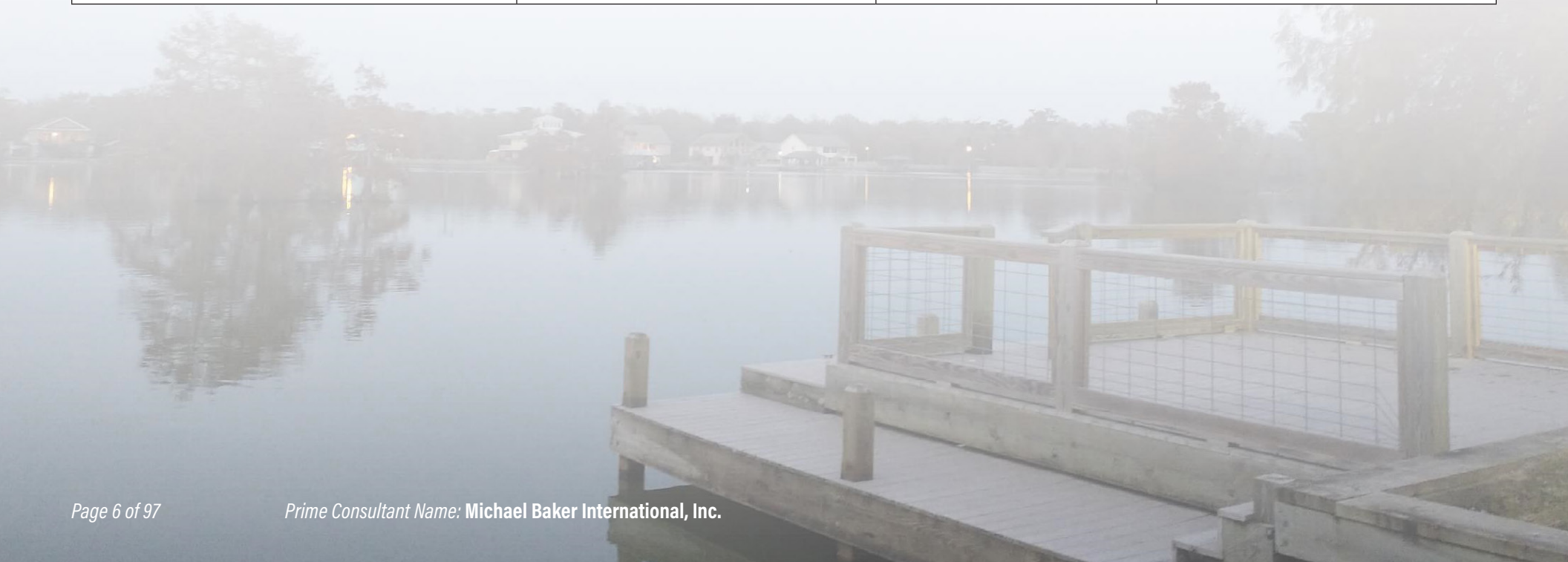
| *Firm name* | *DOTD Job Classification* | *Number of personnel committed to this contract* | *Total number of personnel available in this DOTD Job Classification (if needed)* |
|---|---|---|---|
| Michael Baker INTERNATIONAL<br><br>**Michael Baker International, Inc.**<br>Michael Baker is a leading provider of engineering and consulting services, including design, planning, architectural, environmental, construction and program management, and has been solving some of the world's most complex infrastructure challenges for over 80 years with a legacy of expertise, experience, innovation and integrity.<br><br>Trusted relationship with DOTD over the last 15 years, working on complex projects including numerical modeling, roadway and bridge design, Alternative Delivery and Construction Engineering and Inspection. | Administrative | 1 | 2 |
| | Biologist/Wetlands | 2 | 4 |
| | Clerical | 1 | 2 |
| | Engineer | 2 | 4 |
| | Engineer Intern | 2 | 5 |
| | Engineer - Other | 1 | 5 |
| | Environmental Pro | 2 | 4 |
| | Environmental Manager | 1 | 4 |
| | GIS Analyst | 2 | 4 |
| | Principal | 1 | 2 |
| | Senior Technician | 2 | 4 |
| | Supervisor - Eng | 2 | 2 |
| | Supervisor - Other | 2 | 4 |
| | Surveyor | 1 | 0 |
| | Technician | 3 | 5 |

**13. Firm Size:**

| *Firm name* | *DOTD Job Classification* | *Number of personnel committed to this contract* | *Total number of personnel available in this DOTD Job Classification (if needed)* |
|---|---|---|---|
| **WSP USA, Inc.**<br>WSP is an industry leader in performing comprehensive, state of the practice hydraulic and hydrologic analyses throughout the U.S..<br>WSP specializes in: Hydrologic Engineering (Probable maximum precipitation/probable maximum flood analysis and spillway design flood analysis).<br>Hydraulic Engineering (1D and 2D hydraulic modeling; 3D computational fluid dynamics modeling; dam hazard classification assessments; inspections and adequacy assessments for hydraulic structures; conceptual and detailed design and rehabilitation for dams, spillways and gates; and dam breach modeling)<br>Risk and Hazard Assessment (Dam breach analyses, inundation mapping and emergency action plans). | Supervisor—Engineer | **2** | **15** |
| | Engineer | **1** | **10** |

**13. Firm Size:**

| *Firm name* | *DOTD Job Classification* | *Number of personnel committed to this contract* | *Total number of personnel available in this DOTD Job Classification (if needed)* |
|---|---|---|---|
| **Civil Design & Construction, Inc**<br>Established in 2005 by Karla Weston, PE, CD&C is an Engineering and Land Surveying firm located in Port Allen, LA just off I-10 across the river from Baton Rouge. CD&C is a Woman-Owned Small Business certified by the SBA and also certified by DOTD as a DBE Engineering and Land Surveying Firm. Our services include Cost Engineering, Civil Engineering, Land Surveying and Sub-Surface Utility Engineering for various governmental agencies on the local, state, and federal levels. CD&C has the staff and experience with LADOTD to meet and exceed the Land Surveying requirements of this project. | Surveyor | **1** | **3** |
| | Party Chief | **2** | **5** |
| | Instrument Man | **2** | **2** |
| | Rodman | **2** | **3** |
| | CADD Operator | **1** | **1** |
| | Senior Technician | **2** | **6** |
| | Supervisor - Other | **1** | **1** |



**13. Firm Size:**

| *Firm name* | *DOTD Job Classification* | *Number of personnel committed to this contract* | *Total number of personnel available in this DOTD Job Classification (if needed)* |
|---|---|---|---|
| **Terracon Consultants, Inc.**<br>Since 1985, Terracon has performed thousands of geotechnical investigations throughout LA. Their local office has several drill rigs and a fully equipped laboratory accredited by AASHTO and validated by the U.S. Army Corps of Engineers.<br>Supported more than 70,700 environmental projects across 50 states in the past three years, and has a thorough understanding of local conditions and regulations and knows how to effectively manage the potential risks presented by hazardous materials and chemical releases that have impacted a site.<br>Performs approximately 14,000 ESAs annually across the United States for both commercial and industrial clients. ESAs are performed in general accordance with accepted industry standards and American Society of Testing Materials (ASTM) guidelines. | Principal | **1** | **2** |
| | Supervisor-ENG | **1** | **4** |
| | Supervisor-Other (Drilling and Laboratory Manager) | **2** | **3** |

**13. Firm Size:**

| *Firm name* | *DOTD Job Classification* | *Number of personnel committed to this contract* | *Total number of personnel available in this DOTD Job Classification (if needed)* |
|---|---|---|---|
| **Quality Engineering & Surveying, LLC**<br>Founded in early 2009, Quality Engineering & Surveying, LLC, (QES) is a full-service firm that offers an extensive range of services for both private and public sectors. Their multi-disciplinary approach provides our clients the opportunity to procure our services in: engineering, landscape architecture, planning, land surveying, program and project management. QES's knowledge and experience has helped us establish strong business relationships with our clients in both the private and public sector in well over half of the parishes in the state of Louisiana.<br>Over the past 11 years, QES has managed FEMA programs in over 23 parishes, 3 states, and Puerto Rico. | Principal | **1** | **2** |
| | Supervisor-Eng | **1** | **2** |
| | Engineer | **2** | **4** |
| | Engineer Intern | **2** | **5** |

Personnel committed to this contract shows that the Michael Baker team has the resources necessary and ready to complete multiple task orders. The staffing plan will be adjusted/revised as task orders are assigned by DOTD.

## 14. Organizational Chart:

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

**PRINCIPAL-IN-CHARGE**
Daniel Thornhill, PE *| MPR 1, 2

**PROJECT MANAGER**
L.R. "Eric" Erikson, PE, CFM | MPR 4

**CLIENT LIAISON**
Jade Rung, PE, PMP | MPR 2

**QA/QC MANAGER**
Mohamed Bagha, PE, CFM, PMP

### GEOTECHNICAL

DESIGN & ANALYSIS
**Don Green, PE**
Steve Greaber, PE (Terracon) | MPR 6
Lynne Roussel, PE (Terracon) | MPR 6

FIELD SERVICES & TESTING
**Matt Minton (Terracon)**
Brian Alexander (Terracon)

### ENVIRONMENTAL

**Chris Gesing, PE**
TJ Holliday, PWS

### HYDRAULICS & HYDROLOGY

**Mujahid Chandoo, PE | MPR 4**
Prashanta Bajracharya, PhD
Kushal Regmi, PE
Manoj KC, PhD, PE, CFM
Aaron Dunavant, PE
Deric Murphy, PE, LSI (QES)
Yangbin Tong, PE (QES)

### STRUCTURAL

**Michael Craig, PE (WSP) | MPR 5**
Casey Howard, PE (WSP)

### DAM ANALYSIS & DESIGN

**Brian Afek, PE | MPR 3**
Chris Tagert, PE, CFM
Joe Kudritz, PE
Ed Kaminski,PE

### MECHANICAL

**Jude Bonsu, PE (WSP) | MPR 8**

## SUPPORT ROLES

### SURVEY & MAPPING SUPPORT

**Ralph Burgess, PLS (CDC) | MPR 7**
Chris Ballard, PLS (CDC) | MPR 7
Philip Dupree (CDC)
Trent Norris (CDC)

### CONSTRUCTION INSPECTION SERVICES

**Mary Flynn, PE ***
Jason Mashell, PE

** - Denotes Traffic Control Supervisor*
**Bold** *- Denotes Team Lead*



*Prime Consultant Name:* **Michael Baker International, Inc.**

**15. Minimum Personnel Requirements:**

| *MPR No.*<br>*Do not insert wording from ad* | *Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)* | *Firm employed by* | *Type of license and discipline meeting MPR/ certification & number*<br>*(Ex: PE # - Civil)* | *State of license* | *License/certification expiration date* |
|---|---|---|---|---|---|
| *1* | Daniel Thornhill, PE | **Michael Baker International** | PE #0032367 - Civil | Louisiana | 09/24 |
| *2* | Jade Rung, PE, PMP | **Michael Baker International** | PE #0029081 - Civil | Louisiana | 09/24 |
| | Daniel Thornhill, PE | **Michael Baker International** | PE #0032367 - Civil | Louisiana | 09/24 |
| *3* | Brian Afek, PE | **Michael Baker International** | PE #0046671 - Civil | Louisiana | 09/24 |
| *4* | LR "Eric" Erikson, PE, CFM | **Michael Baker International** | PE #0031061 - Civil | Louisiana | 03/24 |
| | Mujahid Chandoo, PE | **Michael Baker International** | PE #0044045 - Civil | Louisiana | 03/24 |
| 5 | Micahel Craig, PE | **WSP** | PE #0041964 - Structural | Louisiana | 03/24 |
| 6 | Steve Greaber, PE | **Terracon** | PE #0026107 - Civil | Louisiana | 09/23 |
| | Lynne Roussel, PE | **Terracon** | PE #0035152 - Civil | Louisiana | 03/24 |
| 7 | Ralph Burgess, PLS | **Civil Design & Construction, Inc.** | PLS #0005040 - Survey | Louisiana | 09/24 |
| | Chris Ballard, PLS | **Civil Design & Construction, Inc.** | PLS #0005033 - Survey | Louisiana | 09/24 |
| 8 | Jude Bonsu, PE | **WSP** | PE #0044561 - Mechanical | Louisiana | 09/24 |

## 16. Staff Experience:

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|---|---|---|---|
| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Daniel Thornhill, PE** | *Years of relevant experience with this employer* | 3 |
| *Title* | Office Executive/Associate Vice President | *Years of relevant experience with other employer(s)* | 22 |
| *Degree(s) / Years / Specialization* | BS / 1997 /Civil Engineering, Louisiana State University and A & M College | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 32367 / LA / 09/2024;<br>Traffic Control Technician/ LA / 04/2026;<br>Traffic Control Supervisor / LA / 04/2026; Certified Flagger / LA / 05/2027 | | |
| *Year registered* | 2006, PE | *Discipline* | Civil Engineering |
| *Contract role(s) / brief description of responsibilities* | Principal-In-Charge \| MPR 1, 2 | | |

✓ Mr. Thornhill has over 24 years of consulting experience in a variety of engineering projects including roadway design, corridor/traffic operation concept analysis, bridge design, hydraulics design, subsurface drainage design, and sidewalk beautification projects. He has served as Project Manager/Senior Engineer in the Greater Baton Rouge area since 2006 being responsible in charge for Roadway/Transportation Design and Corridor Studies for EBR DOTD, LA DOTD, Lafayette Consolidated Government and St. Tammany Parish Department of Public Works. Mr. Thornhill accepted the role as Office Executive for Michael Baker Baton Rouge office in January of 2021. Mr. Thornhill is NHI 142005 – NEPA and Transportation Decision Making certified.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
|---|---|
| 11/20 – Ongoing | **Louisiana Watershed Initiative Region 6, Multiple Parishes, LA. *DOTD.*** Principal-In-Charge. Mr. Thornhill is currently serving as the Principal-In-Charge for Region 6 of the Louisiana Watershed Initiative. His responsibilities include making sure the Michael Baker team is meeting the required deadlines along with any requirements necessary for invoice approval and contract management. Mr. Thornhill is consistently coordinating with the assigned Project Manager to make sure that Michael Baker team is delivering the four (4) HUC8-Models that are assigned per Task Order #2 and Task Order #3. The HUC-Models have been developed through HEC-RAS based on the 2-3 hydrological and hydraulic model with rain-on-grid. |
| 01/23 - Ongoing | **Louisiana Watershed Initiative Region 1, Multiple Parishes, LA. *DOTD.*** Principal-In-Charge. Mr. Thornhill is currently serving as the Principal-In-Charge for Region 1 for Michael Baker team. Michael Baker is a sub to Atkins for the development of several HUC8-Models in various parishes in Region 1. His responsibilities include making sure the Michael Baker team is meeting the required deadlines along with any requirements necessary for invoice approval and contract management. Mr. Thornhill is consistently coordinating with the assigned Project Manager to make sure that Michael Baker team is delivering HUC8-Models that are assigned per task orders. |
| 07/22 - Ongoing | **Louisiana Watershed Initiative Region 4, Multiple Parishes, LA. *DOTD.*** Principal-In-Charge. Mr. Thornhill is currently serving as the Principal-In-Charge for Region 4 for Michael Baker team. Michael Baker is a sub to CH Fenstermaker for the development of the Sabine HUC8-Model in various parishes in Region 1. His responsibilities include making sure the Michael Baker team is meeting the required deadlines along with any requirements necessary for invoice approval and contract management. Mr. Thornhill is consistently coordinating with the assigned Project Manager to make sure that Michael Baker team is delivering HUC8-Model that are assigned per task order. Additionally, Michael Baker is providing coastal transition modeling to CH Fenstermaker for Region 4 as well. |

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| 11/22 - Ongoing | **Louisiana Watershed Initiative (LWI-SPP- Group 1), Statewide, LA.** ***DOTD.*** Principal-In-Charge. Mr. Thornhill is serving as the Principal-In-Charge for LWI-SPP-Group 1 projects. His responsibilities include contract management, oversight of invoices, and coordination with the Michael Baker Project Manager to make sure project is being delivered in the scheduled agreed upon with DOTD. Addition responsibilities included participating in manhour negotiations for the project task orders. Michael Baker is currently working on Task Order #1 for services on Anacocco Creek Watershed Lower and Upper and Task Order #2 for services on Bundick Lake. Currently, waiting on Task Order #3 for 3 Mile Lake. |
| 05/22 - Ongoing | **Drainage Master Plan, St.Tammany Parish, LA.** ***St.Tammany Parish Public Works.*** Principal-In-Charge. Mr. Thornhill is serving as the Principal-In-Charge for the oversight of the St. Tammany Parish Drainage Master Plan. His responsibilities include contract management, oversight of invoices, and coordination with the Michael Baker Project Manager to make sure project is being delivered in the scheduled agreed upon with Parish. Michael Baker completed Phase I of the contract on 5/31/23. Michael Baker is currently scoping out Phase II with the parish. Phase I was a Data Collection exercise with several public meetings for public information. Phase II of the contract will be for creating basin models to help determine projects that are necessary to help mitigate flooding in the parish. Phase II is expected to start in late Summer of 2023. |

## 16. Staff Experience:

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Jade Rung, PE, PMP** | *Years of relevant experience with this employer* | 2 |
| *Title* | Vice President \| National Market Lead - Federal | *Years of relevant experience with other employer(s)* | 26 |
| *Degree(s) / Years / Specialization* | BSCE / 1995 / Civil Engineering - Structural, Louisiana State University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 29081 / LA / 09/2024;<br>Project Management Professional (PMP) No. 1284298 / Nationwide / 07/2024 | | |
| *Year registered* | 2000, PE; 2007, PMP | *Discipline* | Civil Engineering |
| *Contract role(s) / brief description of responsibilities* | Client Liaison \| MPR 2 | | |

✓ Mr. Rung is a professional engineer experienced in all phases of delivery for multi-million-dollar capital projects. He has a proven history of domestic & international program/project management for commercial, municipal, industrial, marine, and heavy civil construction. He has substantial experience in the evaluation, planning, design, and construction management for the delivery of a major capital dam rehabilitation and improvement program, as well as extensive experience with Louisiana flood control and drainage/wastewater improvement programs. Mr. Rung has extensive communication and management skills to facilitate the project's scheduling, cost management, construction coordination, scope compliance, issues/change management, conflict resolution, standardized status reporting, and community outreach.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
|---|---|
| 01/23 - Present | **Louisiana Watershed Initiative (LWI-SPP- Group 1), Statewide, LA.** ***DOTD.*** Initial Project Manager. Michael Baker is providing engineering and modeling services to the DOTD for LWI-SPP Group 1. This project will analyze three separate dams and spillways in Southwest Louisiana in order to improve flood mitigation capabilities. Existing watershed and reservoirs will be modeled in HEC-HMS as well as HEC-RAS to analyze proposed improvements and determine downstream and upstream effects as well as efficiencies in reducing flood impacts to the watershed. $0.7M (Fee). |
| 06/10 – 08/11 | **Ruskin Dam Rehabilitation, Vancouver, Canada.** ***British Columbia Hydro Power.*** Provided program management and project controls for multi-phase evaluation and $900M rehabilitation of the generations Ruskin Dam facility including the structural seismic upgrades, turbine/generator replacement, and transmissions system for the facility. The capital improvement project greatly increases the safety and efficiency of the facility.; Project Manager/ the pre-project evaluation to verify return-on-investment (ROI) vs. decommissioning of the historic hydropower dam facility including environmental impacts associated with the deconstruction of the dam. Task included: coordinated internal project tasks and responsibilities; developed cost-loaded project schedule including maintenance and publication; facilitated internal and external project communications; coordinated all project scopes, schedules, funding, and budgets for accurate and timely reporting during all phases of the project. |
| 01/14 – 03/16 | **Hurricane and Storm Damage Risk Reduction System (HSDRRS), Mississippi River Levee (1.2A & 2.2) Flood Protection, New Orleans, LA.** ***US Army Corps of Engineers.*** Project Executive. Provided executive support for the project delivery team; local communications with State, Parish, and City officials; provide oversight for the general construction activities. Firm provided the hard structure construction of the new floodwall system for the Mississippi River levee flood protection system. Firm provided the driving steel sheet piles and steel pipe piles; pile load test; installation of a swing gate; construction of reinforced concrete floodwall, and other incidental work of the overall $83M project. |

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| 02/08 – 10/12 | **Sewer System Evaluation and Rehabilitation Program, Sewerage and Water Board of New Orleans, New Orleans, LA.** ***City of New Orleans.*** Project Executive. Facilitated communications for the project between the internal project management team, City of New Orleans, project designer, and general contractor; provided updates on the progress and schedule look-ahead for the project progress. Firm provided the owner's representative services to manage and coordinate the delivery of the $160M sewer and drainage improvement program for the Sewerage & Water Board of New Orleans (SWBNO). The improvements as required by the US Environmental Protection Agency (EPA) and Louisiana Department of Environmental Quality (DEQ) were evaluated, designed, procured, construction managed, and documented by MWH for the SWBNO for verification. |
| 02/08 – 06/10 | **Infrastructure Rehabilitation Program, Office of Recovery and Development, New Orleans, LA.** ***City of New Orleans.*** Deputy Program Manager – Construction. Responsible for the design management, project coordination, project procurement, and construction management program; coordinate the City of New Orleans, architectural/engineering design firms, and general contractors for the recovery projects. Facilitated the approval for the first design-build projects for the City of New Orleans and the State of Louisiana. Following Hurricane Katrina, the firm was engaged to provide the program management services for the City of New Orleans Office of Recovery and Development Administration multi-facility, $1.5B dollar evaluation and rehabilitation program. Firm provided procurement and management for the facilitation of architectural/engineering design firms, and general contractors in the repair of approximately 300 city infrastructure projects. Firm also assisted the City of New Orleans in the procurement of FEMA, CDBG, and other funding sources to accommodate the projects. Included in the program included the development of the State of Louisiana's first design-build projects which required the legislature approval to provide the delivery of five new libraries using the "new" contract delivery method. |
| 08/11 – 10/12 | **Union Passenger Terminal to Canal Street Rail Expansion, Regional Transit Authority, New Orleans, LA.** ***City of New Orleans.*** Project Executive. Facilitated communications for the project between the internal project management team, City of New Orleans, project designer, and general contractor; provided updates on the progress and schedule look-ahead for the project progress. Firm teamed with WSP as lead program manager, provided the owner's representative services to manage and coordinate the delivery of the $15M streetcar rail improvements and expansion in the City of New Orleans for the Regional Transit Authority. |
| 09/14 – 08/16 | **O'Neal Lane Roadway Improvements, Baton Rouge, LA.** ***East Baton Rouge Parish.*** Project Executive. Provided executive support for the project delivery team; local communications with State, Parish, and City officials; provide oversight for the general construction activities. Firm provided the general contracting services for the $16M improvements to the O'Neal Lane in Baton Rouge, LA on the East Baton Rouge Parish Green Light Program. Improvements include bridge widening, roadway widening, utilities relocation, drainage improvements, and improved signal systems. |
| 03/98 – 10/00 | **Globalplex General Cargo Dock Expansion Project, Port of South LA, Reserve, LA.** ***Project Manager.*** Managed the design, cost estimation, and construction delivery of all civil, marine, electrical, and mechanical phases; provided services for the preparation of the design, bid packages, contracts, and close-out documents for the marine work, electrical upgrade, dock expansion, electrical cranes, electrical gantries, and storage area; provided schedule, cost, and scope management including reporting which was required to be presented monthly to the Port of South Louisiana Board Commission. River Consulting Inc., (RCI) provided the design & construction management for the $29M Cargo Dock Expansion project at the Port of South Louisiana. The project included expansion of the existing finger pier dock into a 204 feet by 660 feet deep-draft general cargo dock to handle breakbulk & general cargo. The dock was equipped with two full-electric Manitowoc 2250 rail-mounted gantry cranes (with spreaders) to travel the full-length of the dock. The project also included a 177,000 square feet storage pad and the necessary electrical improvements to facilitate the new electric gantry cranes, electrical services, and site lighting. |
| 10/00 – 09/02 | **625 Street Charles Condominiums, Bauer Development Co.** ***New Orleans, LA.*** Project Manager. Provided contract negotiation and management of all subcontractors for every trade on the project; provided estimating, negotiating, contracting, and construction of the residences within the property; provided leadership to the eleven project engineers and field staff during construction; prepared weekly evaluations and monthly reports for presentation to the Gibbs senior management and property owners; provided public relations on the project including press conferences and condominium association meetings. Gibbs Construction Co., provided the construction of the $28M 625 St. Charles Condominiums Project. This luxury condominium development is located across from Lafayette Square in downtown New Orleans. It has 39 residential units with an indoor parking garage, 24-hour security, a full gym facility, lap pool, conference room and reception rooms. The building is centrally located on the streetcar line and steps away from restaurants, hotels, wine bars and other attractions such as museums and art galleries. |

## 16. Staff Experience:

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|---|---|---|---|---|---|
| *Firm employed by* | Michael Baker International, Inc. | | | | |
| *Name* | **L.R. "Eric" Erikson, PE, CFM** | | *Years of relevant experience with this employer* | 1 | |
| *Title* | Department Manager - Water | | *Years of relevant experience with other employer(s)* | 24 | |
| *Degree(s) / Years / Specialization* | M.S. / 2003 / Engineering and Technology Management;<br>B.C.S.E. / 1999 /Civil Engineering, Louisiana Tech University | | | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 31061 / LA / 03/2024; Certified Floodplain Manager / Nationwide / 07/2025 | | | | |
| *Year registered* | 2004, PE: 2023, CFM | *Discipline* | Civil Engineering | | |
| *Contract role(s) / brief description of responsibilities* | Project Manager \| MPR 4 | | | | |

✓ Mr. Erikson serves as the Water Resource Department Manager for the Baton Rouge, Louisiana office. He has 24 years of engineering project management and design experience in a wide variety of infrastructure improvements projects of this nature. Mr. Erikson has performed Project management, QA/QC duties, and design, on several infrastructure improvement projects, including hydraulic / hydrology studies, flood mitigation studies and projects, port development, site development, water and sewer infrastructure, and major drainage canal improvement plans. His early experience heavily emphasized hydrologic and hydraulic modeling. As large-scale projects of this nature are rare, Mr. Erikson's project experience has been located all across the state of Louisiana and into Texas. He has experience with hydrologic/hydraulic modeling software including HEC-RAS, HEC-HMS, HMR-52, DAMBRK, LADOTD HYDRWINT, PONDPAK, and HydroCAD.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 01/23 - Present | **Louisiana Watershed Initiative (LWI-SPP- Group 1), Statewide, LA. *DOTD.*** Michael Baker is providing engineering and modeling services to the DOTD for LWI-SPP Group 1. This project will analyze three separate dams and spillways in Southwest Louisiana in order to improve flood mitigation capabilities. Existing watershed and reservoirs will be modeled in HEC-HMS as well as HEC-RAS to analyze proposed improvements and determine downstream and upstream effects as well as efficiencies in reducing flood impacts to the watershed. $0.7M (Fee). Mr. Erikson is serving as Project Manager on this project supervising the technical teams to ensure project meets our clients' expectations on schedule and within budget. |
| 01/23 - Present | **Louisiana Watershed Initiative Region 6, Statewide, LA. *DOTD.*** Deputy Project Manager. Michael Baker is providing engineering and modeling services to the DOTD for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the second task order, Michael Baker supplemented data collection and analysis, continued stakeholder engagement services, and performed topographic, bathymetric, and channel surveys. $3.1M (Fee) Mr. Erikson is serving as Deputy Project Manager, assisting the Project Manager and technical teams to ensure project meets our clients expectations on schedule and within budget. |
| 01/23 - Present | **Louisiana Watershed Initiative Region 1, Multiple Parishes, LA. *DOTD.*** Deputy Project Manager. Michael Baker is providing engineering and modeling services to a consulting firm tasked with complete modeling efforts for 3 HUC-8's in the LWI Region 1. Similar to Region 6 above, the project consists of the hydrologic and hydraulic modeling of 3 large HUC-8 Watersheds in the northwest part of the state. The modeling efforts include base model setup, calibration, validation, and technical reports. This task also included supplementing the model data with field topographic data of channels, bathymetric survey of water bodies, operational pump station data, operational lock and dam data, and tidal data. This task also involved stakeholder engagement, data management and the compilation of a quick guide for future model operation. A $2.0M (Est. Fee) project, Mr. Erikson is serving as Deputy Project Manager, assisting the Project Manager and technical teams to ensure project meets our clients goals on schedule and within budget. |

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| 01/23 - Present | **Louisiana Watershed Initiative Region 4, Statewide, LA.** ***DOTD.*** Deputy Project Manager. Michael Baker is providing engineering and modeling services to a consulting firm tasked with complete modeling efforts for a single HUC-8 watershed in LWI Region 4. Similar to Region 6 above, the project consists of the hydrologic and hydraulic modeling of 3 large HUC-8 Watersheds in the northwest part of the state. The modeling efforts include base model setup, calibration, validation, and technical reports. This task also included supplementing the model data with field topographic data of channels, bathymetric survey of water bodies, operational pump station data, operational lock and dam data, and tidal data. This task also involved stakeholder engagement, data management and the compilation of a quick guide for future model operation. An additional task order includes providing coastal data and analysis for 3 HUC-8 watersheds that are in coastal or coastal transition zones. A $1.0M (Est. Fee) project, Mr. Erikson is serving as Deputy Project Manager, assisting the Project Manager and technical teams to ensure project meets our client's goals on schedule and within budget. |
| 8/14-01/22 | **Port Cameron, Cameron Parish, LA.** ***Port Cameron LLC.*** Responsibilities included oversight of entire construction plan set including dredging plan and phasing, marsh creation, coordination with bulkhead designer, site development including roadway and utility improvements, By-pass roadway design including slab span bridges and conceptual flood control pump station and by-pass structure. Also provided a point of contact for client. |
| 04/04 – 01/21 | **Sugar Mill Plantation Master Drainage Plan, Addis, LA.** ***Town of Addis.*** Project Manager. Responsibilities included supervising the analysis of a proposed major subdivision (>1000 acres) effects on the local watershed. Performed modeling of local canals, multiple retention ponds and drainage structures outfalls utilizing HEC-RAS and LADOTD HYDRWINT software packages. Retention ponds were sized and designed to not increase runoff from the development. Drainage models were continuously updated as filings of the subdivision were built out. |
| 06/17 – 12/17 | **Scour Analysis for Perkins/Picardy Connector Bridge, Baton Rouge, LA.** ***City/Parish of East Baton Rouge DPW .*** Hydraulic Engineer. Responsibilities included hydraulic modeling and scour analysis utilizing HEC-RAS of two separate proposed bridges on Dawson Creek in order to provide recommendations for scour mitigation design and pile lengths. |
| 08/21- 12/22 | **Sixth Street Pump Station, New Roads, LA.** ***City/Parish of New Roads DPW/Utility Department.*** Project Manager/Design Engineer. Responsibilities included project management and design of a 3000 gpm sewer pump station for the Town Of New Roads. Design tasks included determination of design inflow, hydraulic design and sizing of pumps and force mains, wet well design for buoyancy and flow, pile supported foundation design, equipment design, pipping layouts, surface coatings, and site work. |

## 16. Staff Experience:

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Mohamed Bagha, PE, CFM, PMP** | *Years of relevant experience with this employer* | 18 |
| *Title* | Water Resources Project Manager | *Years of relevant experience with other employer(s)* | 6 |
| *Degree(s) / Years / Specialization* | Master's Certificate / 2011 / Project Management Program, University of Pittsburgh<br>ME / 2003 / Civil Engineering, The State University of New York at Buffalo<br>BE / 1998 / Civil Engineering, National Institute of Technology, Nagpur, India | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 102919 / TX / 03/2024;<br>Project Management Professional / Nationwide / 08/2023;<br>Certified Floodplain Manager 1508-08N / Nationwide / 12/2024 | | |
| *Year registered* | 2006 (PE);<br>2011 (PMP);<br>2003 (CFM) | *Discipline* | Civil Engineering |
| *Contract role(s) / brief description of responsibilities* | QA/QC Manager | | |

✓ Mr. Bagha is a recognized Subject Matter Expert in 1D, 2D, and unsteady HEC-RAS modeling applied towards designing sustainable solutions for flood risk mitigation at multiple scales for clients like Harris County Flood Control District (HCFCD). Mr. Bagha performs discovery and reviews flood ordinances related to local land use as part of his efforts. He performs advanced 1D, 2D, and unsteady model development for H&H, storm water management, and watershed planning. He has expertise with flood hazard identification using HEC-HMS, HEC-DSS, and HEC-RAS and is proficient with GIS applications for water resources. His participation in flood studies for FEMA and CTPs gives him the experience to develop right-sized modeling solutions. He is well versed in FEMA modeling and mapping guidelines.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 12/20 – 05/23 (Estimated) | **Louisiana Watershed Initiative Modeling Contract - Region 6, Lousiana.** ***DOTD.*** Deputy Project Manager and Modeling Manager. Provided input on tiered modeling approaches and reviewed modeling design plans for multiple HUC-8 watersheds. Michael Baker is providing engineering and modeling services to DOTD for Region 6 for the LW). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the first task-order of the contract, Michael Baker collected existing watershed datasets, models, and studies, developed and proposed detailed modeling design approaches with schedules and cost estimates, and prepared data gap analysis and collection reports. |
| 10/05 – 03/08 | **Buckeye FRS #1 Dam Rehabilitation Study, Buckeye, Arizona.** ***The Flood Control District of Maricopa County (FCDMC).*** Program Manager. Provided technical and management oversight to perform hydrology and hydraulics to support alternative selection for dam rehabilitation. Michael Baker conducted extensive hydrologic, hydraulic, and sedimentation analyses to assess the individual merits of several alternatives to mitigate considerable transverse cracking in Buckeye FRS No. 1. An additional task included a downstream inundation analysis for a portion of the town west of Watson Road to the Hassayampa River. The results were used to compare feasibilities with and without dam scenarios in terms of cost-benefit ratios. Several cross-sections were placed along prominent flow paths between FRS No. 1 and the Gila River and the 100 years, 24-hour delineation was determined. |
| 01/14 – 12/14 | **Lake Ralph Hall Third Party, TX.** ***Upper Trinity Regional Water District.*** Water Resources Engineer. Responsibilities included review of the Water Availability Models (WAM) prepared for the without-dam and with-dam scenarios to ensure the dam and the associated draft operations plans are properly reflected in the models. Was also responsible for documenting impacts to downstream water rights holders as a result of construction of the proposed dam. |

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| 10/04 - 09/05 | **Flood Buckeye FRS #1 Dam Rehabilitation Project, Arizona.** ***Maricopa County Flood Control District.*** Water Resources Analyst. Responsible for performing hydrologic and hydraulic analyses for existing condition and alternative options. Co-determined the scope of work that would be required to evaluate and select from proposed alternatives for dam rehabilitation. The selection of an acceptable alternative will ultimately lead to a 15% design effort. Performed impact studies of the inflow of the Buckeye FRS Outflow on the Hassayampa River. Prepared hydraulic modeling and inundation mapping for 115 linear miles in the areas downstream of the FRS for the with-dam without-dam scenarios in support of NRCS Dam Economic Analysis, and evaluated various proposed alternatives for their hydraulic performances and flood protection benefits. This project is underway. |
| 07/12 - 02/18 | **Cypress Creek Overflow Management Plan, Harris County, TX.** ***Harris County Flood Control District.*** Project Manager. Developed hydrologic models of existing conditions, evaluated proposed flood mitigation alternatives using HEC-HMS, modeling channel enhancements using HEC-RAS 1D steady and 1D unsteady models and XP Storm 1D-2D models to model the overflow under various mitigation scenarios. |
| 10/13 - 09/15 | **Armand Bayou Drainage Study, Pasadena, TX.** ***City of Pasadena, Texas.*** QA/QC Engineer. Performed QA/QC of modeling for City of Pasadena to correct floodplain modeling and mapping. Michael Baker evaluated flooding problems in Armand Bayou watershed using a 2D model to quantify split flow between B113-00-00 and B115-00-00, and used the resulting information to update FEMA's H&H models and mapping. |
| 10/18 - 10/19 | **Flood Recovery Data, CF3R JV Task Order 28, Harris, Jefferson, and Orange, TX.** ***FEMA, Region VI.*** Water Resources Engineer. Performed Base Map & Topographic Data Development, and Report writing. Conducted H&H modeling and Floodplain Mapping to support countywide DFIRM Updates. Created floodplain work maps, DFIRM data bases, FIRMs and FIS Reports. Performed Combined Probability Analyses to determine BFEs within coastal areas in Brazoria County. Michael Baker provided Flood Recovery Data for the coastal areas of Harris, Jefferson, and Orange County, Texas. |
| 08/06 - 04/14 | **Digital Floodplain Mapping Updates, CF3R JV Task Order 30, Brazoria, Montgomery Counties, TX.** ***FEMA, Region VI.*** Water Resources Engineer. Performed combined probability analyses to determine base flood elevations within coastal areas in Brazoria County. Prepared Flood Insurance Study report and attachments. Michael Baker provided development of FIRMs for Brazoria and Montgomery Counties, Texas. |
| 08/06 - 04/14 | **French Creek Floodplain Environmental and Engineering Services, Helotes, TX.** ***Bexar County.*** Project Manager. Performed H&H analyses to design resilient conveyance improvements along four tributaries in the City of Helotes, TX. Conceptualized and designed a cost-saving flow diversion channel alternative. Provided engineering services to assist in creating all-weather drainage crossings and removing multiple residential properties from the floodplain. Michael Baker performed natural channel design tasks for 5800' of channel. |
| 08/05 - 10/10 | **Digital Floodplain Mapping Updates, CF3R JV Task Order 22, Fort Bend County, TX.** ***FEMA, Region VI.*** Civil Engineer. Responsibilities included hydrologic and hydraulic modeling using HEC-HMS and HECRAS, and floodplain mapping using GIS, and performing QA/QC of floodplains. Michael Baker provided the Digital Flood Plain Mapping Update for Fort Bend County, Texas. Project activities included restudy of 90 miles of the Brazos River, 101 miles of redelineation of existing Zone AE streams; 296 miles of Automated Approximate Study of existing Zone A streams; 48 new DFIRM panels at 1"=1000' and 1"= 2000' scale; production of the countywide FIS report and profiles preliminary DFIRM and FIS preparation; post-preliminary processing activities; reporting activities; and intensive outreach activities due to levee recertification issues. |
| 07/10 - 07/12 | **Flooding Reduction Feasible Options Study, Fort Worth, TX.** ***City of Fort Worth.*** Water Resources Engineer. Responsibilities include data collection and evaluation, generation of project metrics to evaluate and rank alternative plans, and participation in meetings with client and stakeholders. Michael Baker led a multidisciplinary team (hydrologists, land planners, economists, and communications professionals) in a study to identify feasible options to recommendations made to reduce flooding in flood-prone urban watersheds. |

## 16. Staff Experience:

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Don Green, PE** | *Years of relevant experience with this employer* | 17 |
| *Title* | Geotechnical Specialist | *Years of relevant experience with other employer(s)* | 28 |
| *Degree(s) / Years / Specialization* | MS / 2004 / Civil Engineering / University of Pittsburgh<br>BS / 1978 /Civil Engineering / University of Pittsburgh | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 034330E / Pennsylvania / 09/2023 | | |
| *Year registered* | 1985 | *Discipline* | Geotechnical |
| *Contract role(s) / brief description of responsibilities* | Geotechnical Design & Analysis Lead | | |

✓ Mr. Green will serve as the Geotechnical Lead and will be responsible for the geotechnical investigation and design at each of the projects. He's a Geotechnical Engineer with more than 35 years of geotechnical consulting experience in dam inspection and design, geotechnical and environmental engineering, planning, laboratory and field investigation, engineering analysis and design, plans and specifications preparation, and project supervision and management. He has spent the majority of his career working with dams across the nation. Mr. Green has implemented geotechnical investigations for a number of concrete and earthen embankment dams belonging to PFBC and Pennsylvania Department Conservation and Natural Resources. Mr. Green has been responsible for evaluating the stability of concrete gravity and earthen embankment dams and is an expert in designing soil and rock post-tensioned anchor systems that meet state dam safety regulations.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 10/18 – 09/20 | **Rehabilitation of Donegal Lake Dam; Donegal Township, PA.** ***Pennsylvania Department of General Services.*** Geotechnical Lead. Responsible for completing a geotechnical investigation and provided design recommendations for collection of seepage and other drainage improvements, replacement of spillway slabs, extension of outlet conduit, and roller compacted concrete embankment overtopping protection. Michael Baker provided engineering services for rehabilitation of the Donegal Lake Dam to ensure compliance with Pennsylvania Department of Environmental Protection regulations for spillway capacity and overtopping protection during the design event. Donegal Lake Dam, located in Westmoreland County, Pennsylvania, is owned by the Pennsylvania Fish and Boat Commission. The dam was constructed in 1967 and creates Donegal Lake, which is a heavily used recreational facility. Michael Baker's tasks included reviewing existing drawings and reports; performing a field assessment, hydrologic and hydraulic analysis, topographical survey, and subsurface investigation to evaluate the current condition of the dam; identifying and screening alternatives and developing remediation designs and cost estimates; and providing construction oversight. |
| 01/21 – 12/25 (Estimated) | **PFBC Dam Rehabilitations, PA.** ***Pennsylvania Fish and Boat Commission.*** Geotechnical Lead. Responsible for completing a geotechnical investigation and providing design recommendations for collection of seepage and other drainage improvements, replacement of spillways, and stability of embankments. Michael Baker is providing engineering services for five dam rehabilitations, owned by the Pennsylvania Fish and Boat Commission, to ensure compliance with Pennsylvania Department of Environmental Protection regulations. Michael Baker's tasks include reviewing drawings and reports; field-inspecting all elements, including spillways and gatehouse structures; performing a hydrologic and hydraulic analysis; performing a topographical survey, geotechnical investigation, and structural analysis identifying and analyzing rehabilitation alternatives; and providing construction management services. |

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| 02/09 – 01/12 | **Dutch Fork Lake Dam Condition Assessment and Rehabilitation Design; Donegal Township, Washington County, PA.** ***Pennsylvania Department of General Services.*** Geotechnical Engineer. Responsible for completing a geotechnical investigation and provided design recommendations for collection of seepage and other drainage improvements, replacement of spillway, extension of outlet conduit, and roller compacted concrete embankment overtopping protection. Michael Baker provided engineering services for rehabilitation of the Dutch Fork Lake Dam, owned by the Pennsylvania Fish and Boat Commission, to ensure compliance with Pennsylvania Department of Environmental Protection regulations regarding spillway capacity and overtopping protection, as the dam could not convey the design event. The Dutch Fork Lake Dam was constructed in 1959 and creates Dutch Fork Lake, which was a heavily used recreational facility until PFBC breached the dam in 2005 after damage to the spillway occurred during Hurricane Ivan. Michael Baker's tasks included reviewing drawings and reports; field-inspecting all elements, including spillways and gatehouse structures; performing hydrologic and hydraulic analyses; performing topographical surveys and geotechnical investigations to evaluate current conditions; identifying and analyzing rehabilitation alternatives; developing designs; and providing construction management services. |
| 03/09 – 02/12 | **Rehabilitation of the Canonsburg Lake Dam; Peters and North Strabane Townships, PA.** ***Pennsylvania Fish & Boat Commission.*** Geotechnical Engineer. Responsible for design of passive dowels and high capacity post-tensioned anchors to improve overturning and sliding resistance for an existing concrete gravity dam. Also responsible for structural design of a composite wall to alleviate distress at the right training wall. Assisted in the development of complex hydrologic and hydraulic calculations, geotechnical investigation, and structural analysis for the dam. Worked with PADGS, PFBC, and PADEP to determine the best approach to be advanced to final design. |
| 06/15 – 01/18 | **Lake Loramie Dam Rehabilitation, OH.** ***Ohio Department of Natural Resources.*** Geotechnical Lead. Responsible for conducting a subsurface exploration plan and geotechnical analysis of the existing and new embankment section to be constructed through the existing stream channel. Mr. Green provided construction drawings for the new zoned embankment, graded filter, and seepage collection and monitoring system. A sheet pile system was also designed through the new embankment to reduce the seepage through the embankment. Mr. Green developed conceptual phasing plans and sketches that utilized the existing spillway convey normal flows while maintaining normal pool throughout construction. Mr. Green also met with the contractor and ODNR to help develop a stable and effective cofferdam to allow the lake to remain at normal pool throughout construction. |
| 01/13 – 02/13 | **Chapman Dam Rehabilitation, Pleasant Township, PA.** ***Pennsylvania Department of General Services.*** Geotechnical Lead. Responsible for completing a geotechnical investigation and providing design recommendations for spillway replacement, retaining walls, drainage collection, drainage monitoring, and grout curtains. Michael Baker is performing analyses, providing permitting services, and developing designs and will perform construction administration for the rehabilitation of the Chapman Dam, located on the West Branch of Tionesta Creek, within Chapman State Park. Michael Baker is responsible for designing the renovations of the existing spillway and outlet works, addressing stability and seepage concerns with the embankment, and evaluating the dam's compliance with PADEP regulations regarding overtopping protection during the design event. |

## 16. Staff Experience:

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Mujahid Chandoo, PE** | *Years of relevant experience with this employer* | 17 |
| *Title* | Water Resources Engineer | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | B.S. / 2006 / Civil Engineering, California State University at Fullerton<br>A.S. / 2003 / Mathematics, Fullerton College | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0044045 / LA / 03/2024 | | |
| *Year registered* | 2019 | *Discipline* | Civil |
| *Contract role(s) / brief description of responsibilities* | Hydraulics & Hydrology Lead \| MPR 4 | | |

✓ Mr. Chandoo has extensive experience in surface water management projects. His areas of expertise include hydrology, hydraulics, sediment transport and advanced modeling. He has been involved with a variety of projects including, but not limited to, complex watershed and drainage master planning throughout California, storm drain and channel design, bridge hydraulic studies, and commercial and residential site improvements, Floodplain Management and FEMA Mapping, dam inundation studies, sediment transport modeling, environmental documentation, and large scale 2-dimensional floodplain studies. His computer modeling background includes the application of the Army Corps of Engineers HEC-RAS (River Analysis System) 1D/2D, HEC-FFA, HEC-HMS, Flo-2D. TR-55, Stormwater and Wastewater Management Model (XP-SWMM), PCSWMM, EPA SWMM, Bentley CivilStorm, Watershed Modeling System (WMS) and Advanced Engineering Software (AES) for hydrologic/hydraulic analysis in Southern California, Sediment Transport models include HEC-6T, and SAM. Mr. Chandoo uses the Geographical Information System (GIS) hydro applications in most of the hydrology and hydraulics software's. Mr. Chandoo has performed work, lead and managed projects for public and private sector clients ranging in complexity from small scale technical drainage studies to large public works projects, including planning, permitting, and coordination with federal, state, and local entities. He also delivered the presentation, "3D Flood Wave Animations for Emergency Action Planning" for the Association of State Dam Safety Officials (ASDSO) in New Orleans.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
|---|---|
| 01/23 - Present | **Louisiana Watershed Initiative (LWI-SPP- Group 1), Statewide, LA.** ***DOTD.*** Technical Lead. Michael Baker is providing engineering and modeling services to the DOTD for LWI-SPP Group 1. This project will analyze three separate dams and spillways in Southwest Louisiana in order to improve flood mitigation capabilities. Existing watershed and reservoirs will be modeled in HEC-HMS as well as HEC-RAS to analyze proposed improvements and determine downstream and upstream effects as well as efficiencies in reducing flood impacts to the watershed. $0.7M (Fee). |
| 01/23 - Present | **Louisiana Watershed Initiative Region 6, Statewide, LA.** ***DOTD.*** Technical Lead. Michael Baker is providing engineering and modeling services to the DOTD for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the second task order, Michael Baker supplemented data collection and analysis, continued stakeholder engagement services, and performed topographic, bathymetric, and channel surveys. |
| 01/23 - Present | **Louisiana Watershed Initiative Region 1, Multiple Parishes, LA.** ***DOTD.*** Technical Lead. Michael Baker is providing engineering and modeling services to a consulting firm tasked with complete modeling efforts for 3 HUC-8's in the LWI Region 1. Similar to Region 6 above, the project consists of the hydrologic and hydraulic modeling of 3 large HUC-8 Watersheds in the northwest part of the state. The modeling efforts include base model setup, calibration, validation, and technical reports. This task also included supplementing the model data with field topographic data of channels, bathymetric survey of water bodies, operational pump station data, operational lock and dam data, and tidal data. This task also involved stakeholder engagement, data management and the compilation of a quick guide for future model operation. |

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| 01/23 - Present | **Louisiana Watershed Initiative Region 4, Statewide, LA.** ***DOTD.*** Technical Lead. Michael Baker is providing engineering and modeling services to a consulting firm tasked with complete modeling efforts for a single HUC-8 watershed in LWI Region 4. Similar to Region 6 above, the project consists of the hydrologic and hydraulic modeling of 3 large HUC-8 Watersheds in the northwest part of the state. The modeling efforts include base model setup, calibration, validation, and technical reports. This task also included supplementing the model data with field topographic data of channels, bathymetric survey of water bodies, operational pump station data, operational lock and dam data, and tidal data. This task also involved stakeholder engagement, data management and the compilation of a quick guide for future model operation. An additional task order includes providing coastal data and analysis for 3 HUC-8 watersheds that are in coastal or coastal transition zones. |
| 10/11 - 09/13 | **Riverside North Aquifer and Storage Recovery Project, Riverside and, San Bernardino Counties, CA.** ***City of Riverside.*** Engineer. Responsible for preliminary design and environmental clearance for a rubber dam diversion on the Santa Ana River for the purposes of groundwater recharge. The project included both in channel and offline recharge basins for replenishment of the Rialto-Colton and Riverside-Arlington Groundwater Basins. A portion of the project included a tie-in to the state water project line as a method for recharging groundwater when native water is not available. The project also involved the preparation of an EIR. Michael Baker prepared an environmental impact report and provided topographic mapping and conceptual engineering support for the Riverside Groundwater Aquifer Storage and Recovery Project, to provide groundwater recharge facilities along the Santa Ana River. |
| 03/15 - 04/19 | **Stafford Dam Emergency Action Plan, Novato, CA.** ***North Marin Water District.*** Engineer. Responsible for hydrology and hydraulics analysis. Michael Baker performed dam breach scenario hydrology and hydraulic (H&H) modeling, GIS-based flood inundation mapping, emergency action plan (EAP) development, and an emergency response tabletop exercise facilitation for Stafford Dam. The client owns and operates the dam for water distribution and flood control; its failure would impact tens of thousands of residents and their homes as well as hundreds of businesses and public facilities. The dam failure inundation study used two-dimensional modeling to determine the potential areas of inundation and identify the time at which the floodwave would arrive after the dam failure. Additionally, a tabletop exercise of a simulated dam failure was conducted to collaborate with and train client staff and local first responders from stakeholder agencies to prepare for the unlikely event of failure. |
| 09/14 - 10/15 | **Whittier Narrows Dam, Los Angeles County, CA.** ***RVA Corporation.*** Project Engineer. Responsible for the dam operational considerations for both Water Replenishment District of Southern California and Los Angeles County Department of Public Works. Responsibilities included developing a HEC-RES SIM (reservoir simulation model) from the existing ACOE HEC-5 and including expanding stream flow record. The main objective of the studies was to increase groundwater recharge within Los Angeles County. Alternative analysis was performed to determine short-term and long-term benefits by changing the operations of the dam. Economic analysis was performed, including improvements to the dam, maintenance, and potential loss to recreation. |
| 10/12 – 01/16 | **Greenspot - Highland, Highland, CA.** ***LCD Greenspot, LLC.*** Engineer. Responsible for hydrology and hydraulics analysis. Michael Baker provided civil engineering services for the development of the 1,658-acre "Greenspot" property in the City of Highland in San Bernardino County. The property had originally been acquired as a borrow site for soils material needed during the construction of the Seven Oaks Dam as part of the Santa Ana River Project. The property was slated for a master planned community and the county required approval of a specific plan, preliminary engineering, and related environmental studies to obtain the highest and best use. |

**16. Staff Experience:**

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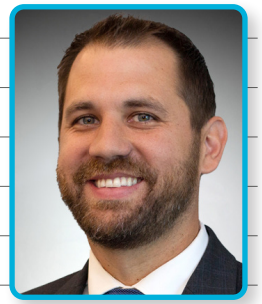
| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Brian Afek, PE** | *Years of relevant experience with this employer* | 10 |
| *Title* | Department Manager | *Years of relevant experience with other employer(s)* | 6 |
| *Degree(s) / Years / Specialization* | B.S. / 2006 / Civil Engineering/Geotechnical Engineering, The Ohio State University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0046671 / LA / 09/2024 | | |
| *Year registered* 2015 | *Discipline* Civil | | |
| *Contract role(s) / brief description of responsibilities* | Dam Analysis & Design Lead \| MPR 3 | | |



✓ Mr. Afek is experienced in water resource engineering, geotechnical engineering, construction management, and project management. He is well versed in the inspection, assessment, and design of dams and levees and is well qualified to support design projects in cases where geotechnical and general civil engineering studies are required. In addition to dams, Mr. Afek has an extensive background in foundation design, roadway analysis, and construction monitoring and testing. He has performed as a certified professional engineer, testing technician, inspector, field driller assistant, field supervisor, laboratory supervisor, and project manager over the course of his career. With this broad experience, he is also qualified to support field investigations and manage projects from preliminary design to construction. Mr. Afek is a member of the Association of State Dam Safety Officials (ASDSO) and the Ohio Dam Safety Organization (ODSO).

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 10/17 – 12/17 | **Hinckley Lake Dam Modifications, Hinckley, OH.** ***Cleveland Metroparks.*** Project Manager. Responsible for management of the project for preliminary design. Management responsibilities included budget, schedule, coordination, task management, permitting, preliminary design, presentations to the client and other agencies, public meetings, and field services supervision. The Hinckley Lake Dam Improvements project included providing a design with the most cost effective solution, maintaining the look of the existing spillway, incorporating the overall park into the design considerations, and meeting an expedited schedule. Michael Baker is providing engineering services to design modifications for Hinckley Lake Dam to ensure compliance with ODNR Dam Safety Regulations. The dam, in its current configuration, does not have adequate capacity to convey the Probable Maximum Flood design event over the spillway without overtopping the dam. Michael Baker is providing professional services to rehabilitate and modify the dam to meet ODNR regulations. These services include site investigation and assessment, hydrologic and hydraulic analysis, geotechnical analyses and assessment, alternatives evaluation, permitting, and rehabilitation design. |
| 11/18 – 05/22 (Estimated) | **Knox Dam Improvements, OH.** ***Ohio Department of Natural Resources.*** Project Manager. Responsible for acceptance of all parts of the design and management of the project from start to finish, including budget, schedule, coordination, task management, permitting, final design (future), and construction management (future). Also responsible for working closely with ODNR to successfully meet the client demands while staying under budget and on schedule. |
| 06/13 – 06/13 | **Dutch Fork Lake Dam Condition Assessment and Rehabilitation Design, Donegal Township, Washington County, PA.** ***Pennsylvania Fish and Boat Commission.*** Civil Engineer. Responsible for the review of construction documents and development of details and specifications. Michael Baker provided engineering services for rehabilitation of the Dutch Fork Lake Dam, owned by the Pennsylvania Fish and Boat Commission (PBFC), to ensure compliance with Pennsylvania Department of Environmental Protection regulations regarding spillway capacity and overtopping protection, as the dam could not convey the design event. The Dutch Fork Lake Dam was constructed in 1959 and creates Dutch Fork Lake, which was a heavily used recreational facility until PFBC breached the dam in 2005 after damage to the spillway occurred during Hurricane Ivan. Michael Baker's tasks included reviewing drawings and reports; field-inspecting all elements, including spillways and gatehouse structures; performing hydrologic and hydraulic analyses; performing topographical surveys and geotechnical investigations to evaluate current conditions; identifying and analyzing rehabilitation alternatives; developing designs; and providing construction management services. |

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| 08/15 – 11/19 | **Mount Gilead Dam Improvements, Mount Gilead, OH.** ***Ohio Department of Natural Resources.*** Project Manager. Responsible for full management of the project including budget, schedule, coordination, task management, permitting, final design, and construction management. Played a key role in the design and analysis of ODNR's first labyrinth in a state park. During construction, worked directly with the contractor to resolve issues or questions in the field which kept change orders to a minimum for the project and allowed the owner to reallocate the remaining budget for other park improvements. Michael Baker provided engineering services for the rehabilitation of Mount Gilead Lake upper and lower dams to ensure compliance with Ohio Department of Natural Resources' Dam Safety Regulations regarding spillway capacity. Based on the analyses performed on the lower dam, the existing spillway had inadequate capacity to convey the Probable Maximum Flood design flood without overtopping the embankment. Services included site and geotechnical investigations, hydrologic and hydraulic analyses, permitting, dam inspection, preliminary design analyses and rehabilitation recommendations, rehabilitation designs, and construction management and inspection services. |
| 12/14 – 05/15 | **Lake Loramie Dam Rehabilitation, Shelby County, OH.** ***Ohio Department of Natural Resources.*** Project Manager. Responsible for management of the project from final design to construction management. Management responsibilities included budget, schedule, coordination, task management, permitting, final design, presentations to the client and other agencies, public meetings, and construction management. The Lake Loramie Dam Improvements project presented many design challenges including: designing a spillway while maintaining lake level, designing a spillway that can mimic the existing hydraulic characteristics as closely as possible, minimal area for construction due to close property boundaries and environmental impacts, and an expedited schedule that required multiple agencies to cooperate in order to meet expectations. Michael Baker provided engineering services for the rehabilitation of Lake Loramie Dam as an interim risk reduction (IRR) project. The existing spillway has exhibited severe structural deterioration and was replaced with a labyrinth spillway adjacent to the existing spillway. Michael Baker's services included site and geotechnical investigation, hydrologic and hydraulic analysis, permitting, dam inspection, rehabilitation design, and construction management and inspection services. The improvements to the dam included select partial dam removal, embankment construction (including drainage filters), construction of labyrinth spillway, stilling basin, bank floodwall, control tower, placement of a pedestrian bridge over the spillway, and site upgrades to the immediate dam area. Normal pool was maintained throughout construction to limit the impact to the park, homeowners, and businesses surrounding the lake. The rehabilitations were completed as part of an IRR project due to the unsatisfactory structural condition of the existing spillway. |
| 10/16 – 04/16 | **Buckeye Lake Dam Improvements, Fairfield County, OH.** ***Ohio Department of Natural Resources.*** Civil Engineer. Assisted with design and permitting through the various stages of construction. Participated in select meetings and assisted with review of submittals and troubleshooting. Michael Baker provided engineering services to bring Buckeye Lake Dam into compliance with current regulations. Michael Baker's services included a site assessment, permitting, final design, and construction administration. |
| 03/16 – 05/16 | **Blue Rock State Park Dam Rehabilitation, Muskingum County, OH.** ***Confidential Client.*** Project Manager. As project manager and engineer of record, responsible for acceptance of all parts of the design and management of the project from final design to construction management. Management responsibilities included budget, schedule, coordination, task management, permitting, final design, presentations to the client and other agencies, and construction management. Michael Baker provided engineering services for the rehabilitation of Cutler Dam in Blue Rock State Park to ensure compliance with Ohio Department of Natural Resources Dam Safety Regulations regarding inadequate spillway capacity and overtopping protection. Michael Baker's services included site investigation, hydrologic and hydraulic analysis, permitting, dam inspection, rehabilitation design, and construction management and inspection services. |
| 07/18 – 10/20 | **Stewart Lake Dam Modifications, Chillicothe, OH.** ***Ohio Department of Natural Resources.*** Project Manager. Responsible for management of the project for the alternative evaluation and preliminary design. Management responsibilities included budget, schedule, coordination, task management, initial permitting, design, presentations to the client and other agencies, and field supervision. The Stewart Lake Dam Improvements project involved multiple disciplines and field work. Services included survey, underwater investigations, subsurface investigations, H&H evaluation, geotechnical evaluation, and structural evaluation to determine the appropriate rehabilitation option for the project. Michael Baker provided engineering services to evaluate Stewart Lake Dam and to provide options to remedy deficiencies identified during past dam inspections, which included the breaching of Stewart Lake Dam. The results of the evaluations and remedial options were summarized in an Alternative Evaluation Report that was submitted to the client for review. Additional services include hydrologic and hydraulic analyses and permitting assistance. |

**16. Staff Experience:**

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Prashanta Bajracharya, PhD** | *Years of relevant experience with this employer* | 1 |
| *Title* | Water Resources Engineer | *Years of relevant experience with other employer(s)* | 1 |
| *Degree(s) / Years / Specialization* | Ph.D., 2022, Civil Engineering, Water Resources, University of Maine<br>M.S., 2019, Civil Engineering, Water Resources, University of Maine | | |
| *Active registration number / state / expiration date* | N/A | | |
| *Year registered* | N/A | *Discipline* | Civil |
| *Contract role(s) / brief description of responsibilities* | Hydraulics & Hydrology | | |

✓ Mr. Bajracharya is a civil associate with experience in Hydraulics & Hydrology and GIS analysis. He is proficient in hydrologic and hydraulic modeling software such as HEC-RAS, HEC-HMS, TR-55. In addition, he has proficiency in GIS software such as ArcGIS and QGIS, and in programming languages such as R and Python. He has experience in natural channel design and storm water drainage modeling.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 01/22-Present | **Louisiana Watershed initiative Modeling Contract Region 6, Task Order 3, Lower Grand, West Central Louisiana Coastal Region 6, LA. *DOTD.*** Civil Associate. Michael Baker is performing hydrologic and hydraulic modeling for United States Geological Survey 8-digit cataloging unit subbasins Lower Grand and West Central Louisiana Coastal. These HUC 8s are in Louisiana Watershed Initiative Region 6. The contract includes data gap analysis, quality assurance/quality control, stakeholder engagement, topographic and bathymetric surveying, hydrometeorology and hydrography data, hydrological and hydraulic model developments, and data management. Michael Baker is developing a 2-D hydrological and hydraulic model of both HUC 8s utilizing rain-on-grid. |
| 07/22-Present | **Louisiana Watershed Initiative Modeling Contract - Region 6, LA. *DOTD.*** Civil Associate. Michael Baker is providing engineering and modeling services to the Louisiana Department of Transportation & Development (DOTD) for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the contract, Michael Baker is providing hydrologic and hydraulic modeling, data collection and analysis, stakeholder engagement, and surveying. |
| 01/23 - Present | **Louisiana Watershed Initiative Region 1, Multiple Parishes, LA. *DOTD.*** Engineer. Michael Baker is providing engineering and modeling services to a consulting firm tasked with complete modeling efforts for 3 HUC-8's in the LWI Region 1. Similar to Region 6 above, the project consists of the hydrologic and hydraulic modeling of 3 large HUC-8 Watersheds in the northwest part of the state. The modeling efforts include base model setup, calibration, validation, and technical reports. This task also included supplementing the model data with field topographic data of channels, bathymetric survey of water bodies, operational pump station data, operational lock and dam data, and tidal data. This task also involved stakeholder engagement, data management and the compilation of a quick guide for future model operation. |
| 05/17-09/17 | **Seawolf Parkway Reconstruction at Pelican Island Channel over Gulf Intracoastal Waterway (GIWW), Pelican Island Channel, Galveston County, TX. *Texas Department of Transportation.*** Engineer. Michael Baker is providing engineering services for the preparation of bridge layout alternatives and refinements for development for the Seawolf Parkway reconstruction project at the Pelican Island Channel. The scope of work includes vessel allision studies, coastal hydrodynamic analysis, drainage analysis and design for approach roadway sections, drainage studies, and roadway alignment. |

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| 08/16-02/17 | **Harris County Precinct 2 Drainage Improvement Needs Assessment and Project Development, Harris County, TX.** ***Harris County, Texas.*** Engineer. Michael Baker developed a drainage improvement needs assessment and project cost development for watershed areas within Precinct 2 limits in Harris County, Texas. The purpose of this study was to review the Community Development Block Grant Disaster Relief (CDBG-DR) studies that were conducted in eight watersheds of Precinct 2 and develop a prioritized list of 25 flood mitigation projects that can be implemented. For the nine watersheds that were not studied by the CDBG-DR grant, Michael Baker delineated 20 potential problem areas that are recommended for planning level study when funding becomes available. Tasks included project management; data collection; watershed study review and update; prioritization of candidate projects based on defined criteria and weightage; and project deliverable development. |

## 16. Staff Experience:

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Kushal Regmi, PE** | *Years of relevant experience with this employer* | 4 |
| *Title* | Water Resources Engineer | *Years of relevant experience with other employer(s)* | 3 |
| *Degree(s) / Years / Specialization* | M.S., 2019, Civil Engineering, University of Memphis<br>B.S., 2015, Civil Engineering, Tribhuvan University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 144568 / Texas / 09/23 | | |
| *Year registered* 2022 | *Discipline* | Civil | |
| *Contract role(s) / brief description of responsibilities* | Hydraulics & Hydrology | | |

✓ Mr. Regmi is a professional engineer focused on water resources engineering. He possesses strength in hydrologic and hydraulic modeling using a diverse array of hydraulic modeling techniques, including 1D, 2D, and complex 1D-2D coupled unsteady models. Mr. Regmi has a proven track record in delivering flood risk identification and watershed planning projects. His expertise extends to developing automation scripts and tools when dealing with large-scale GIS-based datasets to enhance process efficiency, and expedite project delivery while maintaining product quality. He is proficient in the application of GIS-based tools in the water resources domain

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 01/22-Present | **Louisiana Watershed initiative Modeling Contract Region 6, Task Order 3, Lower Grand, West Central Louisiana Coastal Region 6, LA. *DOTD.*** Civil Associate. Michael Baker is performing hydrologic and hydraulic modeling for United States Geological Survey 8-digit cataloging unit subbasins Lower Grand and West Central Louisiana Coastal. These HUC 8s are in Louisiana Watershed Initiative Region 6. The contract includes data gap analysis, quality assurance/quality control, stakeholder engagement, topographic and bathymetric surveying, hydrometeorology and hydrography data, hydrological and hydraulic model developments, and data management. Michael Baker is developing a 2-D hydrological and hydraulic model of both HUC 8s utilizing rain-on-grid. |
| 01/21-Present | **Louisiana Watershed initiative Region 4 - Task Order 2, LA. *DOTD.*** Civil Engineer. Responsible for leading the team in developing hydrologic and hydraulic model for Lower Sabine HUC8 watershed and coordinating the efforts with contract Prime Consultant. Led the development of approaches in preparing the HEC-HMS model for Texas portion of HUC08 boundary and HEC-RAS 2D Rain-on-Grid for Louisiana portion of the HUC08 boundary |
| 02/21-07/22 | **French Creek Natural Waterway Conveyance Improvement – PER and Design Services, Helotes, TX. *Bexar County.*** Engineer. Michael Baker was the prime contractor in developing a preliminary engineering report (PER) and construction documents in support of a project that will provide flood relief along French Creek. The project lies within a natural stream within the Edwards Aquifer recharge zone. Michael Baker developed environmentally acceptable ways to make improvements to the stream corridor between FM 1560 and Loop 1604. In addition, Michael Baker identified drainage improvements to the intersection of Diamond K Road and Bar X Trail. Michael Baker reviewed existing documents, performed a hydrology/hydraulic study requested a letter of map revision (LOMR), provided flood reduction and natural channel design, developed and analyzed alternatives, and prepared an opinion of probably costs. |
| 08/22-Present | **Lower Cibolo Creek Hydraulics and Floodplain Mapping Project, San Antonio, TX. *San Antonio River Authority.*** Engineer. Michael Baker is providing engineering services for the San Antonio River Authority (SARA) to develop hydraulic models, perform floodplain mapping (FPM), and develop flood risk products (FRP). For the project, it will provide surveying, hydraulic modeling, floodplain mapping and flood risk products, project management, and review for 334 stream miles in the Lower Cibolo Creek watershed.. |

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| 07/21-03/22 | **US 59 Hydrology and Hydraulics Project, Wharton County, TX.** ***Texas Department of Transportation.*** Civil Associate. Michael Baker provided design and engineering services for the reconstruction of US 59 from SH 60 to one mile south of FM 961. This project involves upgrading US 59 to a rural freeway standard since the route lies on the future I-69 corridor. The existing conditions consist of four lanes, divided, with a depressed median, while the proposed condition calls for six lanes, divided, with a median barrier. For the project, Michael Baker provided data collection, hydrologic and hydraulic modeling and analysis, and drainage designs. |

**16. Staff Experience:**

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Manoj KC, PhD, PE, CFM** | *Years of relevant experience with this employer* | 4 |
| *Title* | Water Resources Engineer | *Years of relevant experience with other employer(s)* | 5 |
| *Degree(s) / Years / Specialization* | Ph.D. / 2014 / Civil Engineering (Water Resources), Auburn University<br>M.S.E. / 2012 / Civil Engineering (Water Resources), Auburn University<br>B.E. / 2007 / Civil Engineering, Tribhuvan University, Pulchowk Campus | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 129638 / LA / 09/2023<br>Certified Floodplain Manager No. 3971-21N / TX | | |
| *Year registered* | 2018, PE; 2021, CFM | *Discipline* | Civil |
| *Contract role(s) / brief description of responsibilities* | Hydraulics & Hydrology | | |

✓ Dr. KC is a water resources engineer with diverse experience in applied surface water, H&H modeling research, civil and hydraulic engineering design, research experience in hydrogeomorphology, ecosystem and climate modeling. He has published several technical papers in peer-reviewed journals. His previous experiences include modeling for H&H Studies using HEC-HMS/HEC-RAS, FLO-2-D, TR-55, TR-20, StormCAD, XPSWMM, and ArcGIS, Dr. KC is also experienced in statistical analysis of large datasets; LiDAR point cloud pre/post processing; and programming using R, Visual Basic, Python, NCL, and Bash. Dr. KC excels at developing scripts to expedite the development of input data for HEC-HMS and HEC-RAS models. He has performed cloud based HEC-RAS modeling to expedite run times and impact analyses, as he did for a 200-mile 2-D model along the Rio Grande and delivered the completed study to USACE within schedule.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 11/20 – 05/23 (Estimated) | **Louisiana Watershed Initiative Modeling Contract - Region 6, LA.** ***DOTD.*** Water Resources Engineer. Responsible for providing support for the data collection and analysis of hydraulic datasets, models, and studies; and proposition of modeling design approaches for 4 HUC's of Region 6 for Louisiana Watershed Initiative (LWI). Michael Baker is providing engineering and modeling services to the DOTD for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the first task order of the contract, Michael Baker will collect existing watershed datasets, models, and studies, develop and propose a detailed modeling design approach with schedules and cost estimates, and prepare a data gap analysis and collection report. |
| 06/19 – 07/21 | **Programmatic Floodplain Modeling Impact Analysis Programs Support, Laredo, TX.** ***USACE, Fort Worth District.*** Water Resources Engineer. Responsible for hydraulic modeling to assess the impacts of proposed wall projects and to ensure that the U.S. Section of the International Boundary and Water Commission (USIBWC) criteria on no adverse impact can be met. An 80 miles complex 1-D/2-D riverine HEC-RAS model was developed for the impact assessment of fence/wall on the Rio Grande River which included H&H analysis, QC, floodplain analysis, and report. Created novel solutions for modeling which expedited project schedule and improved model accuracy. |
| 05/19 – 02/21 | **Laredo and Rio Grande H&H Analysis, Webb County, TX.** ***USACE, Fort Worth District.*** Water Resources Engineer. Responsible for hydraulic modeling for the assessment of the impacts of the proposed wall projects and to ensure that USIBWC criteria can be met. A complex 1-D/2-D HEC-RAS model of 150 miles long riverine model with more than 140 miles of proposed wall is being used for the assessment of fence/wall on both the Rio Grande River and its floodplain. |

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| 10/19 – 11/19 | **Vince Bayou Watershed Planning Project, Harris County, TX.** ***HCFCD.*** Water Resources Engineer. Responsible for the development of a high-level watershed master plan for the Vince Bayou watershed for CDBG Funding of 15MM. Developed rain-on-grid analyses and 1-D/2-D coupled models with NOAA Atlas 14 precipitation estimates for nine streams and seven tributaries, totaling approximately 21.3 miles to identify flood-prone areas. Prioritized problem areas and developed targeted mitigation alternatives and performed benefit-cost analysis for each alternative prioritizing projects with the best score and lowest environmental constraint. |
| 01/21 – 12/21 | **Subsidence Impacts on Spring Creek Watershed, Harris and Montgomery Counties, TX.** ***HGSD.*** Senior Engineer. Mr. KC incorporated subsidence into the 1-D/2-D models and developed impact analyses to reflect how subsidence will impact flood risk and infrastructure replacement costs in the watershed. Michael Baker is providing engineering services to evaluate the projected increases in flood risks and economic impacts of subsidence associated with multiple scenarios of groundwater withdrawal in the Spring Creek watershed. Michael Baker is providing data collection and analysis, developing H&H modeling for multiple subsidence scenarios, quantifying impacts, and preparing documentation for the study. |
| 06/19 – 05/22 | **Indefinite Delivery Indefinite Delivery Contract, TX.** ***USACE, Fort Worth District.*** Water Resources Engineer. Responsible for hydraulic modeling for the assessment the impacts of the proposed wall projects and to ensure that the USIBWC criteria can be met. Those criteria state that the design flood Water Surface Elevations (WSE), in proposed conditions, shall not increase more than 6-inches in rural areas or 3-inches in urban areas when compared to the existing floodplain conditions (existing condition with no wall) and have no more than a 5% increase in flow deflection. The model named as RGV-63 spans from the outlet of Falcon Dam to Penitas (RGV07-RGV08-RGV09), along USBP Zones 1 through 5 was modeled for the impact analysis of the 63-miles of proposed bollard wall along the Rio Grande from Falcon Dam to Penitas in Texas. A complex 1-D/2-D HEC-RAS model of 90 miles long 1-D riverine model integrated with 186 square miles 2-D Model with 63 miles of proposed wall is being used for the assessment of fence/wall on both the Rio Grande River and its floodplain. |
| 06/21 – 08/21 | **Placer County Flood Risk Project, Auburn, CA.** ***Placer County Flood Control and Water Conservation.*** Water Resources Engineer. Responsible for guiding the development of 1D/2D HEC-RAS models for 11 mile stretch of Markham Ravine. The objective of this Flood Risk Project is to support development and finalization of select Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) reports for Placer County. Five new detailed studies for the watersheds of Coon Creek, Doty Ravine, Blackwood Creek, Tahoe Vista Creek and Griff Creek will be prepared while existing, effective detailed studies for six other watersheds (including South Branch Pleasant Grove Creek, Secret Ravine Upper Fork/Loomis Tributary, Dry Creek, Cirby Creek, Linda Creek and Markham Ravine) will be revised and finalized. Letter of Map Revision (LOMR) applications will also be incorporated, if available. |
| 07/19 – 07/19 | **Cypress Regional Drainage Plan, Harris County, TX.** ***Harris County Flood Control District.*** Water Resources Engineer. Responsible for reviewing 1D and 2D unsteady HEC-RAS models for different sub-watersheds of Cypress Creek Watershed. Michael Baker updated a drainage master plan for Cypress Creek tributary watersheds in northwest Harris County and expanded it to include Cypress Creek. As part of this fast-paced project, Michael Baker harnessed advances in modeling capabilities and more recent LiDAR and rainfall data to update a study prepared in 2003 for all Cypress Creek Tributary watersheds, except for Little Cypress Creek. Michael Baker studied 17 streams in the eight tributary watersheds to evaluate feasible flood mitigation alternatives and recommended mitigation plans that can be advanced to design. It also evaluated the effectiveness of large regional detention ponds along 27 miles of Cypress Creek at Eldridge Parkway and at Stuebner Airline Road. Michael Baker's tasks included data collection, review, structure inventory updating, and a site visit; developing revised existing and future hydrologic and hydraulic models; developing drainage plans; performing an EA; natural channel design (NCD); and project coordination and meetings. |

## 16. Staff Experience:

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Aaron Dunavant, PE** | *Years of relevant experience with this employer* | 2 |
| *Title* | Civil Engineer | *Years of relevant experience with other employer(s)* | 7 |
| *Degree(s) / Years / Specialization* | B.S. / 2015 / Biological and Agricultural Engineering, Texas A&M University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 47578 / LA / 09/2023 | | |
| *Year registered* 2023 *Discipline* | Civil | | |
| *Contract role(s) / brief description of responsibilities* | Hydraulics & Hydrology | | |

✓ Mr. Dunavant has experience in Hydraulics & Hydrology and Natural Channel Design. He is experienced in HEC-RAS modeling, CAD design, and ArcGIS projects. He has utilized those skills to create natural channel designs for mitigation bank and erosion projects.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 01/22-Present | **Louisiana Watershed Initiative Region 6, Task Order 3, Lower Grand, West Central, LA.** ***DOTD.*** Michael Baker is performing hydrologic and hydraulic modeling for United States Geological Survey 8-digit cataloging unit subbasins Lower Grand and West Central Louisiana Coastal. These HUC 8s are in Louisiana Watershed Initiative Region 6. The contract includes data gap analysis, quality assurance/quality control, stakeholder engagement, topographic and bathymetric surveying, hydrometeorology and hydrography data, hydrological and hydraulic model developments, and data management. Michael Baker is developing a 2-D hydrological and hydraulic model of both HUC 8s utilizing rain-on-grid. |
| 09/21-Present | **Louisiana Watershed Initiative Region 6 Task Order 2, LA.** ***DOTD.*** Hydraulic Engineer. see Self Service Michael Baker is providing engineering and modeling services to the DOTD for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the second task order, Michael Baker supplemented data collection and analysis, continued stakeholder engagement services, and performed topographic, bathymetric, and channel surveys. |
| 05/22 – 01/23 | **Parish Comprehensive Drainage Plan, St.Tammany Parish, LA.** ***St.Tammany Parish.*** Water Resources Engineer. Michael Baker conducted a comprehensive drainage plan for the Saint Tammany Parish located on the north shore of Lake Pontchartrain, Louisiana. The plan evaluated the existing state of drainage in the parish including flood risk, water quality and development guidelines, recommended capital projects, and potential policy changes that would lead to reduced flood damaged and increased safety. The Michael Baker team provided data gathering efforts, ranked list of problem areas and provided four (4) in-person public and stakeholder outreach throughout Phase I of this project. |
| 09/21 – 11/21 | **Harris County Precinct 2 Drainage Improvement Needs Assessment and Project Development, Harris County, TX.** ***Harris County Flood Control District.*** Civil Associate. Assisted Engineers with researching reports for relevant project data. Created attribute tables in ArcGIS for client. Michael Baker developed a drainage improvement needs assessment and project cost development for watershed areas within Precinct 2 limits in Harris County, Texas. The purpose of this study was to review the Community Development Block Grant Disaster Relief (CDBG-DR) studies that were conducted in eight watersheds of Precinct 2 and develop a prioritized list of 25 flood mitigation projects that can be implemented. For the nine watersheds that were not studied by the CDBG-DR grant, Michael Baker delineated 20 potential problem areas that are recommended for planning level study when funding becomes available. Tasks included project management; data collection; watershed study review and update; prioritization of candidate projects based on defined criteria and weightage; and project deliverable development. |

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| 11/19 – 12/20 | **Buffalo Bayou Geomorphic Channel Stability and Rehabilitation Assessment, Houston, TX.** ***Buffalo Bayou Partnership and Harris County Flood Control District.*** Project Engineer, CAD Designer. Map the existing erosion conditions on Buffalo Bayou from Shepherd to Jensen using GPS device. Create assessment maps using GIS Software. Update report figures and maps for all recommended projects. The purpose of the project is to provide a fluvial geomorphic assessment that investigates an understanding of the physical processes responsible for channel form and adjustment of Buffalo Bayou and its riparian zones in the study area with the objective to improve the overall stability and resilience to future hydrologic and hydraulic stressors. November 2019 to December 2020. |

## 16. Staff Experience:

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Chris Tagert, PE, CFM** | *Years of relevant experience with this employer* | 18 |
| *Title* | Water Resources Engineer | *Years of relevant experience with other employer(s)* | 8 |
| *Degree(s) / Years / Specialization* | B.S. / 1996 / Civil Engineering/Environmental Engineering, Pennsylvania State University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 38278 / Colorado / 10/2023<br>Certified Floodplain Manager No. US-01-003322001 / Nationwide | | |
| *Year registered* | 2004, PE; 2001, CFM | *Discipline* | Civil |
| *Contract role(s) / brief description of responsibilities* | Dam Analysis & Design | | |

✓ Mr. Tagert, as Michael Baker's water resource lead in Colorado, has extensive experience reviewing flood ordinances related to local land use, including assessing and providing flood ordinance recommendations to the Southeast Metro Stormwater Authority and City of Lincoln, Nebraska, and contributing to the re-write of the Land Use Code in Boulder County, Colorado, as part of his work on the 2013 Flood Recovery project. He has led recovery efforts for many natural disasters throughout his career. Mr. Tagert was the Project Manager for Michael Baker's comprehensive response and recovery work in Boulder County in response to the September 2013 floods. In this role he oversaw field assessments, analysis of county-wide flood risks, identification/prioritization of recovery projects (including aggradation remediation plans), outreach and other public meetings, on-site staffing support, and implementation of flood recovery projects. Mr. Tagert has experience in program management, water resources engineering, and response to natural disasters. Chris managed the production of FEMA Flood Studies for Michael Baker's Denver office during Map Modernization and Risk MAP. In this role, Mr. Tagert scoped, scheduled, and budgeted over 20 projects each year. His foundational background includes floodplain modeling and analysis for riverine and coastal hazards, stormwater design, master planning, stream restoration, urban drainage design, development of customized GIS and other technology solutions, and an emphasis on the communication and outreach. Mr. Tagert has managed subcontractors and stakeholders on municipal and federal contracts for over a decade, managing on-average over $8M in annual contract value during Risk MAP, and understands how to tailor project coordination and delivery.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 03/09 – 04/12 | **On-Call Floodplain Management Services Contract, Centennial, Colorado.** ***Southeast Metro Stormwater Authority (SEMSWA).*** Project Manager. Responsible for the analysis of existing CRS programs, creating the evaluation methodology for current and potential future CRS performance, and preparation of CRS applications for two municipalities. Michael Baker provided on-call engineering services under the second consecutive floodplain management services agreement. Michael Baker's services included National Flood Insurance Program Municipal Community Rating System evaluations, a city land development code assessment, and development of a comprehensive public outreach plan to raise flood risk awareness. |
| 10/04 – 09/14 | **Regional Task Orders for the Flood Map Modernization Program, Nationwide.** ***FEMA.*** Production Supervisor. Responsibilities include ad-hoc consulting. Michael Baker is performing various tasks leading to the development of digital flood insurance rate maps (DFIRM) and supporting the Map Modernization program in all 10 FEMA Regions. Support tasks include maintenance and management of the web-based Mapping Information Portal (MIP), outreach, cooperating technical partner coordination, coastal guideline and specification updates, technical assistance, project monitoring, support and attendance at conferences, training, post-preliminary support, physical map revisions, floodplain boundary standard documentation, levee research and database support, and other general technical support. |

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| 10/12 – 08/15 | **Countywide Digital Flood Insurance Rate Map Conversion and Floodplain Remapping, Sweet Grass County, Montana.** ***Montana Department of Natural Resources and Conservation.*** Production Supervisor. Responsible for programmatic oversight. Michael Baker provided professional services as needed to complete a Digital Flood Insurance Rate Map (DFIRM) conversion. Michael Baker incorporated existing data studies (including a U.S. Army Corps of Engineers study for the entire reach of the Yellowstone River), converted paper floodplain mapping into a GIS-based digital format, incorporated Letters of Map Change (LOMC), and re-delineated floodplain boundaries using better topographic data. Michael Baker performed field surveys, collected and developed topographic data, and acquired base maps; reviewed hydrologic and hydraulic data for existing data studies; developed floodplain mapping; produced the DFIRM database; developed and distributed preliminary map products; and provided post-processing services, including facilitation of community meetings. |
| 09/11 – 11/15 | **Risk MAP Regional Technical Support, Nationwide.** ***US Federal Emergency Management Agency (FEMA), Region VI.*** Production Supervisor. Responsible for programmatic oversight. Michael Baker is providing production and technical services support to the agency's headquarters and Regions IV, VI, VIII, and IX under the Risk Mapping, Assessment, and Planning Program. Michael Baker's services include technical support for Texas and Louisiana coastal studies, appeal resolution for a preliminary map revision, preliminary digital flood insurance rate map and flood insurance study printing and distribution for 16 Texas coastal studies, and post-preliminary processing for 47 flood insurance studies. |
| 12/13 – 12/17 | **Flood Recovery Planning and Implementation, Boulder County, Colorado.** ***Boulder County, Colorado Purchasing.*** Project Manager. Responsible for managing floodplain consulting services, including resource allocation, quality, and client satisfaction. Michael Baker provided onsite support, planning, and flood recovery services in response to the September 2013 floods, supporting the county's Floodplain Permitting and Comprehensive Creek Planning programs. Through onsite floodplain permitting work, Michael Baker reviewed and provided assessments of proposed flood recovery projects throughout the county and participated in discussions on policy implementation and development for the on-the-ground conditions created in the aftermath of the floods. Michael Baker also supported the Comprehensive Creek Planning initiative, including facilitating kickoff meetings attended by more than 650 residents; evaluating more than 3,000 reported damage points; and performing field assessments on over 90 miles of creeks, resulting in the identification of more than 200 high hazard sites throughout the county. Michael Baker developed implementation plans for each creek within the county, identifying on a reach-by-reach basis the projects that will be implemented to reduce the risk of flooding or damage to homes and infrastructure due to spring runoff and summer rainfall seasons. |

**16. Staff Experience:**

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Joe Kudritz, PE** | *Years of relevant experience with this employer* | 15 |
| *Title* | Civil Engineer | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | Graduate Studies, Water Resources and Environmental Engineering, University of Pittsburgh<br>B.S. / 2007 / Civil Engineering, Geneva College | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 080657 / Pennsylvania / 09/2023 | | |
| *Year registered* 2013 | *Discipline* | Civil | |
| *Contract role(s) / brief description of responsibilities* | Dam Analysis & Design | | |

✓ Mr. Kudritz will serve as the Hydrology and Hydraulics Lead and will be responsible for establishing hydraulic design criteria and designing hydraulic modifications. Mr. Kudritz is a Water Resources Engineer experienced in hydrologic and hydraulic computer modeling and design for dams and other hydraulic structures. He has performed an integral role in a variety of dam rehabilitations and has lead or supported the hydrology and hydraulics analysis and design for PFBC dams, PADCNR dams, Lake Loramie, Mount Gilead, Blue Rock, Stewart Lake, Knox Lake, and other projects. Mr. Kudritz is well versed in all aspects of dam rehabilitation, rehabilitation designs, and dam safety inspections. Mr. Kudritz has also been active with Association of State Dam Safety Officials (ASDSO) and presented and authored technical proceedings for the 2017, 2018, and 2019 National Conferences. In 2017, Mr. Kudritz presented on proper waterstop design, selection, and installation aimed at maintaining the integrity of water retaining structures. In the same year, Mr. Kudritz coauthored a presentation on 3-D modeling techniques that provide visualization tools and increase clarity for the owner, public, and major stakeholders.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 12/18 – 05/22 (Estimated) | **Knox Dam Improvements, OH.** ***Ohio Department of Natural Resources.*** Technical Lead. Responsible for the overall technical direction of the project. Specific tasks included updating the H&H analyses, summarizing the results in the study and verification report, and coordinating the analyses performed by the structural and geotechnical disciplines. During the final design stages, oversaw the design of the spillway rehabilitation and developed construction documents, participated in multiple with coordination meetings with the CMR contractor and assisted with the transition to the new contractor. Involved through construction and has reviewed construction submittals, reviewed RFIs, and performed site inspections. |
| 12/14 – 05/15 | **Lake Loramie Dam Rehabilitation, OH.** ***Ohio Department of Natural Resources.*** Project Design Lead and Hydrologic and Hydraulic Lead. Responsible for leading the design of Lake Loramie Dam replacement and overseeing the hydraulic and hydrologic analysis for the existing and proposed dam. The labyrinth spillway to mimic existing flows up to the 100-year design event while providing additional capacity to convey the PMF event. Mr. Kudritz also oversaw the development of the updated EAP. Due to site constraints, the replacement spillway was designed adjacent to the existing structure and phased to maintain normal pool throughout construction. Mr. Kudritz oversaw the development of final construction drawings, which incorporated all structural and geotechnical aspects of the dam construction and developed conceptual construction sequencing and phasing plans. |
| 03/16 – 12/18 | **Blue Rock State Park Cutler Dam Rehabilitation, OH.** ***Ohio Department of Natural Resources.*** Project Design Lead and Hydrologic and Hydraulic Lead. Responsible for overseeing the design of dam replacement and performing the hydraulic and hydrologic analysis for the existing and proposed dam. The labyrinth spillway was designed to mimic existing flows up to the 100-year design event while providing additional capacity to convey the PMF event without overtopping the embankment. Mr. Kudritz also oversaw the development of the updated EAP. The replacement spillway design considered various site constraints including the close proximity to an active sanitary treatment plant and active water and electric utility lines below the spillway. Mr. Kudritz oversaw the development of final construction drawings, which incorporated all structural and geotechnical aspects of the dam construction and developed conceptual construction sequencing and phasing plans. |

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| 10/17 – 04/22 | **Hinckley Lake Dam Modifications, OH.** ***Cleveland Metroparks.*** Project Design Lead and Hydrologic and Hydraulic Lead. Responsible for overseeing the design of dam rehabilitation and performing the hydraulic and hydrologic analysis for the existing and proposed dam. The preliminary design is complete with the client electing to pursue stabilizing the existing spillway by adding mass concrete and containing the PMF by raising the earthen embankment. Mr. Kudritz will oversee the development of final construction drawings once final design commences. |
| 03/15 – 12/25 (Estimated) | **Somerset Lake Dam Renovations, Somerset Township, PA.** ***Pennsylvania Fish and Boat Commission.*** Civil Engineer. Responsible for overseeing the H&H analysis of Somerset Lake and for leading the design of the replacement labyrinth spillway. Other responsibilities included task manager for the preparation of construction documents and overseeing construction administrations tasks. Involved in the design submission meetings with the client and dam safety and has provided construction administration services that included review of construction submittals and response to RFIs. Michael Baker is providing engineering services for the Somerset Lake Dam, owned by the Pennsylvania Fish and Boat Commission (PFBC), to ensure compliance with Pennsylvania Department of Environmental Protection regulations. Somerset Lake Dam was constructed in 1956 and creates Somerset Lake, which is a heavily used recreational facility. Michael Baker's tasks include reviewing drawings and reports; field-inspecting all elements, including spillways and gatehouse structures; performing a hydrologic and hydraulic analysis; performing a topographical survey, geotechnical investigation, and structural analysis to evaluate current conditions; identifying and analyzing rehabilitation alternatives; and providing construction management services. |
| 09/16 – 09/17 | **Lakeview Dam Redevelopment, Bridgeville, PA.** ***Lakeview Christian Life Church.*** Project Manager. Responsible for the removal of the existing dam and redevelopment of the former lake area. Coordinated the various design and permitting leads, oversaw the technical design, finalized the construction documents (drawings and specifications), assisted the client with the selection of a suitable contractor, and provided construction administration services. |
| 09/17 – 11/18 | **Stewart Lake Dam Modifications, Chillicothe, OH.** ***Ohio Department of Natural Resources.*** Civil Engineer. In collaboration with the design team, performed an inspection and assessment of Stewart Lake Dam and developed a Preliminary Evaluation Report. Served as the Hydrologic and Hydraulic lead and was responsible for analyzing the hydraulic capacity of the existing structure and determining the impacts to the downstream inhabitants after the dam was breached. Served as the technical design lead to develop dam removal construction documents. Michael Baker provided engineering services to evaluate Stewart Lake Dam and to provide options to remedy deficiencies identified during past dam inspections, which included the breaching of Stewart Lake Dam. The results of the evaluations and remedial options were summarized in an Alternative Evaluation Report that was submitted to the client for review. Additional services include hydrologic and hydraulic analyses and permitting assistance. |
| 01/21 – 12/25 (Estimated) | **Rehabilitation of Five Pennsylvania Dams, Various Locations, PA.** ***Pennsylvania Fish & Boat Commission.*** Project Manager. Leading the development of hydrologic and hydraulic analysis. GIS mapping and development of design alternatives. Michael Baker is providing engineering services to bring five dams into compliance with Pennsylvania Department of Environmental Protection regulations. Michael Baker's services include dam inspections, hydrologic and hydraulic evaluations, geotechnical investigations, structural assessments, alternatives analyses, dam-break modeling, inundation mapping, permitting, agency coordination, and construction services. |

## 16. Staff Experience:

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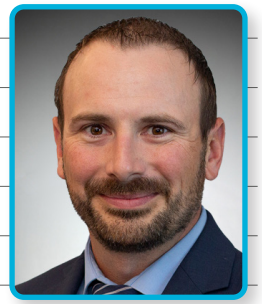
| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Ed Kaminski, PE** | *Years of relevant experience with this employer* | 19 |
| *Title* | Civil Engineer | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | B.S. / 2007 / Civil Engineering, Pennsylvania State University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 077506 / Pennsylvania / 09/2023 | | |
| *Year registered* 2010 | *Discipline* Civil | | |
| *Contract role(s) / brief description of responsibilities* | Dam Analysis & Design | | |



✓ Mr. Kaminski is a professionally licensed civil engineer with 15 years of experience in dam design and rehabilitation, stream restoration, environmental permitting, hydrologic and hydraulic design, and construction with water resource-related civil engineering projects. He performed integral roles on water resource projects relating to dam rehabilitation, dam removal, natural channel design, dam breach analysis, stream restoration, stream bank stabilization stormwater management, site development, and highway infrastructure projects. For these projects, he has prepared feasibility studies, geomorphological surveys, watershed assessments, environmental permits, hydrologic and hydraulic reports, flood studies, emergency action plans, and stormwater analyses. He is well versed in the latest hydraulic and hydrologic modeling software including HEC-HMS, HEC-RAS, ArcGIS, Hydraflow Hydrographs; and has developed multiple project specific excel routines programs that utilize historical gage data for flood studies and water supply projects. He has served as the project manager and/or senior hydrology and hydraulics lead on these projects and was responsible for the technical design aspects regarding water resources and civil engineering.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 03/09 – 09/19 | **Rehabilitation of Donegal Lake Dam; Donegal Township, PA.** ***Pennsylvania Department of General Services.*** Project Manager. Developed hydrologic/hydraulic model of the existing dam at Donegal Lake. Prepared design for rehabilitation of the existing outlet structure, spillway reconstruction, and roller compacted concrete overtopping protection. Michael Baker provided engineering services for rehabilitation of the Donegal Lake Dam to ensure compliance with Pennsylvania Department of Environmental Protection regulations for spillway capacity and overtopping protection during the design event. Donegal Lake Dam, located in Westmoreland County, Pennsylvania, is owned by the Pennsylvania Fish and Boat Commission. The dam was constructed in 1967 and creates Donegal Lake, which is a heavily used recreational facility. Michael Baker's tasks included reviewing existing drawings and reports; performing a field assessment, hydrologic and hydraulic analysis, topographical survey, and subsurface investigation to evaluate the current condition of the dam; identifying and screening alternatives and developing remediation designs and cost estimates; permitting; and providing construction oversight. Michael Baker is also providing construction administration services, including using eBuilder. |
| 02/09 – 10/19 | **Rehabilitation of Kyle Lake Dam; Washington Township, PA.** ***Pennsylvania Department of General Services.*** Project Manager. Developed hydrologic/hydraulic model of the existing dam at Kyle Lake. Prepared design for articulated concrete block overtopping protection and rehabilitation of the existing spillways and outlet structure. Michael Baker provided engineering services for the Kyle Lake Dam, owned by the Pennsylvania Fish and Boat Commission, to ensure compliance with Pennsylvania Department of Environmental Protection regulations regarding spillway capacity and overtopping protection, as the dam could not convey the design event. The Kyle Lake Dam, located in Jefferson County, Pennsylvania, was constructed in 1910 and creates Kyle Lake, a heavily used recreational facility. Michael Baker's tasks included reviewing drawings and reports; field-inspecting all elements, including spillways and gatehouse structures; performing a hydrologic and hydraulic analysis; performing a topographical survey, geotechnical investigation, and structural analysis to evaluate current conditions; identifying and analyzing rehabilitation alternatives; permitting; and construction administration services using eBuilder. |

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| 03/15 – 12/25 (Estimated) | **Somerset Lake Dam Renovations; Somerset Township, PA.** ***Pennsylvania Department of General Services.*** Project Manager. Developed hydrologic/hydraulic model of the existing dam at Somerset Lake. Prepared design for labyrinth spillway and rehabilitation of the existing outlet structure. Michael Baker is providing engineering services for the Somerset Lake Dam, owned by the Pennsylvania Fish and Boat Commission, to ensure compliance with Pennsylvania Department of Environmental Protection regulations. Somerset Lake Dam was constructed in 1956 and creates Somerset Lake, which is a heavily used recreational facility. Michael Baker's tasks include reviewing drawings and reports; field-inspecting all elements, including spillways and gatehouse structures; performing a hydrologic and hydraulic analysis; performing a topographical survey, geotechnical investigation, and structural analysis to evaluate current conditions; identifying and analyzing rehabilitation alternatives; permitting; and construction administration services using eBuilder. |
| 03/09 – 05/13 | **Dutch Fork Lake Dam Condition Assessment and Rehabilitation Design; Donegal Township, Washington County, PA.** ***Pennsylvania Department of General Services Hydraulic Engineer.*** Developed hydrologic/hydraulic model of the existing dam at Dutch Fork Lake. Prepared design for rehabilitation of the existing outlet structure, spillway reconstruction, and roller compacted concrete overtopping protection. Michael Baker provided engineering services for rehabilitation of the Dutch Fork Lake Dam, owned by the Pennsylvania Fish and Boat Commission (PFBC), to ensure compliance with Pennsylvania Department of Environmental Protection regulations regarding spillway capacity and overtopping protection, as the dam could not convey the design event. The Dutch Fork Lake Dam was constructed in 1959 and creates Dutch Fork Lake, which was a heavily used recreational facility until PFBC breached the dam in 2005 after damage to the spillway occurred during Hurricane Ivan. Michael Baker's tasks included reviewing drawings and reports; fieldinspecting all elements, including spillways and gatehouse structures; performing hydrologic and hydraulic analyses; performing topographical surveys and geotechnical investigations to evaluate current conditions; identifying and analyzing rehabilitation alternatives; developing designs; and construction management. |
| 01/17 – 12/18 | **Dam Breach Modeling-Fords Pond & Stevens Lake, Lackawanna and Wyoming County, PA.** ***Pennsylvania Fish and Boat Commission.*** Project Manager. Michael Baker performed a dam breach analysis for Fords Pond and Stevens Lake dams for the Pennsylvania Fish and Boat Commission. This project included; performing a review of current PADEP HEC-1 model and findings; preparing hydrologic analysis of the existing watershed to the dams as well as the contributing tributary watersheds within the flood inundation limits; and preparing a hydraulic model of Fords Pond and Stevens Lake dams, adjacent roadways, roadway crossing structures, and receiving floodplains for the purposes of analyzing the effects of the dam breaches with respect to design storm event and flooding at the downstream residences. |
| 11/16 – 03/17 | **Trostle Pond Dam Analysis, Lackawanna County, PA.** ***DCNR.*** Project Manager. Responsible for managing preparation of dam break analysis as well as preparation and QAQC of project deliverables. Michael Baker performed a hydrologic and hydraulic dam break analysis using state-of-the-art modeling programs and geographic information system technology to produce an accurate and reliable model of Trostle Pond Dam. Michael Baker prepared inundation mapping using a site survey and Pennsylvania Spatial Data Access LiDAR to create a three-dimensional model of the flooding limits, aiding in public safety and future dam rehabilitation efforts. Michael Baker coordinated with regulatory agencies to fast-track the model review and approval. |
| 10/15 – 12/15 | **Harris Pond Dam Analysis, PA.** ***Pennsylvania Fish and Boat Commission.*** Project Manager. Prepared hydrologic and hydraulic dam break analysis. Michael Baker performed a dam break analysis at Harris Pond for the Pennsylvania Fish and Boat Commission. This project included; performing a review of current PADEP HEC-1 model and findings; preparing hydrologic analysis of the existing watershed to the dam as well as the contributing tributary watersheds within the flood inundation limits; and preparing a hydraulic model of a Harris Pond Dam, adjacent roadway, roadway culvert structure, and receiving floodway for the purposes of analyzing the effects of the dam breach with respect to design storm event and flooding at the downstream residences. |

**16. Staff Experience:**

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Chris Gesing, PE** | *Years of relevant experience with this employer* | 43 |
| *Title* | NEPA/Permits Coordinator | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | M.S. / 1984 / Civil Engineering, Youngstown State University<br>B.E. / 1980 / Civil Engineering, Youngstown State University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0026996 / LA / 03/2024 | | |
| *Year registered* 1996 *Discipline* | Civil/Environmental | | |
| *Contract role(s) / brief description of responsibilities* | Environmental Lead | | |

✓ As a registered professional engineer and skilled NEPA practitioner, Mr. Gesing adeptly understands the nuances of both disciplines. His 40-plus years' experience includes transportation planning; highway, bridge design; environmental compliance; mitigation and stakeholder outreach. Mr. Gesing manages complex NEPA studies for urban and rural transportation infrastructure mega-projects with construction costs routinely exceeding $1 billion. He has been continuously servicing the DOTD and Louisiana MPOs for the past 25 years. He has been the Project Manager and Environmental Lead on five of DOTD's most challenging Stage 1 (NEPA) studies including the LA 1 Improvements (Golden Meadow to Port Fourchon) EIS/ROD, which received the 2004 AASHTO President's Transportation Award for Environment and was nationally recognized as a model for environmental stewardship and streamlining. He authored DOTD's initial Stage 1 (Planning/Environmental) Manual of Standard Practice and is a LTRC and ASCE-approved NEPA instructor. Mr. Gesing is a former member of the Transportation Research Board (TRB) Committee on Environmental Analysis in Transportation (NEPA Committee) and served as the Steering Subcommittee Chair. Mr. Gesing will provide value add expertise should any environmental impacts to the project arise.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 09/99 – 09/04 | **700-29-0112: LA 1 Improvements Alternatives Analysis and Environmental Impact Statement, EIS/ROD, Lafourche Parish, LA. *DOTD.*** Project Manager and Environmental Lead for a $1.3 billion, 17-mile four-lane fully controlled access elevated highway on new location with bridges spanning navigable waterways. Michael Baker conducted the route location, conceptual engineering, and environmental evaluation. The project area encompassed some of the most ecologically unique and sensitive areas in Louisiana, and perhaps the Nation, and traversing the area with a highway on new location presented major environmental challenges. The project received national attention for its environmental stewardship and streamlining accomplishments and was the recipient of the 2004 AASHTO President's Transportation Award for Environment. |
| 07/11 – Ongoing | **H.005168: New Orleans Rail Gateway EIS, Jefferson and Orleans Parishes, LA. *DOTD.*** Project Manager and Environmental Lead for $638 million in improvements to the New Orleans Rail Gateway, the fourth-largest freight rail gateway in the United States. Michael Baker's services include environmental and engineering services, geographic information system (GIS) development, mapping, rail and roadway travel demand modeling, alternatives analyses, rail and roadway conceptual design, cost estimates, document preparation, stakeholder and agency coordination including FRA, DOTD, New Orleans Regional Planning Commission, seven Class 1 railroads, Amtrak, NOPB, City of New Orleans, Jefferson Parish, the Port of New Orleans and federal/state resource agencies, and extensive public and minority community outreach. |
| 04/01 – 11/14 | **I-69 Section of Independent Utility #15 EIS/ROD, Louisiana (HPC 18 US 171 to I-20), Bossier, Caddo and DeSoto Parishes, LA. *DOTD.*** Project Manager and Environmental Lead for a Stage 1 study of a $1.7 billion, 35-mile interstate facility on new location between U.S. Highway 171 (U.S. 171) near Stonewall in DeSoto Parish, and I-20 near Haughton in Bossier Parish. Michael Baker conducted a preliminary engineering and environmental study for I-69 Section of Independent Utility (SIU) 15 including conceptual Red River Bridge design and navigable waterway studies, interchange justification studies (IJS), Phase I Cultural Resources Assessment including probability modeling for archaeological resources and geoarchaeological study, wetland delineation and surface waters evaluations, Phase I Environmental Site Assessment (ESA), highway traffic noise studies, Endangered Species Act Section 7 consultation and Interior least tern (ILT) and Red-cockaded woodpecker (RCW) biological assessments. |

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| 03/09 – 05/13 | **East-West Corridor EA/FONSI, Bossier Parish, LA.** ***Northwest Louisiana Council of Governments.*** Project Manager and Environmental Lead for a new location eight-mile, two-lane urban collector with right-of-way clearance for future widening to a five-lane facility when traffic conditions warrant. The purpose of the new $56 million facility was to alleviate congestion and reduce travel delays along the other roadways that link the rapidly growing residential areas of Bossier Parish with the Shreveport and Bossier City employment centers.Michael Baker's services included traffic analyses including conducting traffic counts and forecasting traffic using NLCOG's TransCAD regional travel demand model (TDM); Phase I Cultural Resources Assessment including probability modeling for |
| 08/02 – 12/06 | **Stage 1 – Planning/Environmental Manual of Standard Practice, Statewide, LA.** ***DOTD.*** Project Manager, Author and Course Instructor. Developed the Manual of Standard Practice and training program and conducted several half-day training sessions. The Stage 1 (Planning/Environmental) Manual of Standard Practice provides transportation project managers guidance in advancing transportation improvements projects through Stage 1 of the DOTD's Project Development Process (PDP). A half-day training course was developed, and Michael Baker provided several half-day training sessions to DOTD and FHWA Louisiana Division staff. |
| 08/97 – 09/05 | **North-South Expressway, Location and Environmental Study, EIS/ROD, Caddo Parish, LA.** ***DOTD.*** Project Manager for a $670 million, 35-mile four-lane fully controlled highway on new location between I-220 in Shreveport, Louisiana, and the Arkansas state line (now referred to I-49 North). The project included logical termini evaluation, interchange justification studies (IJS), Phase I Cultural Resources Assessment, wetland delineation and surface waters evaluations, Phase I Environmental Site Assessment (ESA), highway traffic noise studies, and air quality impact assessment. |

## 16. Staff Experience:

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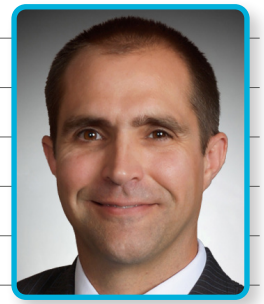
| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **TJ Holliday, PWS** | *Years of relevant experience with this employer* | 14 |
| *Title* | Wetlands/Species Coordinator | *Years of relevant experience with other employer(s)* | 11 |
| *Degree(s) / Years / Specialization* | B.S. / 1998 / Biology, Delta State University | | |
| *Active registration number / state / expiration date* | Professional Wetland Scientist No. 2447 / Nationwide / 04/2024 | | |
| *Year registered* 2014 | *Discipline* Environmental | | |
| *Contract role(s) / brief description of responsibilities* | Environmental | | |



✓ Mr. Holliday is an environmental specialist with project experience involving various levels of EA and other issues related to NEPA. His responsibilities have included studies for wetlands, floodplains, water quality, coastal resources, threatened and endangered species, cultural resources, hazardous materials, noise and air quality, and community impacts. He is a Certified Professional Wetland Scientist with over 20 years of field experience conducting wetland and stream assessments and habitat evaluations. Mr. Holliday's primary project duties have included data collection and analyses, document preparation, agency coordination, public outreach, and regulatory permitting and compliance. He will provide value added expertise should any protected species be identified as conflicting with the project limits.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 07/11 – Ongoing | **New Orleans Rail Gateway, Jefferson and Orleans Parishes, LA.** ***DOTD.*** Environmental Specialist. Conducted field studies and documented findings for wetlands and other waters of the U.S. and hazardous materials. Michael Baker is providing environmental and engineering services to develop an Environmental Impact Statement (EIS) for the New Orleans Rail Gateway, the fourth-largest freight and passenger rail gateway in the United States. Michael Baker's services include project management, review of previous studies, environmental resources investigations, geographic information system development, mapping, rail and roadway travel demand modeling, alternatives analyses, rail and roadway conceptual design, cost estimates, document preparation, stakeholder and agency coordination, and extensive public outreach. |
| 10/04 – 10/14 | **SH 146 Environmental Assessment from Fairmont Parkway to SH 3, Harris County, TX.** ***Texas Department of Transportation.*** Environmental Specialist. Assisted with preparation of the EA document, attended client meetings, and was responsible for the Section 404 permit. Michael Baker, as prime contractor, was the primary author and editor for the preparation of an EA. The EA evaluated the proposed improvement and expansion of approximately 23 miles of SH 146 (from Fairmont Parkway to SH 3) to reduce traffic congestion, improve hurricane evacuation, and improve mobility and safety. Michael Baker developed the Purpose and Need statements, Alternatives Analyses, Hazardous Materials Initial Site Assessment, Air and Noise Modeling, Community Impact Assessment, Natural Resource Studies, Section 404/10 permit, and Section 9 (USCG) permits. |
| 04/13 – 04/16 | **Rio Hondo Lift Bridge Environmental Services, Cameron County, TX.** ***Texas Department of Transportation.*** Environmental Specialist. Responsible for the completion of a Categorical Exclusion (CE) Document. Completed field studies and coordinated a USCG navigation permit, as well as a Section 404 permit. Michael Baker is provided environmental services for the rehabilitation of the FM 106 lift bridge over the Arroyo Colorado River. Michael Baker's services included completion of the environmental scoping checklist, project coordination checklists, biological and water resources field surveys, environmental documentation, and public involvement including a Public Hearing. Michael Baker assisted TxDOT with agency coordination, specifically the U.S. Coast Guard, U.S. Fish and Wildlife Service, Texas Historic Commission and the Texas Parks and Wildlife Department, regarding specific bridge rehabilitation and design elements. Built in the early 1950s, the historic bridge is one of four movable bridges in the State of Texas. It spans the Arroyo Colorado, a navigable waterway that provides a route for ships and barge traffic coming inland from the Gulf. |

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| 01/15 – 07/16 | **Neches River Railroad Crossing Environmental Assessment/Geometric Schematic, Jefferson and Orange Counties, TX.** ***Texas Department of Transportation.*** Environmental Specialist. Responsible for environmental field studies, assisted with document preparation, and provided QA/QC of the environmental document. Michael Baker prepared a geometric design schematic and an EA for a new rail crossing of the Neches River in Beaumont, Texas. Michael Baker identified a purpose and need for the proposed project; developed four alternative alignments and four bridge options for the proposed crossing; and analyzed potential environmental issues, including extensive wetlands, historic and Section 4(f) resources, low income and minority neighborhoods, and a Superfund site, among others. The team also facilitated several stakeholder meetings; developed preliminary designs, cost estimates, and right-of-way requirements for each alignment; and recommended a "preferred alignment" and bridge type. |
| 09/13 – 06/18 | **Highway 70 Widening Design (I-30 to Hot Springs), Garland and Saline Counties, AR.** ***Arkansas Department of Transportation.*** Environmental Manager. Responsible for conducting environmental investigations necessary to prepare environmental documentation to satisfy National Environmental Policy Act (NEPA) requirements in support of a road widening project in Garland and Saline Counties, Arkansas. Michael Baker provided roadway and bridge design and environmental services for the widening of approximately 18.9 miles of Highway 70 from Dr. Martin Luther King Jr. Expressway interchange on the west in Hot Springs to the I-30 interchange on the east end. Michael Baker provided project management, developed conceptual alternatives, performed environmental impact studies, and facilitated public involvement efforts. Michael Baker also performed a geotechnical investigation and prepared a maintenance of traffic (MOT) plan and traffic management plan (TMP). Michael Baker developed preliminary and final roadway and bridge design, including traffic signal warrants analysis, right-of-way drawings, and hydraulic studies. Michael Baker also provided construction phase review services. |
| 06/12 - Ongoing | **Natural Environment Master Contract, Statewide Mississippi.** ***Mississippi Department of Transportation.*** Project Manager. Michael Baker provides environmental consulting services to MDOT for bridge construction and roadway improvement projects statewide in Mississippi under a three-year master services agreement (three consecutive contracts). The scope of services under this contract is to assess impacts to wetlands, waters of the U.S., and threatened and endangered (T/E) species. Michael Baker's services include data collection and analysis, field assessments, hydrologic and hydraulic analysis, report preparation, meeting coordination, and mitigation banking. |

**16. Staff Experience:**

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Mary Flynn, PE** | *Years of relevant experience with this employer* | 11 |
| *Title* | Associate Vice President | *Years of relevant experience with other employer(s)* | 15 |
| *Degree(s) / Years / Specialization* | B.S. / 1997 / Civil Engineering & Surveying, Ohio University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0036931 / LA / 03/2023 | | |
| *Year registered* 2012 | *Discipline* | Civil | |
| *Contract role(s) / brief description of responsibilities* | Construction Inspection Services Lead | | |

✓ Ms. Flynn is available to serve as an on-site Project Engineer. She brings 25 years of experience providing CE&I/OV services, including the last 8 years as PM and Project Engineer on DOTD CE&I IDIQ contracts, to ensure quality construction and compliance with plans and specifications. Ms. Flynn will work with QA/QC Manager to ensure each Task Order achieves contractor compliance with plans and specifications, quality, budget, and schedule, ensure contract requirements are met with efficient and cost-effective experts who are certificated to successfully deliver the Task Order, and maintain communication with the DOTD Coordinator to ensure the needs are met on each Task Order.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 03/13 – 06/18 | **Retainer Contract for Design-Build Support Services, Statewide, LA. *DOTD.***<br>Task Order 1: Statewide Construction Quality Assurance Plan (CQAP), Statewide, Louisiana. DOTD. Task order was to develop a CQAP for statewide use on Design-Build Projects. Ms. Flynn was responsible for drafting the Plan, meeting with FHWA, DOTD and other stakeholders to review and obtain comments, meet with TxDOT staff to discuss their QAP recommendations, and modify document until accepted by FHWA.<br>Task Order 2: CQAP Sharepoint Database, DOTD. Task consists providing Design-Build CQAP Database Development relative to the US 90 (Albertson – Ambassador Caffery) Design Build Project that automatically ran statistical analysis' on specified materials. Ms. Flynn's responsibility was to develop the worksheets necessary to input project material sampling and testing results for the database developers, identify the parameters for statistical analysis, perform beta testing on each material sheet in SharePoint to verify functionality, train FHWA, DOTD, and project staff on utilization of database.<br>H.010620.6 Task Order 3: US 90 (I-49 South), Albertson's Parkway to Ambassador Caffery, Design-Build Owner Verification, Lafayette Parish, LA. DOTD: Owner Verification Manager / Project Engineer. Responsible for contract administration/project management, construction engineering, and managing quality inspection and materials sampling and testing for all phases of construction verification of activities and testing per CQMP, including new structure construction (AASHTO girder and steel plate girder), existing structure replacement/widening, fabrication of precast girders and MSE wall panels, MSE wall installation utilizing both straps and geogrid, full depth asphalt roadway, embankment and base course. She was also responsible for statistically validating test data according to the CQAP and tracking of Michael Baker inspection and testing within the DOTD's SharePoint Database for design-build projects, reviewing and responding to RFIs and NCRs, reviewing plans and shop drawings, verifying test data for material acceptance, and project coordination meetings. She served as liaison between the local business owners, local project stakeholders, and DOTD Project Manager. |
| 01/12 – 01/13 | **H.003046: I-10 Widening, Siegen to Highland, Design-Build OV, Baton Rouge, LA. *DOTD.*** As Assistant Project Engineer/Assistant Project Manager. Ms. Flynn was responsible for contract administration, construction engineering, review of shop drawings and as-built plans, and supervision of inspection and materials sampling and testing for all phases of construction, including structural concrete, PCC paving, embankment and base course, and fabrication inspection of girder and pile. Ms. Flynn verified inspector daily entries in SiteManager were accurate, thorough, and up to date. Project included PCC Paving, widening of the I-10 Bridge of Wards Creek Diversion Canal, and replacement of the I-10 Bridge over the KC Southern Railroad and LaCrete Lane utilizing a combination of AASHTO precast girders and steel plate girders. |

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| 06/08 – 12/09 | **052-02-0024: John James Audubon Bridge Design-Build Owner Verification, Ventress, LA. *DOTD.*** Assistant Quality Control Manage., Ms. Flynn was responsible for the quality management and QC inspection of all construction activities for the 52-span bridge (AASHTO Type III and BT-72), and all construction activities for the west approach of the cable stayed bridge (15 spans including AASHTO type III, BT-72 and steel plate girders) including Rotational Capacity of the bolted connections. She assessed the effectiveness of the construction quality plan; performed constructability review of plans prior to construction, reviewed shop drawings, verified processing, delivery, installation, and use of products and services; evaluated quality of work for effective testing and inspections from substructure to deck completion. |
| 03/19 – Ongoing | **IDIQ Contract for CE&I with Majority of Work in District 07, Statewide, LA. *DOTD.***<br>H.010916.6 Task Order 1: Prien Lake Re-Deck & Safety Improvements, Calcasieu Parish, LA. DOTD. As part of a Staff Augmentation Services contract, Ms. Flynn was the Project Manager for this re-decking project. Her responsibilities were to provide the DOTD with certified inspection staff and qualified office management staff to successfully complete the project.<br>H.012018 Task Order 2: Adaptive Traffic Signal Design and Implementation, Lafayette Parish, LA. DOTD. As part of a full services contract, Ms. Flynn was responsible for Project Management and Project Engineering for this ITS Project. Ms. Flynn's is responsible for contract administration/project management, construction engineering, and managing inspection staff for all construction activity. Duties include project, utility and local Entity coordination, manage meetings, development of TO sampling plan, verifying inspectors maintain accurate field records and material documentation, equipping inspection staff appropriately for testing and documentation per needs of TO, verify and approve monthly estimate, developing As-Built plans, developing change orders for DOTD approval, manage the RFI process utilizing DOTD established forms, disseminating press releases as<br>needed, and performing any other engineering function as requested by the Area Engineer (AE).<br>H.003184.6 Task Order 3: I-10: Texas State Line – E. of Coone Gully, Calcasieu Parish, LA. DOTD. As part of a Staff Augmentation Services contract, Ms. Flynn was the Michael Baker Project Manager for this re-decking project. Her responsibilities were to provide the DOTD with certified inspection staff and qualified office management staff to successfully complete the project. |
| 03/20 - Ongoing | **IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I) District 61, 62, and 02. *DOTD.*** As Project Manager & Project Engineer, Ms. Flynn is responsible for contract administration/project management, construction engineering, and managing inspection staff for all construction activity under full-service Task Orders (TO). Duties include project and utility coordination, manage meetings, development of TO sampling plan, verifying accuracy of field records and sampling/testing documentation, equipping inspection staff appropriately for testing, and documentation per needs of TO, verify and approve monthly estimate, developing As-Built plans, developing change orders for DOTD approval, manage the RFI and claims process utilizing DOTD established forms, disseminating press releases, and performing any other engineering function as requested by the AE.<br>H.013271.6 Task Order 1: Tangipahoa PH Local Road Safety Upgrade, Tangipahoa Parish, Louisiana. The project consists of upgrading signage,<br>refreshing pavement markings, and installation of solar powered flashing beacons, on various local roads in Tangipahoa Parish. Est completion Feb 2022.<br>H.013532.6: Task Order 2: Denham Springs Rd Signing & Striping, Livingston Parish, Louisiana. The project consisted of upgrading signage,<br>refreshing pavement markings, closure of two (2) boulevard median turn areas, and related work on various local roads. Project complete.<br>H.012473.6: Task Order 3: Marconi Dr Shared-Use Path, Orleans Parish, Louisiana. The project consisted of clearing and grubbing, installing a 10 foot wide shared-use path and raised composite wood boardwalk and all associated striping and signage within New Orleans City Park from Zachary Taylor Drive to Harrison Avenue. Project complete, Hurricane Ida repairs in progress.<br>H.009308.6: Task Order 4: New Orleans DPW SRTS Sidewalk Project, Orleans Parish, Louisiana. The project is part of the "Safe Routes to School" program, involving safety upgrades to five schools in the Orleans Parish area. Components of the safety upgrades include shared-use path, sidewalks, ADA crossings, traffic signalization and related work. Estimated Completion 04/2022.<br>H.012527.6: Task Order 5: Local Road Safety Upgrades (W. Feliciana), West Feliciana Parish, Louisiana. The project consists predominately of replacing outdated and damaged guardrail, signage and striping on 10 routes within the parish. Estimated completion May 2022. |

**16. Staff Experience:**

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| *Firm employed by* | Michael Baker International, Inc. | | |
| *Name* | **Jason Mashell, PE** | *Years of relevant experience with this employer* | 4 |
| *Title* | Construction Services Department Manager | *Years of relevant experience with other employer(s)* | 18 |
| *Degree(s) / Years / Specialization* | B.S. / 2001 / Civil Engineering, Louisiana Tech University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 45440 / LA / 09/2023 | | |
| *Year registered* 2021 | *Discipline* | Civil | |
| *Contract role(s) / brief description of responsibilities* | Construction Inspection Services | | |

✓ Jason has close to 20 years of managing multiple types of construction projects. As a formal Texas Department of Transportation AE, Jason was responsible for managing 42 inspectors and recordkeepers across more than 40 simultaneous CE&I and construction projects valued over $600 million. His construction experience includes the management of more than 50 projects involving new bridge location replacements and widenings on interstates, urban and rural highways, and off-system roadways.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 06/06 - 03/10 | **I-20 Frontage Road Project, Dallas, TX.** ***Texas Department of Transportation.*** Project Engineer. Served as TxDOT Project Engineer that was responsible for working with construction project manager, contractor and Engineer of Record to resolve all field construction issues, resolving RFIs and processing and negotiating all change orders. This $15M project constructed new location concrete pavement eastbound and westbound frontage roads with asphalt base, lime treated subgrade, new drainage structures, concrete and steel girder bridges, retaining walls and illumination. This project was adjacent to large truck stops, which caused a large number of large trucks to pass through the construction work zone. Due to this large volume of trucks, traffic control modifications were made throughout the construction to increase turning radii and lane widths to allow trucks to safely travel through the work zone. |
| 03/12 – 11/15 | **Sylvan Ave.** ***Bridge Replacement, Dallas, TX.*** Texas Department of Transportation. Construction Engineer. While at TxDOT, served as Construction Engineer that was responsible for overseeing inspectors in order to ensure project was built in accordance to plans and specifications, reviewing monthly construction schedules, resolving all contractor questions and RFIs, performing and negotiating all project change orders and coordination with the City of Dallas and Flood Control regarding construction activities. This $42 M project replaced an existing bridge structure that was located in the flood plain of the Trinity River that would flood whenever the Trinity River would become closing to over topping its banks. The new bridge structure was constructed at a higher elevation out of the flood plain and utilized a new concept of the time, spliced concrete girders. This engineering design consisted of utilizing concrete girders that were tied together by post tensioning. This new concept was chosen as cheaper alternative to steel girders and required less bents to be constructed in the floodplain. Work on this project required coordination with the Army Corp of Engineers and the City of Dallas Flood Control due to being within the earthen levees of the Trinity River flood plain. |
| 06/16 – 08/19 | **US 175 (SM Wright) Reconstruction Project, Dallas, TX.** ***Texas Department of Transportation.*** Construction AE. Served as the TxDOT Construction Engineer and AE overseeing project budget and schedule, assigning inspectors and engineers to oversee project, resolving any contractor issues, providing City of Dallas officials with project updates, and coordinating/presenting quarterly meetings with community stakeholders. This $103M project reconstructed the US 175 and I-45 Interchange and involved construction of new prestressed concrete beam and steel girder spanned bridges, retaining walls, noise walls, drainage, concrete and asphalt paving, traffic items, railroad coordination and also required mitigation of hazardous soils and groundwater. New bridges were constructed within the floodplain footprint of the Trinity River and work was near existing floodgates that had to be left in place during the construction. |

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| 03/15 – 12/17 | **Marsalis Aveue Bridge Replacement, Dallas, TX.** ***Texas Department of Transportation.*** Construction Engineer. While at TxDOT, served as Construction Engineer that was responsible for ensuring project inspection of bridge, retaining wall, drainage and pavement work, resolving all contractor questions and RFIs, reviewing contractor's schedule submittal for compliance and resolving any contractor delay claims. This $3M project replaced an existing bridge structure with a new prestressed concrete girder bridge that spanned Five Mile Creek. This project was in an environmentally sensitive area that required minimum construction disturbance work done in the creek and required coordination and permission from the City of Dallas Park Department if any trees needed to be removed for any construction work. |
| 02/16 – 07/18 | **I-345 Steel Girder Repair Project, Dallas, TX.** ***Texas Department of Transportation.*** Construction Engineer. While at TxDOT, served as Construction Engineer for this project and duties included resolving any contractor issues and RFIs, coordinating with Public Information Office regarding the series of closures that were needed on this busy highway corridor, reviewing project schedule, preparing and negotiating all project change orders and overseeing inspection staff assigned to project. This project consisted of making repairs to address the cracked webs of the steel girders and to provide additional connections and supports to the fracture critical girders along this entire roadway. Special repair details were developed by the consultant designer and the TxDOT Bridge Division that required a mockup and trial repair in order to determine its effectiveness. This project required the continued use of QA/QC bridge and welding inspectors along with the usual TxDOT inspection in order to ensure work was being done in accordance to the established procedures. |
| 10/19 – Ongoing | **I-35E (Lowest Stemmons) Reconstruction Project, Dallas, TX.** ***Texas Department of Transportation.*** Manager of CE&I staff. Served as Manager of CE&I staff overseeing this project. This congestion relief project provided operational improvement along I-35E with construction of collector-distributor roads and reconstruction of frontage roads from IH 30 to North of Oak Lawn Avenue. The construction includes constructing four to six collector-distributor lanes, six new prestressed concrete beam bridges, two bridge widenings, and 17 retaining walls. Staff responsibilities included project inspection, testing of materials, reviewing contractor schedule submittals, reviewing traffic control, project SW3P, preparing change orders and working with contractor, TxDOT and EOR to resolve field issues. Jason worked with staffing to resolve field issues and provide recommendations to TxDOT to resolve any contractor delay claims. Est Completion 12/21 |
| 09/13 – 01/19 | **SH 78 Roadway Widening Project, Wylie, TX.** ***Texas Department of Transportation.*** Construction Engineer. While at TxDOT, served as Construction Engineer that was responsible for overseeing project inspection and material testing, resolving RFIs, processing change orders and reviewing monthly schedules. This $21 M project involved the widening of a rural two-lane highway into an urban six lane highway and involved installing new concrete pavement, drainage and bridge structures, retaining walls and new traffic signals. The new bridges were installed across the East Fork of the Trinity River that flooded and came out of its bank's multiple times during the course of the project and required careful environmental coordination and traffic control modifications in order to safely construct. |
| 03/14 - 07/19 | **SH 121 Reconstruction Project, Grapevine, TX.** ***Texas Department of Transportation.*** Project Engineer. While at TxDOT, served as Project Engineer and later became Area Engineer over project. Responsibilities including overseeing inspection staff, testing of materials, resolving RFIs, processing change orders, reviewing project schedules, and processing of monthly estimates. This $58M project constructed new location concrete pavement frontage road and widened the concrete pavement main lanes. This project also featured, asphalt overlay, lime treated subgrade, new location and widen concrete girder bridges, drainage, retaining walls, traffic signal, sidewalks and illumination. This project began with utilities in conflict and Jason worked with the contractor to modify the traffic control sequence to work to allow construction work to progress while utilities were being relocated. |
| 09/17 – 08/19 | **US 67 Widening Project.** ***Cedar Hill, TX.*** Texas Department of Transportation. Construction AE. Served as the TxDOT AE that was responsible for the assignment of inspectors for construction and material compliance, overseeing project and reviewing construction schedule for compliance. This $59M project widened the concrete main lanes of US 67, new location entrance and exit ramps, asphalt base, lime treated subgrade, widened and constructed new concrete spanned bridges, new drainage, retaining walls and illumination. During widening work, hazardous liquid petroleum material leached into the work zone that was later determined to be a leak from an old gas tank off of right-of-way. Jason worked with the TxDOT Environmental Division to formulate a plan capture this material into a sump area that would allow construction to continue in this area and not allow this hazardous material to contaminate the existing storm drain system. |

**16. Staff Experience:**

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| *Firm employed by* | Terracon Consultants, Inc. | | |
| *Name* | **Steve Greaber, PE** | *Years of relevant experience with this employer* | 22 |
| *Title* | Principal \| Senior Geotechnical Engineer | *Years of relevant experience with other employer(s)* | 11 |
| *Degree(s) / Years / Specialization* | B.S. / 1989 / Civil Engineering | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 26107 / LA / 09/2023 | | |
| *Year registered* 1995 | *Discipline* Civil | | |
| *Contract role(s) / brief description of responsibilities* | Geotechnical - Design & Analysis \| MPR 6 | | |

✓ Mr. Greaber has more than 33 years of experience working on a wide range of geotechnical projects. He has worked extensively on City-Parish projects as well as for commercial, industrial, transportation, and institutional clients. He is well versed in all aspects of geotechnical engineering and materials quality aspects of construction, including earthwork, concrete, masonry, asphalt, and structural steel. Mr. Greaber has experience in deep foundation analysis, implementation/interpretation of load testing, site modification, and improvement techniques, including but not limited to dynamic compaction, geotextile reinforced slopes, and wick drains for improvement of consolidation. Other areas of expertise include geotechnical seismic evaluations and liquefaction mitigation.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 02/23 – 05/23 | **Ponchatoula Lagoon Levee and Polishing Reactor, Ponchatoula, LA.** ***Owen and White, Inc.*** Senior Geotechnical Engineer. Mr. Greaber conducted geotechnical engineering analysis/design to raise the dividing levee between two lagoons to the same height as the surrounding levee (2-3 feet) by embankment, sheet pile wall, or similar method with an overflow weir. |
| 07/22 – 05/23 | **Bayou Lafourche MS River Reintroduction Pump Station – Donaldsonville, LA.** ***Sea Level Construction Senior Project Reviewer.*** Mr. Greaber provided senior-level project review for the contractor during construction of the MS River pump station. |
| 09/20 – 04/21 | **Camp Whispering Pines Dam, Independence, LA CH Fenstermaker.** ***Senior Project Reviewer.*** Mr. Greaber provided a senior-level project review for the project, including a subsurface investigation and geotechnical site characterization report concerning the existing dam and levee at the Camp Whispering Pines facility. It was observed that considerable erosion was occurring on the downstream side of the existing dam spillway. |
| 11/19 – 04/21 | **Bayou Lafourche Weir, Thibodaux, LA Duplantis Design Group.** ***Senior Project Reviewer.*** Mr. Greaber provided a senior-level project review for the project. Terracon provided geotechnical field exploration, laboratory testing, and slope stability analysis. He was responsible for developing the soil profile and performing the stability analysis utilizing Slope/W software. He performed slope stability analysis for the existing Bayou Lafourche cross-section as well as the improved cross-section to help ensure the stability of the side-slopes post construction. The stability analysis incorporated ground improvement methodology by including the effects of a geosynthetic fabric. |
| 04/17 – 04/20 | **The Lakes at White Oak Dam and Spillway, Baton Rouge, LA.** ***The Lakes at White Oak HOA.*** Senior Project Reviewer. Mr. Greaber provided senior-level project review for the project. Terracon inspected two weirs independently, a report of the findings, and a maintenance work scope package. |
| 04/16 – 05/16 | **Mississippi River Levee, Plaquemines Parish, LA.** ***David Boland, Inc.*** Senior Project Reviewer. Mr. Greaber conducted a senior-level review for a working platform being constructed. The plans called for 3 to 1 slopes; however, there were areas where a steeper slope was needed requiring a slope stability analysis of the levee. |

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| 07/12 – 03/14 | **The Lakes at White Oak Weir Evaluation, Baton Rouge, LA.** ***The Lakes at White Oak HOA.*** Geotechnical Engineer. Mr. Greaber conducted the engineering analysis and design for the lower weir. |
| 07/12 – 03/14 | **City of New Roads Oxidation Pond- New Roads, LA.** ***City of New Roads.*** Geotechnical Engineer. The 34-acre impoundment was constructed in 1964 and reportedly has operated without significant violations. The perimeter embankment appeared to have been constructed of native soil with three (Horizontal):1(Vertical) side slopes and a crest height of approximately 8 feet. The maximum volume of the impoundment is about 11 million gallons. The design maximum throughput is 1.8 MGD. According to PEC, the average throughput during 2009 was 0.43 MGD. Terracon performed a limited subsurface exploration consisting of 3 machine borings to a depth of 16 feet placed around the perimeter of the pond, installation of 3 temporary piezometers, and 5 hand auger borings placed through the pond embankments to a depth of 10 feet. Each boring was sealed with cement-bentonite grout upon completion. |
| 10/09 - 01/10 | **DOTD Additional Emergency Action Plans– Various Cities, LA.** ***Denmon Engineering.*** Geotechnical Engineer. Mr. Greaber helped prepare and review Emergency Action Plans for various dams across the state. The team also held meetings with the towns to discuss the emergency action plans and held practice emergency drills. |

**16. Staff Experience:**

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| *Firm employed by* | Terracon Consultants, Inc. | | |
| *Name* | **Lynne Roussel, PE** | *Years of relevant experience with this employer* | 18 |
| *Title* | Principal \| Baton Rouge Office Manager | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | M.S. / 2005 /Geotechnical Engineering, Louisiana State University<br>B.S. / 2003 /Civil Engineering, Louisiana State University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 35152 / LA / 03/2024 | | |
| *Year registered* 2009 | *Discipline* Civil | | |
| *Contract role(s) / brief description of responsibilities* | Geotechnical - Design & Analysis \| MPR 6 | | |

✓ Ms. Roussel has managed geotechnical projects for 18 years. She has performed engineering analyses using in-house computer resources and commercial software for settlement analysis, deep foundations analysis, pavement design, slope stability analysis, and lateral loading of deep foundations. Ms. Roussel also performed analyses for the USACE for limiting pressure analyses for Horizontal Directional Drilling (HDD) projects, seepage analyses, and Method of Planes slope stability. Her software experience includes PCSTABL6, GEOSLOPE, LPILE, DRIVEN, SHAFT, Shoring Suite, WINPAS and Darwin.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 02/23 – 04/23 | **Laurel Ridge Levee - Burnt Cane Road – St.Amant, LA.** ***The Lemoine Company.*** Senior Project Reviewer. Ms. Roussel provided a senior-level review of the geotechnical engineering report for use in evaluating the suitability of onsite material for use as fill for planned upcoming USACE levee construction. |
| 04/17 – 08/20 | **The Lakes at White Oak Dam and Spillway, Baton Rouge, LA.** ***The Lakes at White Oak HOA.*** Project Manager. Ms. Roussel served as project manager for the project. Terracon performed an independent inspection of two weirs, a report of the findings, and a maintenance work scope package. |
| 11/19 – 04/21 | **Bayou Lafourche Weir, Thibodaux, LA.** ***Duplantis Design Group.*** Project Manager. Ms. Roussel served as a project engineer for the project. Terracon provided geotechnical field exploration, laboratory testing, and slope stability analysis. Ms. Roussel served as Terracon's project manager for this project. She was responsible for coordinating the field exploration and lab testing. She also helped develop the soil model utilized in the stability analysis. She also determined which stability cases (e.g., undrained, drained, stockpiles, etc.) needed to be analyzed based on her understanding of the project requirements. |
| 04/16 – 05/16 | **Mississippi River Levee – Plaquemines Parish, LA David Boland, Inc.** ***Department Manager.*** Ms. Roussel was the department manager for the geotechnical engineering services performed for a working platform being constructed. The plans called for 3 to 1 slopes; however, there were areas where a steeper slope was needed requiring a slope stability analysis of the levee. |
| 07/12 – 03/14 | **The Lakes at White Oak Weir Evaluation, Baton Rouge, LA.** ***The Lakes at White Oak HOA.*** Project Manager. Ms. Roussel oversaw the lower weir coring and field exploration. |
| 07/12 – 03/14 | **DOTD Additional Emergency Action Plans– Various Cities, LA.** ***Denmon Engineering.*** Staff Engineer. Ms. Roussel prepared Emergency Action Plans for various dams across the state. The team also held meetings with the towns to discuss the emergency action plans and held practice emergency drills. |

## 16. Staff Experience:

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| *Firm employed by* | Terracon Consultants, Inc. | | |
| *Name* | **Matt Minton** | *Years of relevant experience with this employer* | 20 |
| *Title* | Department Manager, Laboratory Services | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | A.A. / 2001 / Design Drafting Technology, Southeastern Louisiana University | | |
| *Active registration number / state / expiration date* | N/A | | |
| *Year registered* | N/A | *Discipline* | N/A |
| *Contract role(s) / brief description of responsibilities* | Geotechnical - Field Services & Testing Lead | | |

✓ Mr. Minton has 20 years of experience in laboratory testing and construction QA/QC testing for geotechnical projects, civil construction and landfill construction. Mr. Minton currently serves as the Laboratory Manager of Terracon's Baton Rouge full-service geotechnical and construction materials laboratory. Mr. Minton has worked diligently to implement a complete QA process for all the laboratory tests conducted in our laboratory. Under his supervision, the Baton Rouge laboratory has maintained its LDEQ LELAP, USACE, and AASHTO (AMRL and CCRL) certifications.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 09/20 – 04/21 | **Camp Whispering Pines Dam, Independence, LA. *CH Fenstermaker.*** Served as lab manager for the project. |
| 11/19 – 04/21 | **Bayou Lafourche Weir, Thibodaux, LA. *Duplantis Design Group.*** Served as lab manager for the project. |
| 06/19 – 01/20 | **I-10- Widening East Baton Rouge Parish, LA. *DOTD.*** Served as lab manager on this project. |
| 07/18 – 10/18 | **I-49 South @ Verot School Road US 90, Lafayette, LA. *DOTD.*** Served as lab manager on this project. |
| 06/18 – 08/18 | **Nelson Road Extension and Bridges, Calcasieu Parish, LA. *DOTD.*** Served as lab manager on this project. |
| 06/17 – 02/18 | **I-10 Overpass US 165 & MPRR, Iowa, LA. *DOTD.*** Served as lab manager on this project. |
| 03/17 – 04/17 | **Hooter Creek Bridge, Jena, LA. *DOTD.*** Served as lab manager on this project. |

**16. Staff Experience:**

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| *Firm employed by* | Terracon Consultants, Inc. | | |
| *Name* | **Brian Alexander** | *Years of relevant experience with this employer* | 16 |
| *Title* | Drilling Operations Manager | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | M.S. / 1999 / Physical Therapy, University of St. Augustine | | |
| *Active registration number / state / expiration date* | N/A | | |
| *Year registered* | N/A | *Discipline* | N/A |
| *Contract role(s) / brief description of responsibilities* | Geotechnical - Field Services & Testing | | |

✓ Mr. Alexander manages the geotechnical drilling operations for Louisiana and Mississippi. He coordinates the logistics/scheduling of projects between the six offices in both states and assists neighboring states in project coordination when needed. His approach to increased field safety has earned him safety awards at the division and national levels. Mr. Alexander has met the Louisiana DOTD work zone training requirements of the Traffic Control Supervisor and the Traffic Control Flagger Instructor.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
|---|---|
| 02/23 – 05/23 | **Camp Whispering Pines Dam, Independence, LA.** ***CH Fenstermaker Drill Crew Supervisor.*** Mr. Alexander supervised drill crews. |
| 07/22 – 05/23 | **The Lakes at White Oak Dam and Spillway, Baton Rouge, LA.** ***The Lakes at White Oak HOA.*** Field Supervisor. Mr. Alexander supervised the grouting of the lower weir. |
| 09/20 – 04/21 | **Bayou Lafourche Weir, Thibodaux, LA.** ***Duplantis Design Group Drill Crew Supervisor.*** Mr. Alexander supervised drill crews. |
| 11/19 – 04/21 | **I-10- Widening East Baton Rouge Parish, LA.** ***DOTD.*** Drill Crew Supervisor/Logger. Mr. Alexander supervised drill crews and worked in the field as a logger. |
| 04/17 – 04/20 | **I-49 South @ Verot School Road US 90, Lafayette, LA.** ***DOTD Drill Crew Supervisor.*** Mr. Alexander supervised drill crews. |
| 04/16 – 05/16 | **Nelson Road Extension and Bridges, Calcasieu Parish, LA.** ***DOTD Drill Crew Supervisor/Logger.*** Mr. Alexander supervised drill crews and worked in the field as a logger for water borings. |
| 07/12 – 03/14 | **Hooter Creek Bridge; Jena, LA.** ***DOTD.*** Drill Crew Supervisor. Mr. Alexander served as field supervisor for this project. |
| 07/12 – 03/14 | **I-10 Overpass US 165 & MPRR, Iowa, LA.** ***DOTD.*** Drill Crew Supervisor. Mr. Alexander served as the field supervisor for this project. |
| 10/09 - 01/10 | **Off-System Bridges throughout LA.** ***DOTD.*** Drill Crew Supervisor/Logger. Mr. Alexander supervised drill crews and worked in the field as a logger on several of these projects. |

**16. Staff Experience:**

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| *Firm employed by* | Quality Engineering & Surveying, LLC, | | |
| *Name* | **Deric Murphy, PE, LSI** | *Years of relevant experience with this employer* | 13 |
| *Title* | Principal | *Years of relevant experience with other employer(s)* | 14 |
| *Degree(s) / Years / Specialization* | B.S. / 2001 / Civil Engineering, Louisiana State University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 29602 / LA / 09/2023<br>Land Survey Intern No. 427 / LA / 09/2023 | | |
| *Year registered* | 2001, PE; 1998, LSI | *Discipline* | Civil and Land Survey Intern |
| *Contract role(s) / brief description of responsibilities* | Hydraulics & Hydrology | | |

✓ Mr. Murphy has designed, drafted, and managed hundreds of municipal, private, and public projects, ushering them from conceptual design to completion. His experience includes design, supervision and general coordination of sub-consultants for various civil and municipal projects as well as the preparation of detailed construction plans, reports, technical specifications, contract documents, bid packages, cost estimates, hydraulic calculations and field studies. The types of projects he has been associated with include commercial and retail facilities, new sewer systems, highways, drainage and storm water improvements, pump station design, residential subdivisions and construction phasing plans. His experience in working one on one with the client and local governing agencies allows him to provide quality projects, thus ensuring that each one meets or exceeds even the most stringent timelines and budgets.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 01/2018 – 02/22 | **Walker Sewer Inundation Improvement Program, Walker, LA.** ***City of Walker.*** Principal Engineer. The proposed phased project will analyze the existing system and yield detailed design plans for upgrades and improvements as needed to increase the capacity and efficiency of the sewer system for the City of Walker. In addition, Walker will upgrade undersized sewer lines, wyes, and cleanouts. This will prevent the manholes and lift stations from being inundated with rainwater during heavy rain events. Each location for manholes and lift stations will be a part of the detailed study which will provide a defined scope of construction and implementation services necessary to achieve a successful project. |
| 09/20 - Present | **Bayou Conway Pumping Station Upgrade, Sorrento, LA.** ***Infinity Engineering.*** Principal Engineer. QES's team was selected to provide engineering services for the design upgrades to the existing Conway Bayou Pump Station, which is being funded by FEMA HMGP funds. The watershed area is being relieved by pumping water from the basin into Bayou Conway, and QES, under Mr. Murphy's direction and management, will be providing the delivery of all Phase 1 activities such as design plans, topographic survey, BCA, H&H, and more. |
| 08/2014 - Present | **Livingston Parish Gravity Drainage District #1 Watershed Program Management, Livingston Parish, LA.** ***Livingston Parish Gravity Drainage District #1.*** Principal Engineer. Mr. Murphy oversaw all construction and development for the Livingston Parish Gravity Drainage District No. 1. QES also served as the professional of record reviewing all development within the district. Mr. Murphy additionally bridged the gap between the mission of the Livingston Parish Gravity Drainage District No. 1 and the Community Rating System to benefit the City of Denham Springs. |
| 06/2019 - 05/2020 | **Breaux Bridge Manor Drainage Improvements, St.Martin Parish, LA.** ***St.Martin Parish Government.*** Principal Engineer. Instrumental in developing an approach to close a major traffic route for one week instead of projected two months expected to complete construction of the project. The project removed an existing box culvert that was set at the wrong elevation on Doyle Melancon Road in Breaux Bridge. A large metal span bridge replaced the existing culvert and was set at the appropriate elevation to ensure proper conveyance of water in the drainage area. |

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| 05/2019 - Present | **Pine Bluff Drainage Improvements, Livingston Parish, LA.** ***Livingston Parish Government.*** Principal Engineer leading the engineering and survey team to complete an H&H study and analysis before beginning the road elevation and cross drain culvert installation during this project to reduce roadway inundation occurrences. |
| 6/2012 – Present | **Ethel Street Drainage Project, Tallulah, Madison Parish, LA.** ***City of Tallulah.*** Principal Engineer. Engineering service to improve drainage in the Ethel Street area of the City of Tallulah. During hard rain events the streets are overtopped with water and residential structures flood. This project required completing a study of 45 acres and will be a substantial overhaul of the existing drainage structures to protection to resident up to a 25-year event. |
| 05/2014 - 05/2016 | **Gray's Creek Watershed Study, Livingston Parish, LA.** ***Livingston Parish Gravity Drainage District #1.*** Principal Engineer. Mr. Murphy oversaw the survey and engineering services to improve drainage for Gray's Creek in Livingston Parish. He oversaw 5 full time survey teams which collected field data on the creek crossing and tributary intersections for the purpose of developing HECRAS model. |
| 06/2020 – 05/2021 | **Gravity Drainage District #1 Watershed Initiative, Livingston Parish, LA.** ***Livingston Parish Gravity Drainage District #1.*** Principal Engineer. Mr. Murphy directed the necessary survey and engineering services that would improve the drainage infrastructure through the Livingston Parish Gravity Drainage District No. 1. These services included watershed studies, drainage analysis and improvements, channel expansion, detention/retention ponds, bridge upgrades and replacements, and underground drainage. |
| 08/2020 – 10/2021 | **Region IV-Watershed Coordinator, Louisiana Watershed Initiative, Calcasieu Parish, LA.** ***Calcasieu Parish Police Jury.*** Principal Engineer. Mr. Murphy helped develop a regional approach that identified problems, developed solutions and trained for future mitigation. This was vital to provide a long-term solution for the Region 4 watershed. Mr. Murphy led QES in facilitation decisions regarding best land use, policy, mitigation activities, and ensure a coordinated and inclusive planning process will be implemented. |

## 16. Staff Experience:

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| *Firm employed by* | Quality Engineering & Surveying, LLC, | | |
| *Name* | **Yangbin Tong, PE** | *Years of relevant experience with this employer* | 1 |
| *Title* | Water Resource Engineering Manager | *Years of relevant experience with other employer(s)* | 8 |
| *Degree(s) / Years / Specialization* | M.S. / 2013 / Civil Engineering - Water Resources Engineering, Louisiana State University<br>M.S. / 2008 / Hydrology and Water Resources, Zhejiang University<br>B.S. / 2006 / Hydrology and Water Resources, Zhejiang University | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0045425 / LA / 9/23 | | |
| *Year registered* | 2021 | *Discipline* | Civil |
| *Contract role(s) / brief description of responsibilities* | Hydraulics & Hydrology | | |

✓ Mr. Tong has nine years of experience in civil engineering design and analysis, including Hydrologic and Hydraulic Modeling and Analysis, Stormwater Management, Watershed Drainage Masterplan, Wastewater Treatment facility design, Flood Mitigation, and Site Development. His past roles cover civil engineering designer, H&H modeler, engineering task coordinator and project manager. He has excellent writing skills in peer-reviewed journal papers and project reports. In addition, he has two years of foreign work experience focusing on H&H modeling and analysis.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 01/23 - Present | **District-wide Watershed Drainage Masterplan, Livingston Parish, LA.** ***Livingston Parish Gravity Drainage District #2.*** Drainage Engineer. QES is providing civil engineering services for Livingston Parish Gravity Drainage District 2 (LPGDD2) on the district-wide watershed modeling, study, and drainage planning. Mr. Tong coordinated with other disciplines on project scope of work and proposals. He has been the leading water resources engineer since the proposal phase. The two-year contract for the whole project is close to $1 million. |
| 01/23 - Present | **Fisher-Madeline Diversion Canal Study, Livingston Parish, LA.,** ***Livingston Parish Gravity Drainage District #1.*** Drainage Engineer. QES is providing civil engineering services for Livingston Parish Gravity Drainage District 1 on the H&H study of a proposed diversion canal near Fisher Road in Denham Springs. Mr. Tong has been the Project Manager and leading engineer since the proposal phase. He coordinated with surveyors on project scope of work and proposals. He led the work to building the model from scratch. |
| 10/22 - Present | **Dunn Park Lane and Surrounding Drainage Study, Livingston Parish, LA.** ***Livingston Parish Gravity Drainage District #1.*** Drainage Engineer. QES is providing civil engineering services for Livingston Parish Gravity Drainage District 1 on the drainage study of Dunn Park Lane and its surrounding area. Mr. Tong has been the Project Manager and leading engineer since the proposal phase. He coordinated with surveyors on project scope and proposals. He led the work to building the model from scratch. |
| 08/22 - Present | **Gray's Creek Watershed 2D Study, Livingston Parish, LA.** ***Livingston Parish Gravity Drainage District #1.*** Drainage Engineer. QES is providing civil engineering services for Livingston Parish Gravity Drainage District 1 on the development of 2D watershed study of Gray's Creek. Mr. Tong is the Project Manager and leading engineer from the conception to the completion of this project. He trained young engineers to use HEC-RAS 2D modeling for watershed-scale study and to convert existing models from 1D to 2D. He also leads the effort to write the project report and make presentations. |

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| 08/22 – 03/23 | **Chappepeela Creek Stormwater Retention Planning Project, Tangipahoa Parish, LA.** ***Tangipahoa Parish Government.*** Drainage Engineer. QES is awarded by Tangipahoa Parish to perform a comprehensive watershed study for a potential retention pond(s) project. Mr. Tong is the leading engineer to perform Gap Analysis, Data Acquisition, Hydrology and Hydraulics (H&H) Modeling, Environment Review and Preliminary Engineering Study. |
| 06/22 – 10/22 | **NFIP CTP, Multiple Parishes, LA.** ***DOTD.*** Drainage Engineer. QES is one of the two Cooperating Technical Partners (CTP) selected by the DOTD, to provide technical advice on Lower Sabine River flood risks and mitigation. Mr. Tong attended meetings, reviewed H&H models, analyzed the flood data, and wrote part of the technical report. |
| 04/22 - 10/22 | **Felder's Bayou Drainage Study, Livingston Parish, LA.** ***Livingston Parish Gravity Drainage District #1.*** Drainage Engineer. QES is providing civil engineering services for Livingston Parish Gravity Drainage District 1 on the development of 2D watershed study of Felder's Bayou. Mr. Tong is the project engineer to train young engineers to build HEC-RAS 2D model from scratch. He also provided internal technical review on the project report and presentations. |
| 10/21 – 02/22 | **Chennault Airport Stormwater Management Plan, Lake Charles, LA.** ***Chennault International Airport Authority.*** Drainage Engineer. Mr. Tong is the task leader responsible for day-to-day communication, coordination, design, deliverables, reports, etc. Mr. Tong also guides a small team of engineer interns to execute the modeling efforts and tackle the technical functions. |
| 06/20 – 06/21 | **Calcasieu Parish Drainage Master Plan, Calcasieu Parish, LA.** ***Calcasieu Parish Police Jury.*** Drainage Engineer. Mr. Tong has worked with teammates to run HEC-RAS models for proposed measures in the Lake Charles Watershed to assess the cost and benefit. Mr. Tong also worked on GAP Analysis and QA/QC for Lacassine Bayou Watershed. Moreover, he worked on the development and stabilization of a 2D model for Lacassine Bayou Watershed using ArcGIS, HEC-HMS and HEC-RAS. |

**16. Staff Experience:**

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| *Firm employed by* | Civil Design & Construction, Inc. | | |
| *Name* | **Ralph Burgess, PLS** | *Years of relevant experience with this employer* | 11 |
| *Title* | Principal Land Surveyor | *Years of relevant experience with other employer(s)* | 12 |
| *Degree(s) / Years / Specialization* | B.S. / 2004 / Industrial Design & Supervision, Southeastern Louisiana University | | |
| *Active registration number / state / expiration date* | Professional Land Surveyor No. 5040 / Louisiana / 09/24 | | |
| *Year registered* 2010 *Discipline* | Land Surveyor | | |
| *Contract role(s) / brief description of responsibilities* | Survey & Mapping Support Lead \| MPR 7 | | |

✓ Mr. Burgess serves as the Survey Manager for this project. He will work to oversee the project progress stays on schedule, aide in both crew coordination and office production, and provide final QC on the firms' deliverable to the Prime Consultant. Mr. Burgess has an extensive background in providing topographic surveys for DOTD in accordance with Location and Survey policies and procedures. He has overseen projects utilizing traditional means and methods of collecting data as well as those that include the use of 3D Terrestrial Scanning.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 02/22-11/22 | **Louisiana Watershed Initiative Region 5 – Task Order #2, LA. *DOTD.*** Survey Manager. CD&C as a subconsultant on this project was responsible for topographic survey of various structures in Lafayette Parish, Vermillion Parish, and St. Mary Parish to help fill in data for the watershed model. The topographic data for this project was collected both traditionally and utilizing 3D Scanning. |
| 02/22-11/22 | **Louisiana Watershed Initiative Region 5 – Task Order #3, LA. *DOTD.*** Survey Manager. CD&C as a subconsultant on this project was responsible for topographic survey of various structures in Lafayette Parish, Vermillion Parish, and St. Mary Parish to help fill in data for the watershed model. The topographic data for this project was collected both traditionally and utilizing 3D Scanning. |
| 09/21 – 03/22 | **Southern University Ravine Protection, East Baton Rouge Parish, LA. *DOTD.*** Survey Manager. CD&C as a subconsultant on this project was responsible for topographic survey of the sites at Southern University. The topographic data for this project was collected both traditionally and utilizing 3D Scanning. |
| 07/20 – 04/21 | **Comite River Diversion Bridge at LA 67, LA 19 and LA 19 Railroad Bridge, East Baton Rouge Parish, LA. *DOTD.*** Survey Manager. CD&C as a subconsultant on this project was responsible for topographic surveying the LA 67 and LA 19 sites of the Comite River Diversion project. This included merging of data from a previous survey on one portion of the site and field verifications of that data. The topographic data for this project was collected traditionally. |
| 01/18-01/20 | **I-10: LA 415 to Essen Lane on I-10 and I-12, West and East Baton Rouge, LA. *DOTD.*** Survey Manager. CD&C as a subconsultant on this project is responsible for topographic surveying the portion of I-10 in West Baton Rouge Parish beginning at the start of the project limits to a point just before the approach of the I-10 Bridge and the limits of the project along LA 415 including work on Tributaries of the Intercoastal Canal. This work included using 3D Scanning for the bridge at I-10 bridge at LA 415 as well as scanning every 500' for control verification and incorporation of the Mobile Lidar for the I-10 pavement. |
| 7/17-12/18 | **LA 30 Roundabout at Tanger I-10, Ascension Parish, LA. *DOTD.*** Survey Manager. Duties included meeting with LADOTD & Cardno, Inc for utility locations, coordination of crews and 3D terrestrial scanning crew along with office personnel, coordination. Special duties were merging of two state projects with project survey for final submittal to combine all projects together. |

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| 01/16-08/16 | **US 190 Superstreet, St.Tammany Parish, LA. *DOTD.*** Survey Manager for the project. Duties included complete topographic survey and drainage map for this project including all utility coordination. The survey began at the intersection of US 190 and Holiday Square Frontage Road. From this point, the survey proceeded in a northerly direction along US 190 for approximately 2.9 miles to a point that is 700 feet South of Intersection of US 190 and E. Boston St. in Covington, LA. This project also included work in the Abita River and utilized 3D Terrestrial Scanning for the main route. |
| 10/15-12/18 | **I-10 Texas State Line –East of Coone Gully, Calcasieu Parish, LA. *DOTD.*** Survey Manager. Duties included meeting with DOTD, coordination of traditional crews and 3D terrestrial scanning crew, coordination of utility companies on the project, review and verification of drainage crossing I10, merging of existing topographic survey of bridges from DOTD and final review of all survey data for submittals |
| 08/16-12/17 | **I-49 South at Verot School Road, Lafayette, LA. *DOTD.*** Survey Manager. Duties included meeting with DOTD, and all consultants on the team, coordination of both traditional crews and 3D terrestrial scanning crew, coordination of survey crews with Cardno, Inc, utility locations on the project, met and review right of entry with landowners for project, review of drainage map, merging of existing topographic survey of the I-49 Connector project from DOTD with current survey of project, review of apparent right of way mapping for prime consultant, and final review of all survey data. |

## 16. Staff Experience:

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| *Firm employed by* | Civil Design & Construction, Inc. | | |
| *Name* | **Chris Ballard, PLS** | *Years of relevant experience with this employer* | 8 |
| *Title* | Survey Project Manager | *Years of relevant experience with other employer(s)* | 19 |
| *Degree(s) / Years / Specialization* | B.S. / 2004 / Biological Science , Southeastern Louisiana University | | |
| *Active registration number / state / expiration date* | Professional Land Surveyor No. 5033 / Louisiana / 09/24 | | |
| *Year registered* 2010 *Discipline* | Land Surveyor | | |
| *Contract role(s) / brief description of responsibilities* | Survey & Mapping Support \| MPR 7 | | |

✓ Mr. Burgess serves as the Survey Manager for this project. He will work to oversee the project progress stays on schedule, aide in both crew coordination and office production, and provide final QC on the firms' deliverable to the Prime Consultant. Mr. Burgess has an extensive background in providing topographic surveys for DOTD in accordance with Location and Survey policies and procedures. He has overseen projects utilizing traditional means and methods of collecting data as well as those that include the use of 3D Terrestrial Scanning.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 09/21 – 03/22 | **Southern University Ravine Protection, East Baton Rouge Parish, LA. *DOTD.*** Survey Project Manager. CD&C as a subconsultant on this project was responsible for topographic survey of the sites at Southern University. The topographic data for this project was collected both traditionally and utilizing 3D Scanning. |
| 09/01/18-01/20 | **LA 415 to Essen Lane on I-10 and I-12, West and East Baton Rouge, LA. *DOTD.*** Survey Project Manage. CD&C as a subconsultant on this project is responsible for topographic surveying the portion of I-10 in West Baton Rouge Parish beginning at the start of the project limits to a point just before the approach of the I-10 Bridge and the limits of the project along LA 415 including work on Tributaries of the Intercoastal Canal. This work included using 3D Scanning for the bridge at I-10 bridge at LA 415 as well as scanning every 500' for control verification and incorporation of the Mobile Lidar for the I-10 pavement. |
| 04/17-07/17 | **LA 58 Petit Caillou Bridge Rehabilitation (Sarah Bridge), Terrebonne Parish, LA. *DOTD.*** Survey Project Manager. This project which included a complete topographic survey, utility coordination, channel cross sections, and the scanning of the existing vertical lift bridge for the design of its repairs/replacement. Project included data collection of the topography via traditional means and methods along with 3D terrestrial scanning and hydrographic surveying. |
| 7/17-12/18 | **LA 30 Roundabout at Tanger I-10, Ascension Parish, LA. *DOTD.*** Survey Manager. Duties included meeting with LADOTD & Cardno, Inc for utility locations, coordination of crews and 3D terrestrial scanning crew along with office personnel, coordination. Special duties were merging of two state projects with project survey for final submittal to combine all projects together. |
| 10/16 - 11/16 | **Tangi River Bridge Replacement, Tangipahoa Parish, LA. *DOTD.*** Project Manager. Among the duties performed for the project were review of the crew work conditions, review & processing of the survey data, verification, and review of final submittal. CD&C completed a topographic survey which included all utilities with depths, all drainage, all building information including finish floor elevations, and all super/substructure of the bridge over the Tangipahoa River. Additional information regarding the river was located by traditional means upstream and downstream for the engineer's design of the new bridge. To utilize data collection of the failed bridge, 3D Terrestrial Scanning was incorporated in conjunction with traditional means to complete the topographic survey. Due to the nature of the project being an Emergency Bridge replacement all staff worked on this project non-stop until field work was completed in less than 3 weeks. |

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| 09/17 -09/17 | **District 62 Bridges, Livingston and Tangipahoa Parishes, LA.** ***DOTD.*** Survey Project Manager. This project included five bridge sites in District 62. In addition to all of the existing data for the bridge and roadway at each site, each channel was cross-sectioned both upstream and downstream of the bridge. These included bridges over the US 190 Bridge over Gray's creek, two bridges on LA 442 both crossing East Hog Branch, LA 1063 over the Natalbany River, and US 51 over Ponchatoula Creek. Several of these bridges including the US 190 one was surveyed utilizing 3D Terrestrial Scanning. |
| 10/15 - 12/18 | **I-10 Texas State Line – East of Coone Gully, Calcasieu Parish, LA.** ***DOTD.*** Survey Project Manager. A six-lane widening of I-10, duties performed on this project included the review of the survey information from crew, verification of project delivery schedule, processing of data and final review of submittal of project. 3D Terrestrial Scanning was used in conjunction with traditional means and methods for the completion of this project. |
| 01/16 - 08/16 | **US 190 Superstreet, St.Tammany Parish, LA.** ***DOTD.*** Survey Project Manager. CD&C provided a complete topo survey and drainage map along with utility coordination for the project. Project duties included processing of data, review of field notes and weeklies, & performing final punch list. This project also included work in the Abita River utilized 3D Terrestrial Scanning for the main route. |
| 10/15 - 01/16 | **Hanks Dr/Landis Drive Pedestrian Improvements, East Baton Rouge Parish, LA.** ***DOTD.*** Survey Project Manager on this project that included a topographic survey and establishment of the ROW for Hanks Dr. for installation of new sidewalk. |

## 16. Staff Experience:

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| *Firm employed by* | Civil Design & Construction, Inc. | | |
| *Name* | **Philip Dupree** | *Years of relevant experience with this employer* | 11 |
| *Title* | Survey Party Chief | *Years of relevant experience with other employer(s)* | 30 |
| *Degree(s) / Years / Specialization* | N/A | | |
| *Active registration number / state / expiration date* | NSPS Certified Survey Technician, Level III, Boundary Cert. No. 0799-1106 / Nationwide<br>ATSSA Certified as Registered Flagger<br>ATSSA Certified Traffic Control Tech & Traffic Control Supervisor | | |
| *Year registered* | 2009 | *Discipline* | Survey Party Chief |
| *Contract role(s) / brief description of responsibilities* | Survey & Mapping Support | | |

✓ Mr. Dupree is the Senior Survey Party chief who will work to oversee a crew as well as aide in coordinating all crews with Survey PM to ensure field work is being completed timely and accurately.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 02/22 - 11/22 | **Louisiana Watershed Initiative Region 5 – Task Order #2, LA. *DOTD.*** Survey Party Chief. CD&C as a subconsultant on this project was responsible for topographic survey of various structures in Lafayette Parish, Vermillion Parish, and St. Mary Parish to help fill in data for the watershed model. The topographic data for this project was collected both traditionally and utilizing 3D Scanning. |
| 02/22 - 11/22 | **Louisiana Watershed Initiative Region 5 – Task Order #3, LA. *DOTD.*** Survey Party Chief. CD&C as a subconsultant on this project was responsible for topographic survey of various structures in Lafayette Parish, Vermillion Parish, and St. Mary Parish to help fill in data for the watershed model. The topographic data for this project was collected both traditionally and utilizing 3D Scanning. |
| 09/21 – 03/22 | **Southern University Ravine Protection, East Baton Rouge Parish, LA. *DOTD.*** Survey Party Chief. CD&C as a subconsultant on this project was responsible for topographic survey of the sites at Southern University. The topographic data for this project was collected both traditionally and utilizing 3D Scanning. |
| 01/18-02/20 | **I-10: LA 415 to Essen Lane on I-10 and I-12, West and East Baton Rouge, LA. *DOTD.*** Survey Party Chief. CD&C as a subconsultant on this project is responsible for topographic surveying the portion of I-10 in West Baton Rouge Parish beginning at the start of the project limits to a point just before the approach of the I-10 Bridge and the limits of the project along LA 415. |
| 07/17-12/18 | **LA 30 Roundabout at Tanger I-10, Ascension Parish, LA. *DOTD.*** Field Coordinator. Working specifically to set the control on the job and overseeing field crews as they work to complete the topography. |
| 10/15-12/18 | **I-49 South at Verot School Road, Lafayette, LA. *DOTD.*** Field Coordinator. He resurrected the original control set on the project and oversaw the checking of it. Mr. Dupree was the field coordinator with the R/R and also the SUE contractor on the project. He oversaw all field crews and ensured that the project was completed accurately and timely. |

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| 01/16-08/16 | **US 190 Superstreet, St.Tammany Parish, LA. *DOTD.*** Field Coordinator on this urban roadway topography project that included 3D scanning in addition to traditional topography. He oversaw the daily progress of both traditional field crews and scan crews and completed the project accurately and on schedule. |
| 10/16-11/16 | **LA 443: Tangi River Bridge Replacement, Tangipahoa Parish, LA. *DOTD.*** Field Coordinator. CD&C completed a topographic survey which included all utilities with depths, all drainage, all building information including finish floor elevations, and all super/substructure of the bridge over the Tangipahoa River. Additional information regarding the river was located by traditional means upstream and downstream for the engineer's design of the new bridge. To utilize data collection of the failed bridge, 3D Terrestrial Scanning was incorporated in conjunction with traditional means to complete the topographic survey. |
| 07/14-10/15 | **I-110 North Street to Plank Road, Baton Rouge, LA. *DOTD.*** Field Coordinator on this heavily traveled Interstate project that included 3D scanning in addition to traditional topography. He oversaw the daily progress of both traditional field crews and scan crews and completed the project accurately and on schedule. He also coordinated with the district and state police to oversee the rolling lane closure that was required to obtain the drainage invert data. |

## 16. Staff Experience:

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| *Firm employed by* | Civil Design & Construction, Inc. | | |
| *Name* | **Trent Norris** | *Years of relevant experience with this employer* | 8 |
| *Title* | Senior Technician | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | N/A | | |
| *Active registration number / state / expiration date* | NSPS Certified Survey Technician, Level I Boundary Certificate No.: 0418-5963<br>ATSSA Traffic Control Supervisor, Technician & Flagger | | |
| *Year registered* | 2017 | *Discipline* | Survey Party Chief |
| *Contract role(s) / brief description of responsibilities* | Survey & Mapping Support | | |

✓ Mr. Norris serves as the firm's 3D Scanning Technician who will aide in field data collection as well as process all 3D scan data in the office and assist in any other processing to complete the submittal.

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
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| 02/22 - 11/22 | **Louisiana Watershed Initiative Region 5 – Task Order #2, LA. *DOTD.*** Mr. Norris served as one of the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. CD&C as a sub-consultant on this project was responsible for topographic survey of various structures in Lafayette Parish, Vermillion Parish, and St. Mary Parish to help fill in data for the watershed model. |
| 02/22 - 11/22 | **Louisiana Watershed Initiative Region 5 – Task Order #3, LA. *DOTD.*** Mr. Norris served as one of the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. CD&C as a sub-consultant on this project was responsible for topographic survey of various structures in Lafayette Parish, Vermillion Parish, and St. Mary Parish to help fill in data for the watershed model. |
| 09/21 – 03/22 | **Southern University Ravine Protection, East Baton Rouge Parish, LA. *DOTD.*** Mr. Norris served as one of the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. |
| 01/18 – 01/2020 | **I-10: LA 415 to Essen Lane on I-10 and I-12, West and East Baton Rouge, LA. *DOTD.*** Mr. Norris was the 3D Scanning Technician for this project. CD&C as a sub-consultant on this project is responsible for topographic surveying the portion of I-10 in West Baton Rouge Parish beginning at the start of the project limits to a point just before the approach of the I-10 Bridge and the limits of the project along LA 415. |
| 07/17 – 12/18 | **LA 30 Roundabout at Tanger I-10, Ascension Parish, LA. *DOTD.*** Mr. Norris served as the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. |
| 04/17 – 07/17 | **LA 58 Petit Caillou Bridge Rehabilitation (Sarah Bridge), Terrebonne Parish, LA. *DOTD.*** Mr. Norris served as the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. |

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| 08/16 – 01/18 | **Verot School Road, Lafayette, LA. *DOTD.*** Mr. Norris served as the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. |
| 10/16 – 10/16 | **LA 443 Emergency Bridge Replacement, Tangipahoa Parish, LA. *DOTD.*** Mr. Norris served as the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. |
| 10/15 – 12/18 | **I-10 TX State Line-E of Coone Gully, Calcasieu Parish, LA. *DOTD.*** Mr. Norris served as the firm's 3D Scanning Tech on this project by working with the scan crew in the field, post processing the scans, and extracting all of the necessary topographic data from them thru TopoDot to put into InRoads. |

**16. Staff Experience:**

| | | | |
|---|---|---|---|
| *Firm employed by* | WSP USA Inc. | | |
| *Name* | **Michael Craig, PE** | *Years of relevant experience with this employer* | 14 |
| *Title* | Southeast In-Service Bridge Dept. Manager/ Project Manager | *Years of relevant experience with other employer(s)* | 10 |
| *Degree(s) / Years / Specialization* | BS / 1997 / Civil Engineering<br>MS / 1999 / Structural Engineering – Bridge Inspection, Repair and Design | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0041964/ LA / 3/24 | | |
| *Year registered* 2008 *Discipline* | Structural | | |
| *Contract role(s) / brief description of responsibilities* | Structural Lead \| MPR 5 | | |

✓ Mr. Craig has 23 years of experience in structural engineering with a focus on bridge inspection, load rating, bridge repairs and asset management services. Michael has inspected over 2,000 bridges across the southeast, Including many complex truss, and cable-stayed structures. Michael has also overseen the repairs of several hundred bridges. The repairs have ranged from complex repairs on the dampening systems of cable-stayed bridges to spall repairs on culverts. Relevant Training: Safety Inspection of In-Service Bridges, 2001 (NHI-130055); Safety Inspect of Fracture-critical Inspection Techniques for Steel Bridges, 2015 (NHI-130078); Bridge Inspection Refresher Training, 2018 (NHI-130053); Railroad Roadway Worker Protection 2012, 2014, 2016; Bridge Maintenance Training, 2013 (NHI-134029); Confined Space, 2009; Bridge Inspection Nondestructive Evaluation Seminar (BINS), 2008 (NHI-130099A); Bridge Coatings Level 1, 2012; FHWA Inspection and Maintenance of Ancillary Highway Structures, 2016 (NHI 130087); Aerial Training, 2017; OSHA 30-hour Hazard Recognition Training for the Construction Industry, 2017; Licensed Drone Pilot, 2021

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
|---|---|
| June 2021 | **Chilhowee Detailed Tainter Gate Inspection, Tallassee, TN.** ***TDOT.*** As Principal-in-Charge, Michael oversaw the inspection of 4 Tainter gates at the Chilhowee Dam in June 2021. Prior to mobilization, the inspection team reviewed all available documentation and previous inspections, and anchoring and access plans were developed in accordance with SPRAT Safe Practices for Rope Access. Upon arrival at the site, the inspection teams participated in a pre-inspection safety meeting with Brookfield representatives, reviewed Lock-Out/Tag-Out procedures, and locked and tagged out all necessary equipment before beginning the inspection. The hands-on inspections included: structural steel members; connections, including rivets, nuts, bolts, welds and gusset plates; hubs, trunnions and pins; skin plates; side seals, bottom seals and sealing surfaces; lifting chains and attachment points; and pier walls. |
| 2020-2021 | **Narrows Dam Spillway Inspection, Badin, NC.** ***City of Badin.*** Principal-in-Charge. A variety of inspection tasks were performed on the spillway at the Narrows Dam in Badin, NC beginning in November 2020. A Ground Penetrating Radar (GPR) scan of the spillway to investigate potential voids beneath the concrete was performed by the team. Prior to commencing work, the inspection team participated in a safety orientation with Cube Hydro personnel and performed a Lock-Out/Tag-Out on the gate operation equipment. Rope access was used to gain access to the spillway via the spillway walls, and removable anchors were installed in the in the walls to provide fall protection on the lower spillway. In March 2021, the inspection team returned again with coring equipment and a different GPR antenna were brought to the dam. Cores were taken at various locations on the spillway, and GPR was run again in various areas. |

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| 2012-2022 | **City of Charlotte Bridge Inspection and Asset Management Plan, Charlotte, NC.** ***City of Charlotte.*** Project Manager, assisted the City of Charlotte with the implementation of their bridge inspection and asset management program. This program is a systematic plan to preserve their bridges in good condition utilizing cyclical based preventive maintenance, combined with condition based maintenance based on the bridge inspection identified deficiencies. The condition based repairs have included hydro demolition and latex modified concrete repairs, FRP wrapping, jacking and repairing steel girders, painting, superstructure replacement, top slab replacement for a culvert, repair of spalls joint replacements, and replacement of decayed piles. Further, Mr. Craig has helped the City a series of "best practices" including the removal of joints, maintaining joints in good condition, and the epoxy sealing of concrete caps coinciding with any work on the substructure. The goal is to minimize the lifecycle costs while maximizing the driving experience for their community. |
| 6/16-Present | **Engineering Services for Cable-Stayed Structures, GA.** ***GDOT.*** Project Manager. This task-order basis contract has included a special member inspection of the Sidney Lanier Bridge (2016) to evaluate exposed strands with various degrees of corrosion present, in-depth NBI and emergency post-hurricane inspection of the Talmadge Memorial Bridge (2017 and 2020) and the rehabilitation of the dampening system for the cable stays, and two ongoing rehabilitation design contracts for the Sidney Lanier Bridge. The first rehabilitation project for the Sidney Lanier Bridge primarily addressed deficiencies associated with excessive cable vibration, including repairs to cable-stays with breached protective sheathing and corroded strands. The second rehabilitation project includes the installation of external dampers at all 176 stays. The Talmadge Memorial Bridge consists of prestressed, post-tensioned continuous approach spans and a cable-stayed main span, traversing a total length of approximately 7,570 feet. The Sidney Lanier Bridge consists of a two-pylon cable-stayed structure supporting a main river span and two back spans (total length of 2,500 feet) with a post-tensioned concrete deck supported by concrete edge girders and post-tensioned concrete floorbeams. Thirty-four approach spans consist of ten prestressed or post-tensioned concrete beams for a total bridge length of 7,780 feet. |
| 6/11-Present | **NBIS Bridge Inspection, Load Rating, Repairs and Designs, NC.** ***NCDOT.*** Team Leader, Project Manager and QC Manager. Michael has been involved with the NCDOT bridge inspection program for 20 years. He has performed field inspections, analysis and ratings; evaluated the physical condition; and recommended preservation and maintenance needs, repair plans, including the use of cathodic protection, and designed several bridges under this contract, including one of the state's longest single span bridges. To date he has completed over 2000 load ratings utilizing, Mathcad, Excel and BrR; and 2,000 inspections, including many of the state's longest structures, segmental boxes, and fracture critical trusses. |
| 2018 | **New Hanover County Bridge Rehabilitation, NC.** ***NCDOT.*** Project Manager. Mr. Craig oversaw the repair plans for this high value bridge connecting the mainland to Wrightsville Beach. The bridge consisted of 14 spans of prestressed concrete girders on reinforced concrete caps supported on prestressed piles. WSP performed a hands-on inspection to identify all of the bridge defects. Worked alongside Siva Corrosion to perform the corrosion evaluation. WSP then prioritized the repairs performed cost estimates and created the repair plans and specifications. Repairs included, epoxy deck repair, railing repair, non-monitored galvanic protection of the prestressed girders, combination cathodic and sacrificial anode protection of the caps (monitored), and pile jacketing with sacrificial anodes. |

**16. Staff Experience:**

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| *Firm employed by* | WSP USA Inc. | | | |
| *Name* | **Casey Howard, PE** | | *Years of relevant experience with this employer* | 10 |
| *Title* | Senior Structural Engineer/Inspector | | *Years of relevant experience with other employer(s)* | 0 |
| *Degree(s) / Years / Specialization* | BS / 2013 / Civil Engineering | | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0042913/ LA / 3/25 | | | |
| *Year registered* | 2018 | *Discipline* | Structural | |
| *Contract role(s) / brief description of responsibilities* | Structural | | | |

✓ Mr. Casey Howard is a FHWA certified bridge inspector and a structural engineer. He has 10 years of experience in the inspection, analysis, rehabilitation, design, asset management, load rating, and construction engineering services for numerous structure types across the east coast. He has inspected multiple hydropower/dam structures. Relevant Training: FHWA Safety Inspection of In-Service Bridges, 2014 (NHI 130055); FHWA Prerequisite, 2013 (NHI 130101A;) ASNT Ultrasonic Testing Level I, 2015; ASNT Ultrasonic Testing Level II General Exam, 2015; Fracture-Critical Inspection Techniques for Steel Bridges, 2016 (NHI 130078); Bridge Coatings Level 1, 2014 (BCC 12219); FHWA Bridge Maintenance Training, 2013 (NHI 134029); FHWA Introduction to Element Level Bridge Inspection, 2014; SPRAT Level I Rope Access Technician, 2015; SPRAT Level II Rope Access Technician, 2017; FHWA Tunnel Safety Inspection, 2016 (NHI 130110); Confined Space Entry Training, 2017; American Red Cross Adult First Aid/CPR/AED; Bridge Inspection Refresher Training, 2018 (NHI 130053); FHWA Inspection and Maintenance of Ancillary Highway; Structures, 2016 (NHI 130087); Aerial Training, 2017

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
|---|---|
| June 2021 | **Chilhowee Detailed Tainter Gate Inspection, Tallassee, TN.** ***TDOT.*** Casey performed a hands on inspection of 4 Tainter gates at the Chilhowee Dam in June 2021. Prior to mobilization, the inspection team reviewed all available documentation and previous inspections, and anchoring and access plans were developed in accordance with SPRAT Safe Practices for Rope Access. Upon arrival at the site, the inspection teams participated in a pre-inspection safety meeting with Brookfield representatives, reviewed Lock-Out/Tag-Out procedures, and locked and tagged out all necessary equipment before beginning the inspection. The hands-on inspections included: structural steel members; connections, including rivets, nuts, bolts, welds and gusset plates; hubs, trunnions and pins; skin plates; side seals, bottom seals and sealing surfaces; lifting chains and attachment points; and pier walls. |
| 2020-2021 | **Narrows Dam Spillway Inspection, Badin, NC.** ***NCDOT.*** A variety of inspection tasks were performed on the spillway at the Narrows Dam in Badin, NC beginning in November 2020. A Ground Penetrating Radar (GPR) scan of the spillway to investigate potential voids beneath the concrete was performed by Casey Howard and two other team members. Prior to commencing work, the inspection team participated in a safety orientation with Cube Hydro personnel and performed a Lock-Out/Tag-Out on the gate operation equipment. Rope access was used to gain access to the spillway via the spillway walls, and removable anchors were installed in the in the walls to provide fall protection on the lower spillway. In March 2021, the inspection team returned again with coring equipment and a different GPR antenna were brought to the dam. Cores were taken at various locations on the spillway, and GPR was run again in various areas. |

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| 2020 | **Santeetlah Detailed Tainter Gate Inspection, Graham, NC.** ***NCDOT.*** Casey performed a hands-on rope access inspection of the tainter gates at the Santeetlah station. Prior to the completion of the 'arm's length' visual inspection Casey completed a comprehensive review of available documentation. The inspection was completed in accordance with the SPRAT Safe Practices for Rope Access Manual. After mobilizing to site, the inspection team participated in a pre-inspection safety meeting with Brookfield to review project specific LOTO and safety procedures. The hands-on inspection included: Structural steel members, Connections, including gusset plates double angles, bolts and rivets, Hubs and trunnions, Side seals, bottom seal and seal surfaces, Visible sections of the skin plate, Mini Gates and operators, lifting chains, cables, and connection fittings, Upstream skin plate and lifting attachment points. Sufficient information was collected during the detailed inspection to reconcile the as-built section properties with what is shown on available construction record drawings and compared to the results from the previous 10-year inspection. The GIR included photographic and textual documentation for each noted deficiency. The report also included a high-level discussion as to the structural implications of the deficiency. |
| 2012-2022 | **Bridge, Culvert and Pipe Inspection and Repairs, Charlotte, NC.** ***City of Charlotte.*** Casey served as a Structural Engineer and Team Leader. WSP has successfully completed 4 cycles of this inspection and repair contract which includes the condition assessment, repair and rehabilitation design and the construction inspection of over 240 structures throughout the City of Charlotte. The repair and rehabilitation bridge construction inspection included: painting, spall repair, substructure repair, superstructure repairs, deck repairs, sealing of decks, slope protection repair, joint repairs, and the complete replacement of the superstructure on the 11th street bridge. Casey's role in this project included performing construction inspections, analysis, load ratings, evaluation of physical condition, and recommendation of maintenance needs. For the past 3 cycles Casey also assisted with the repair designs. In total he has completed over 400 repairs on structures across City of Charlotte for this project. |
| 2018-2022 | **Structure Inspection and Repairs, Charlotte, NC.** ***Charlotte Douglas International Airport.*** Team Leader. Casey assisted with the NBIS inspection for 7 landside and 4 airside bridges. These inspections have included hundreds of feet of retaining walls, tunnels, and several structures on active runways. This work consisted of complex traffic control in order to safely redirect the high pedestrian/ vehicular traffic at the airport. Under this contract we have performed field inspection, traffic control, load rating, recommended maintenance needs, prioritized their repairs, created repair designs and construction inspection of the repairs. |

**16. Staff Experience:**

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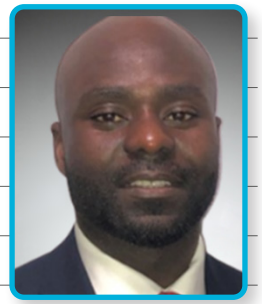
| *Firm employed by* | WSP USA Inc. | | |
| *Name* | **Jude Bonsu, PE** | *Years of relevant experience with this employer* | 15 |
| *Title* | Senior Lead Engineer | *Years of relevant experience with other employer(s)* | 10 |
| *Degree(s) / Years / Specialization* | BE / 2006 / Mechanical Engineering | | |
| *Active registration number / state / expiration date* | Professional Engineer No. 0044561 / LA / 09/24 | | |
| *Year registered* 2020 | *Discipline* | Mechanical | |
| *Contract role(s) / brief description of responsibilities* | Mechanical Lead \| MPR 8 | | |



✓ Mr. Bonsu is a Senior lead mechanical engineer with WSP who is primarily involved and experienced with the rehabilitation design, inspection and provision of construction services for movable bridges. He has also inspected and provided construction services for the mechanical systems for tunnels, subway stations, buildings and other miscellaneous structures. Relevant Training: Rexroth Industrial Principles of Hydraulics Training; FHWA-NHI-130110 Tunnel Safety Inspection; FHWA-NHI-130053 Bridge Inspection Refresher Training; AutoCAD 2008 Essentials; Metro-North Railroad & Long Island Rail Road (MNR/LIRR) Track Safety; MTA NYCT Transit Track Safety Certification; OSHA 30 Hr Construction (30082549

| *Experience dates (mm/yy–mm/yy)* | *Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).* |
|---|---|
| 2021 | **Belle Chasse Tunnel, LA.** ***DOTD.*** Mechanical Team leader for the 2021 inspection of the tunnel mechanical elements – including but not limited to the tunnel ventilation, drainage, HVAC, fire protection systems. Prepared inspection report documenting inspection findings. |
| 2021 | **Harvey Tunnel, LA.** ***DOTD.*** Mechanical Team leader for the 2021 inspection of the tunnel mechanical elements – including but not limited to the tunnel ventilation, drainage, HVAC, fire protection systems. Prepared inspection report documenting inspection findings. |
| 2019-2021 | **Queens Midtown Tunnel, New York City, NY.** ***Triborough Bridge and Tunnel Authority (TBTA).*** Resident Engineer/Construction Manager for this 4.8 million project to replace all tunnel drainage pumps, hydrocarbon systems, cleaning all sump pits, sump pit lights, renewal of existing motor starters and associated components. Provision of new Modbus IP based digital alarm and status controls, power supplies, interconnecting wiring and components to replace existing dry contact alarms with point specific pump system digital alarms and status monitoring, connecting all pump status, alarm and hydrocarbon monitoring systems, through existing TBTA backbone fiber for monitoring. |
| 2018-2020 | **On-call Design Services, NJ.** ***NJDOT.*** Lead Mechanical Engineer responsible on this on-call services to provide immediate response design services (PS&E) for the mechanical systems for NJ Movable Bridges. Scope included design efforts to retrofit existing barrier gates to reduce the clearances under the for the NJ Route 44 Bridge Over Mantua Creek. Designing new trunnion bearing covers and lubrication drip pans on the Rt 7 Bridge Over Hackensack River. Developed procedures for indexing to seat the RT 130 bridge over Raccoon Creek. |
| 2017-Present | **NJ Route 30 Over Beach Thorofare, Atlantic City, NJ.** ***NJDOT.*** Lead Engineer for the mechanical rehabilitation efforts for this single leaf bascule bridge. Efforts include replacing of the existing auxiliary drive system, rehabilitation of the selected span drive machinery components, span lock, air buffer replacement. |

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| 2017-2019 | **4 Vertical Lift Bridge, NJ.** ***NJDOT.*** Lead Engineer responsible for the design efforts to develop Contract PS&E to tension counterweight wire ropes and balance four (4) vertical lift bridges via dynamic strain gage testing. Additional design scope included machinery indexing and live load shoe shimming. Also provided Phase II engineering construction support services including perform rope tension measurements using accelerometer to confirm contractors tension measurements, reviewed all balance reports and worked closely with contractor on recommendations to balance the lift span to the specified target value while ensuring the proper operation of the lift spans. |
| March 2019-Dec 2021 | **Webster Ave, Chicago, IL.** ***ILDOT.*** Lead Mechanical Engineer for the design efforts to provide a new span lock machinery for manual operation in the event an opening is required, since the existing bridge machinery has been abandoned and not-in-use. Additional design efforts include new sump pumps, cleaning, lubricating and painting of the existing machinery components. |
| 2011-2014 | **SR 105 (Heckscher Drive) over Sisters Creek, Duval County, FL.** ***FDOT.*** Performed the Phase I inspection of all mechanical components of this hydraulically operated double-leaf Strauss trunnion bascule bridge and contributed to development of a bridge condition rehabilitation report. Assisted with the Phase II design for the rehabilitation of selected mechanical components based on the Phase I inspection report, which included the complete replacement of the existing hydraulic drive system, span locks and other mechanical components. The rehabilitation included preparation of plans and contract specifications, calculations and development of a construction cost estimate. Also reviewed shop drawings, requests for information (RFIs) and provided several construction design sketches during the Phase III. |
| 2006-2014 | **Congress Parkway Bridge over the South Branch of the Chicago River, Cook County, IL.** ***Cook County.*** Performed the rehabilitation and replacement design for selective mechanical components for this twin double leaf trunnion bascule bridge. The rehabilitation design tasks were performed using AASHTO LRFD Movable Bridge Design Specifications and design task included development of plans, specifications, calculations and cost estimate for the mechanical systems which included new span drive motor, brakes, span locks, sump pumps. Also reviewed shop drawings, requests for information (RFI) and provided design sketches during construction as part of the rehabilitation efforts. The design also included rehabilitation of the live load shoes, provision of new trunnion thrust collars, new warning gates, retractable barrier gate and removal of the existing tie-shaft machinery. Supervised the magnetic particle testing of all eight trunnion shafts as part of the pre-design inspection by the sub-contractor. |
| 2010-2012 | **Dorset Avenue Bridge over Inside Thorofare, Atlantic County, NJ.** ***NJDOT.*** Performed the Phase 1 inspection of all mechanical components of this double-leaf Strauss trunnion bascule bridge which contributed to the bridge condition rehabilitation report. Prepared plans, specifications, cost estimate and calculations for the rehabilitation design for selected mechanical components based on the Phase 1 inspection report using AASHTO LRFD Movable Bridge Design Specifications and design task included replacement of the existing counterweight trunnion shaft and bearings, hanger plates with associated components, counterweight link pins, hand drive sprocket and chain and counterweight sump pit pumps. Inspected the shop fabrication of the trunnion shafts and associated components. Reviewed all mechanical rehabilitation shop drawings and RFIs and provided several construction design sketches as part of the rehabilitation efforts. Provided Phase III construction engineering and inspection services during the construction of the bascule span. |

# Michael Baker Projects

| Project Name | Conceptual Design | | | | | | | | Environmental | | | | Schedule / Budget | Permits | Additional Services | | | | | | | Software | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Assemble Existing Land Use, Topographic, Geotechnical Data, Design Data, Construction Data | H&H Analysis | Derive the Probable Maximum Flood (PMF) | Perform Probable Failure Mode (PFM) Determinations | Develop alternatives to mitigate flood risk in the surcharge area above the dam without increasing flood risk downstream of the dam | Determine a preferred alternative | Final Alternative Report: indexed, neatly arranged, bound copy and an electronic copy of all computations used in development of the H&H and SQRA analysis | Schedule, prepare for and present the proposed alternative at conferences/meetings with affected public officials | Determine the level of environmental evaluation of the proposed alternative in accordance such as a Categorical Exclusion, EA or an EIS | Required permits necessary for project execution | Major design features | Environmental mitigation measures necessary | Services necessary to develop a schedule of implementation and estimate costs for design, utility relocations, construction and any environmental mitigation costs | Services necessary to determine permits required for project implementation | Topographic Survey | Utility Relocation | Preliminary Plans | Final Plans | Construction Proposal Services | Construction Support | Shop Drawings | HEC – HMS | HEC – RAS | HEC – FIA | HEC – FDA |
| Louisiana Watershed Initiative (LWI-SPP- Group 1) | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | | |
| Louisiana Watershed Initiative H&H Modeling Contract – Region 6 | X | X | | | | X | X | X | | | X | X | X | | X | | | | | | | | X | | |
| Taum Sauk Part 12 Inspection and PFMA Update | X | | | X | | | | | | | | | | | | | | | | | | | | | |
| High Hazard Risk Screening | X | | | X | | | | | | | | | | | | | | | | | | | | | |
| DCNR Dam Safety Projects FDC-500-801MB | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | | |



*Prime Consultant Name:* **Michael Baker International, Inc.**

## 17. Firm Experience:

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|---|---|---|---|
| *Firm name* | Michael Baker International | *Past Performance Evaluation Discipline(s)** | Planning, Other |
| *Project name* | **Louisiana Watershed Initiative (LWI-SPP- Group 1)** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | H.015040, H.015041, H.015044 | *Owner's Name* | DOTD |
| *Project location* | Region 7 | *Owner's Project Manager* | Li Yang |
| *Owner's address, phone, email* | 1201 Capitol Access Rd, Baton Rouge, LA 70802; (225) 374-1200; liyang@la.gov | | |
| *Services commenced by this firm (mm/yy)* | 11/22 | *Total consultant contract cost ($1,000's)* | $698.5 |
| *Services completed by this firm (mm/yy)* | Ongoing | *Cost of consultant services provided by this firm ($1,000's)* | $686.5 |

Michael Baker is providing engineering and modeling services to the Louisiana Department of Transportation & Development (DOTD) for LWI-SPP Group 1. This project is analyzing three separate dams and spillways in Southwest Louisiana in order to improve flood mitigation capabilities. Existing watershed and reservoirs will be modeled in HEC-HMS as well as HEC-RAS to analyze proposed improvements and determine downstream and upstream effects as well as efficiencies in reducing flood impacts to the watershed.

Michael Baker will perform a comprehensive site inspection and assessment at the project start at each dam site. This will include personnel from the Michael Baker team, representatives from DOTD. We will perform a topographic survey/LiDAR of each site, including the embankment (including the upstream, crest, and downstream slopes), spillways, piezometers, boring locations, control points, utilities, and any other surface features LiDAR survey will help identify embankment cracks.

The Michael Baker environmental team will provide all services required to meet the requirements of DOTD "Stage 1 – Planning/ Environmental Manual of Standard Practice" for the proposed alternative at each location.

Michael Baker is the prime consultant for LWI Region 6 H&H modeling, and we are very familiar with LWI Guidance on Modeling Methodology. We will also coordinate with DOTD Dam Safety Program to determine the H&H design criteria such as Inflow Design Flood (IDF) for various impact classifications (Low: 50-yr; High: ½ PMF per Dam Safety Rules and Regulations).

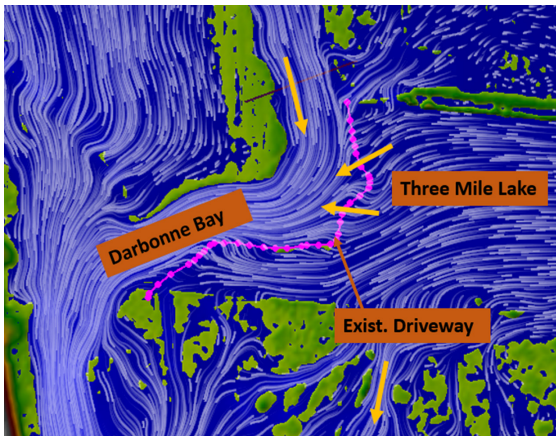
### PROJECT RELEVANCE

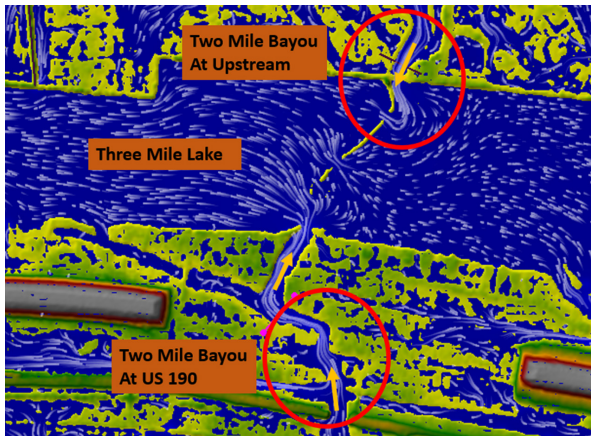
- Watershed Existing Condition Evaluation
- Hydrologic & Hydraulic Modeling
- PFMA
- Site investigation & Assessment
- Qualitative Risk Assessment

**Team Members Who Worked on This Project:**
Eric Erikson, Aaron Dunavant, Mujahid Chandoo, Mohamed Bagha, Daniel Thornhill, Don Green, Ben Afek

Existing hydrology models, particularly those from LWI studies, will be evaluated and utilized before establishing a new HEC-HMS model. In HEC-HMS, we will use Gridded Deficit and Constant for infiltration loss and ModClark for rainfall-runoff transformation as required by LWI Guidance on Modeling Methodology.

**Challenge:** To review and update potential failure modes and provide semi-qualitative risk assessments as well as improve flood mitigation within the watersheds. **Solution:** Through hydrologic & hydraulic analysis analysis, improvements to spillway and dam capacities were identified.



## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Michael Baker International | *Past Performance Evaluation Discipline(s)** | Planning, Other |
| *Project name* | **Louisiana Watershed Initiative H&H Modeling Contract – Region 6** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | 4400017092 | *Owner's Name* | DOTD |
| *Project location* | Various Counties, Louisiana | *Owner's Project Manager* | Jie Gu |
| *Owner's address, phone, email* | East Wing 5th Floor, N-526B, Baton Rouge, Louisiana 70804-9245, (225) 379-1483, Jie.Gu2@la.gov | | |
| *Services commenced by this firm (mm/yy)* | 11/20 | *Total consultant contract cost ($1,000's)* | $3,557 |
| *Services completed by this firm (mm/yy)* | Est. 12/23 | *Cost of consultant services provided by this firm ($1,000's)* | $2,001 |

Michael Baker is providing engineering and modeling services for the Louisiana Watershed Initiative. The project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds.

**Task Order 1:** For the first task-order of the contract, Michael Baker collected existing watershed datasets, models, and studies for 4 HUC-8 watersheds in southeast Louisiana, developed and proposed a detailed modeling design approach with schedules and cost estimates, and prepare a data gap analysis and collection report. Michael Baker developed the methodology for modeling flood risks in the transition zone (where both coastal and riverine flood risk exist.) Michael Baker's collection of watershed datasets, models, and studies included the following deliverables: previous FEMA watershed studies, hydrological and hydraulic (H&H) modeling data, LiDAR and survey data, historical flood information, hydrometeorology and hydrography datasets, highwater marks, land-use and soils information, and water quality information. Michael Baker also developed a HUC-8 modeling design approach for H&H studies in the 4 HUC-8 watersheds based on historical information and prepared a data management plan for organizing and reporting the data it collected.

**Task Order 2:** Michael Baker performed HUC-8 hydrologic and hydraulic modeling for the Eastern Louisiana Coastal and East Central Louisiana Coastal watersheds. For this task, it supplemented the data collection and data gap analysis completed in Task Order 1, provided quality control and assurance, continued stakeholder engagement efforts including holding any necessary public meetings, continue reviewing historic storm events to adjust data collection and analysis, and perform topographic, bathymetric, and channel surveys. The Eastern Louisiana Coastal and East-Central Louisiana Coastal watersheds include transition and coastal zones. Michael Baker developed a tiered modeling design plan for H&H studies for these zones and developed internal and external boundary conditions. The tiered modeling structure recommended detailed studies in areas of higher need (greater losses, unconfined flooding and areas prone to development.) Michael Baker developed rain-on-grid analyses using HEC-RAS 6.0 and calibrated the models using large and recent storm events. Deliverables included a technical report, a quick-training guide to support future modeling, and an update to the data management plan.

**Challenge:** Region 6 of the Louisiana Watershed Initiative is characterized by widespread swamps, marshlands, and dense natural and man-made river channel networks. The traditional H&H modeling method simulates hydrology and hydraulics separately, with rivers modeled by 1D elements, relying on a modeler's judgment. Overall, the traditional H&H modeling takes more time and resources. **Solution:** During the contract scoping and fee negotiation phase, Michael Baker worked with the client to develop a detailed H&H modeling work plan for Region 6 using cutting-edge 2D H&H modeling. The 2D H&H modeling approach integrates hydrology with hydraulics in one model run to better model a real-world, precipitation-runoff-routing process. Michael Baker shortened the project schedule by one to two years and saved the client approximately $2 million in consulting fees by adopting this approach.

### PROJECT RELEVANCE

- Watershed Existing Condition Evaluation
- LWI Guidelines and Criteria
- Hydrologic & Hydraulic Modeling
- Leading a Multiple Discipline Project Team Consisting of Michael Baker and Local Subconsultants

**Team Members Who Worked on This Project:**
Eric Erikson, Mujahid Chandoo, Mohamed Bagha, Manoj KC, Daniel Thornhill, Kushal Regmi, Prashanta Bajracharya

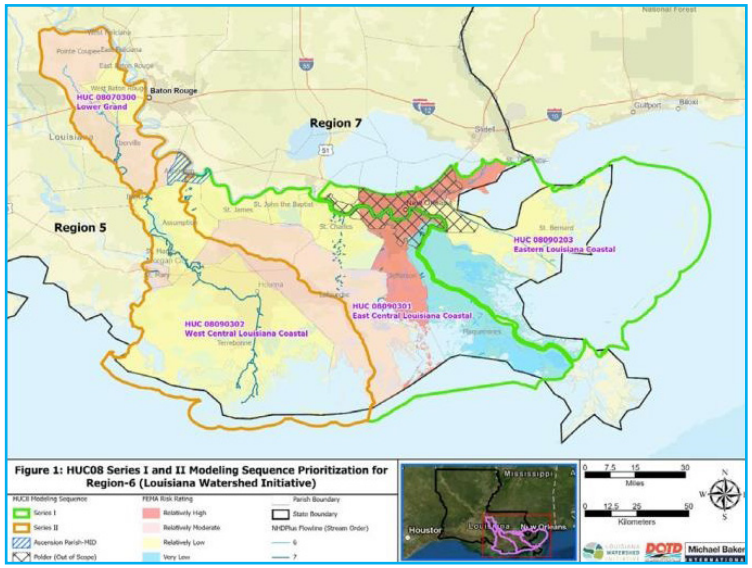


Figure 1: HUC08 Series I and II Modeling Sequence Prioritization for Region-6 (Louisiana Watershed Initiative)

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Michael Baker International | *Past Performance Evaluation Discipline(s)** | Planning, Other |
| *Project name* | **Taum Sauk Part 12 Inspection and PFMA Update** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | N/A | *Owner's Name* | Ameren, Missouri |
| *Project location* | Ameren – Ironton, Missouri | *Owner's Project Manager* | Marc Lueckenhoff |
| *Owner's address, phone, email* | 11149 Lindbergh Business Court, St. Louis, Missouri 63123, (314) 957-3391, mlueckenhoff2@ameren.com | | |
| *Services commenced by this firm (mm/yy)* | 02/21 | *Total consultant contract cost ($1,000's)* | $40 |
| *Services completed by this firm (mm/yy)* | 11/21 | *Cost of consultant services provided by this firm ($1,000's)* | $40 |

Michael Baker is performed the Eleventh Part 12D Inspection for the Taum Sauk Hydroelectric Project. The Project is located in Reynolds County, Missouri, on the East Fork of the Black River, approximately 90 miles southwest of St. Louis, Missouri. The Project includes an Upper Reservoir, powerhouse with reversible pump-turbines, and a Lower Reservoir. A water conveyance system including a vertical shaft, unlined tunnel, lined tunnel, and penstock connect the powerhouse to the Upper Reservoir. The facility was originally constructed in 1963 and the Upper Reservoir was completely rebuilt after a breach in 2005. The Project is a pumped storage plant used to supplement Ameren's generation facilities.

The Independent Consultant Safety (Part 12D) Inspection is a comprehensive evaluation and field inspection of the licensed portion of the project. This Project included a review of background data, a detailed visual inspection of the facility, a Potential Failure Modes Analysis (PFMA) review session, and preparation of the associated reports.

Michael Baker prepared a revised PFMA Report detailing updates to the Potential Failure Modes (PFMs) for the Project. Michael Baker also prepared the Part 12D Inspection Report, which includes a summary of the inspection, an assessment of instrumentation and monitoring data, an evaluation of PFMs, an evaluation of Operation and Maintenance procedures, and an assessment of supporting analyses and documentation for the Project.

**Challenge:** One challenge was to review and update potential failure modes for the project. **Solution:** Michael Baker staff held a PFMA review session with FERC and Ameren staff to update PFMs for the project and prepared an updated PFMA report documenting the results of the review.

### PROJECT RELEVANCE

- Dam Inspection and Assessment
- PFMA Update

**Team Members Who Worked on This Project:**
Brian Afek

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Michael Baker International | *Past Performance Evaluation Discipline(s)** | Planning, Other |
| *Project name* | **High Hazard Risk Screening** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | N/A | *Owner's Name* | NJ Department of Environmental Protection, Bureau of Dam Safety |
| *Project location* | Statewide, New Jersey | *Owner's Project Manager* | Sarah Hatala |
| *Owner's address, phone, email* | 44 S Clinton Avenue, 3rd Floor, Trenton NF 08625, (609) 984-0859, Sarah.hatala@dep.nj.gov | | |
| *Services commenced by this firm (mm/yy)* | 02/21 | *Total consultant contract cost ($1,000's)* | $261 |
| *Services completed by this firm (mm/yy)* | Ongoing | *Cost of consultant services provided by this firm ($1,000's)* | $261 |

Michael Baker is providing engineering services for the assessment and risk screening for 37 high hazard dams for the New Jersey Office of Emergency Management and New Jersey Department of Environmental Protection (NJDEP). This enhanced risk assessment will allow NJDEP to comply with Federal Emergency Management Agency (FEMA) requirements as part of the High Hazard Potential Dams (HHPD) Grant Program.

As part of this project, Michael Baker is performing the following tasks:

- Information Collection and Data Review: Michael Baker is collecting information from NJDEP files on dam condition, past assessments, design and as-built information, recent modifications, photos, deficiencies, and other relevant information.
- Potential Failure Modes Analysis: Based on information available, Michael Baker engineers are performing a Potential Failure Modes Analysis (PFMA) for each of the structures to better understand the structure deficiencies, critical failure modes, events that could lead to a failure, risk reduction measures, and impacts of failure.
- Impacts Assessment: Michael Baker is using existing inundation mapping and flood analysis to assess and catalog the potential downstream impacts for each failure mode. Items being categorized include population at risk, economic impacts to structures, and roadways, and environmental and other impacts.
- Risk Screening and Matrix: A team of Michael Baker staff developed a qualitative risk screening procedure for the dams considering the information available on the dam construction and condition, potential failure modes, and downstream impacts. The risk screening is based on FEMA's dam safety guidance and has been customized for the portfolio of dams.

**Challenge:** One challenge was how to prioritize repairs for a large portfolio of dams. **Solution:** Development of a matrix that provides an overall inventory of the projects considered and a summary of the information available at each site, providing a simple resource to quickly understand the portfolio of projects. The innovative approach for the semi-quantitative risk assessment evaluates and ranks projects based on the information available, allowing the client to understand the critical potential failure modes at each site and the critical sites and projects that could most effectively reduce overall risk.

### PROJECT RELEVANCE

- Site Investigation & Assessment
- PFMA
- Qualitative Risk Assessment

**Team Members Who Worked on This Project:**
Joe Kudritz

| | |
|---|---|
| **Screening Level Risk Rating** | II - High Urgency |
| **Screening Level Risk Rating Explanation** | Steenykill Lake Dam was rated a Category II – High Urgency primarily because of two reasons – (1) the heavy vegetation in the spillway appears to significantly reduce spillway capacity and the dam already has inadequate spillway capacity during the PMF, and (2) heavy vegetation on the embankment makes inspection and monitoring of the embankment difficult, especially monitoring of previously identified depression at the crest and steep embankment slopes. This project better fits the Category II Screening Level Risk Rating (SLRR) because during a flood event spillway obstruction and potential dam overtopping is likely, meaning "risk is high with high confidence" |
| **Comments and Summary** | 2018 Inspection notes additional downstream development is likely since last EAP update. 2005 Dam breach analysis indicates dam overtops by 0.7 feet during PMF (after spillway modifications). Heavy vegetation in spillway reduces capacity significantly, and capacity is already inadequate. Heavy vegetation on dam makes inspection difficult and origin/cause of depression on crest is unknown. |
| **Recommended Remediation** | Remove vegetation from spillway and dam, backfill previously observed depression, and evaluate if spillway capacity improvements are required. |

*Dam Risk Rating Table*

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Michael Baker International | *Past Performance Evaluation Discipline(s)** | Planning, Other |
| *Project name* | **DCNR Dam Safety Projects FDC-500-801MB** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | N/A | *Owner's Name* | PA Department of Conservation and Natural Resources |
| *Project location* | Various Locations, Pennsylvania | *Owner's Project Manager* | Edward Raptosh, PE |
| *Owner's address, phone, email* | PO Box 8451, Harrisburg PA 17105 (717) 783-3329, eraptosh@pa.gov | | |
| *Services commenced by this firm (mm/yy)* | 09/15 | *Total consultant contract cost ($1,000's)* | $750 |
| *Services completed by this firm (mm/yy)* | 12/21 | *Cost of consultant services provided by this firm ($1,000's)* | $650 |

Michael Baker currently holds a five-year open-end contract to provide engineering services to assist the Pennsylvania Department of Conservation and Natural Resources (DCNR) with implementing their dam safety program. Under this contract, Michael Baker's services included dam inspection and assessment, hydrology and hydraulic evaluations, geotechnical investigations, structural assessments, dam break modeling, geotechnical investigations, foundation mapping, alternatives analyses, structural design, rehabilitation design, permitting, emergency action plans, bidding-phase support, and construction administration and construction inspection. Many of the dams are high hazard structures.

Projects under this contract include: Little Buffalo Dam Inspection, Pymatuning Dam, Raccoon Creek Dam, Laurel Mountain State Park Water Supply Dams, Lackawanna State Park - Trostle Pond Dam, and Laurel Hill State Park - Penn Scenic View Lake Dam. Ryerson Dam Removal is currently being designed under this contract. For these projects Michael Baker held joint review meetings with DCNR's dam safety, parks and recreation staff, and engineering divisions, which achieved buy-in during the design process and expedited the review and approval process. Additionally, Michael Baker worked closely with regulatory review agencies, including the Pennsylvania Department of Environmental Protection, Division of Dam Safety, to coordinate and expedite permit approval process. Details are provided for selected projects.

- Raccoon Creek Dam
- Pymatuning Dam
- Laurel Mountain State Park Water Supply Dam
- Trostle Pond Dam
- Little Buffalo State Park Seepage Investigation
- Laurel Hill State Park – Penn Scenic View Lake Dam
- Sinnemahoning State Park – George B. Stevenson Dam
- Ryerson Dam Removal

### PROJECT RELEVANCE

- High Hazard Dam Rehabilitations
- Geotechnical Investigation
- Survey & Mapping
- Hydrologic & Hydraulic Analysis

**Team Members Who Worked on This Project:**
Don Green, Joe Kudritz, Brian Afek, Ed Kaminski

**Challenge:** One challenge was to develop Dam Repair Options with a limited budget. **Solution:** Michael Baker evaluated dam conditions and deficiencies, evaluated options for repairs, and prioritized improvements within the available construction budget to bring dams into compliance with dam safety criteria.

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Terracon Consultants, Inc. | *Past Performance Evaluation Discipline(s)** | Geotechnical |
| *Project name* | **Camp Whispering Pines Dam and Spillway** | *Firm responsibility (prime or sub?)* | Sub |
| *Project number* | N/A | *Owner's Name* | Confidential |
| *Project location* | Independence, LA | *Owner's Project Manager* | Confidential |
| *Owner's address, phone, email* | Confidential | | |
| *Services commenced by this firm (mm/yy)* | 02/21 | *Total consultant contract cost ($1,000's)* | N/A |
| *Services completed by this firm (mm/yy)* | 04/21 | *Cost of consultant services provided by this firm ($1,000's)* | $16 |

Terracon was retained to provide a subsurface investigation and geotechnical site characterization report concerning the existing dam and levee at the Camp Whispering Pines facility. It was observed that considerable erosion was occurring on the downstream side of the existing dam spillway. The site investigation provided was used to develop a design to repair and upgrade the spillway on the northwest side of the existing dam.

The existing dam was constructed across Indian Creek in the early 1970s to contain water to create the approximately 18.5- acre lake for the camp. The dam is about 475 feet long and approximately 15 feet tall near the center point. The dam slope has an approximate 4H:1V slope on the downstream side and an estimated 3H:1V slope on the lakeside. The overflow spillway is located on the northwest end of the dam and flows into a channel that inevitability drains into the Tangipahoa River. A drainpipe is located at the center of the dam with a control valve on the downstream side. The owner made attempts to curtail the erosion at the top of the spillway by filling the downstream area with large amounts of recycled concrete panels/riprap.

Terracon performed three soil borings along the existing dam and collected three bulk samples of embankment material located at the crest of the spillway. Terracon performed laboratory testing on the samples collected to determine moisture content, Atterberg limits, particle size distribution, unconfined compressive strength, and unit weight parameters. Terracon presented the field and laboratory results in a site characterization report to facilitate the design.

The dam at the Girl Scouts camp was eroding over time. The organization had to repair the dam before a failure occurred. The organization didn't have the funds to do all the work at once. Terracon helped the design team develop a plan to fix the dam over time and not have to do a major repair that would cost a lot of money at one time.

### PROJECT RELEVANCE

- Erosion Control Mitigation
- Phased Construction Schedule to Meet Funding Availability

**Team Members Who Worked on This Project:**
Steve Greaber, Brian Alexander

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Terracon Consultants, Inc. | *Past Performance Evaluation Discipline(s)** | Geotechnical |
| *Project name* | **The Lakes at White Oak Dam & Spillway** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | N/A | *Owner's Name* | The Lake at White Oak Homeowners Association, Inc. |
| *Project location* | Independence, LA | *Owner's Project Manager* | Wesley Valverde |
| *Owner's address, phone, email* | PO Box 77805, Baton Rouge, LA 70879, (225) 751-5715, president@lakeatwhiteoak.org | | |
| *Services commenced by this firm (mm/yy)* | 04/17 | *Total consultant contract cost ($1,000's)* | NA |
| *Services completed by this firm (mm/yy)* | 08/20 | *Cost of consultant services provided by this firm ($1,000's)* | $22.8 |

Terracon performed inspection and evaluation services to determine geotechnical conditions at the site of the two weirs in 2012. They assisted in the design of repairs to mitigate the excess seepage issues identified at the lower weir structure, which consisted of the installation of a vinyl cut-off wall on the lake side of the lower weir to aid in minimizing infiltration around and under the concrete spillway.

The most recent project included an additional independent inspection of two weirs, a report of the findings, and a maintenance work scope package.

The dam in the neighborhood drains into the Amite River. Over time, the area continues to show signs of erosion along the spillway. The neighborhood homeowner's association knew they needed to fix it but didn't have the funds to do all the work at once. Terracon helped the HOA develop a plan to fix the dam and help reduce erosion over time.

### PROJECT RELEVANCE

- Spillway Inspection
- Seepage Analysis and Mitigation
- Maintenance Schedule

**Team Members Who Worked on This Project:**
Steve Greaber, Brian Alexander, Lynne Roussel

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Quality Engineering & Surveying, LLC | *Past Performance Evaluation Discipline(s)** | Other - H&H Study |
| *Project name* | **Chappepeela Creek Stormwater Retention Planning Project** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | N/A | *Owner's Name* | Tangipahoa Parish Government |
| *Project location* | Tangipahoa Parish, LA | *Owner's Project Manager* | Missy Coward |
| *Owner's address, phone, email* | 206 E Mulberry St, Amite, LA 70422, (985) 748-3211, mcowart@tangipahoa.org | | |
| *Services commenced by this firm (mm/yy)* | 08/22 | *Total consultant contract cost ($1,000's)* | $118 |
| *Services completed by this firm (mm/yy)* | 03/23 | *Cost of consultant services provided by this firm ($1,000's)* | $118 |

QES is awarded by Tangipahoa Parish to perform a comprehensive watershed study for a potential retention pond(s) project. QES performed Gap Analysis, Data Acquisition, Hydrology &Hydraulics H&H Modeling, Environment Review and Preliminary Engineering Study. In addition, QES collected field data on channels, cross-sections and hydraulic structures that had not been modeled in detail before. Such field data was incorporated into LiDAR terrain, Land Use and Meteorologic Data to create 2D rain-on-grid models that provided detailed hydrologic and hydraulic information of the whole watershed. The dynamic H&H model and mapping helped Parish officials to identify flood risks, update mappings, and make optimum decisions on mitigation measures. QES also used the model results and off-model hydrographs to size the retention pond(s) and outfall control structures. The model presented in this project also serves as a local H&H model supplemental to FEMA's FIS model and BLE model.

### PROJECT RELEVANCE

- Hydrologic & Hydraulic Modeling
- Flood Risk Analysis

**Team Members Who Worked on This Project:**
Deric Murphy, Yangbin Tong

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Quality Engineering & Surveying, LLC | *Past Performance Evaluation Discipline(s)** | Other - H&H Study |
| *Project name* | **National Flood Insurance Program-Cooperating Technical Partnership IDIQ** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | Contract No. 4400020960 & No. 4400020961 | *Owner's Name* | DOTD |
| *Project location* | LA | *Owner's Project Manager* | Susan Veillon |
| *Owner's address, phone, email* | 1201 Capital Access Road, Baton Rouge, LA 70802, (225) 379-3017, susan.veillon@la.gov | | |
| *Services commenced by this firm (mm/yy)* | 06/21 | *Total consultant contract cost ($1,000's)* | $5 |
| *Services completed by this firm (mm/yy)* | | *Cost of consultant services provided by this firm ($1,000's)* | $82 |

QES is providing professional services to the DOTD to accomplish the goals of the FEMA National Flood Insurance Program (NFIP) and the Cooperating Technical Partnership (CTP) Programs. All processes and deliverables are being completed in accordance with the FEMA's Standards for Flood Risk Analysis and Mapping. The program is intended to ensure that communities participating in the NFIP are achieving flood loss reduction objectives and to provide program assessment and assistance services to aid in the implementation of comprehensive flood loss reduction programs.

QES is working within FEMA and DOTD guidelines to accomplish the initial tasks of communicating flood risk and engaging local communities, stakeholders, and residents of the state. Upon issuing of a task order the primary basis for the determination of flood risk shall be through hydrologic and hydraulic modeling, supported by field survey and remote sensing.

### PROJECT RELEVANCE

- Flood Risk Analysis
- Community Engagement

**Team Members Who Worked on This Project:**
Deric Murphy, Yangbin Tong

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Quality Engineering & Surveying, LLC | *Past Performance Evaluation Discipline(s)** | Other - H&H Study |
| *Project name* | **Watershed Program Management** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | N/A | *Owner's Name* | Livingston Parish Gravity Drainage District 1 |
| *Project location* | Denham Springs, Livingston Parish, LA | *Owner's Project Manager* | Wesley Kinnebrew |
| *Owner's address, phone, email* | 8114 Florida Blvd, Denham Springs, LA 70726, (225) 664-5827, wesley@lpgdd1.net | | |
| *Services commenced by this firm (mm/yy)* | 05/14 | *Total consultant contract cost ($1,000's)* | $5,500 |
| *Services completed by this firm (mm/yy)* | Ongoing | *Cost of consultant services provided by this firm ($1,000's)* | $5,500 |

QES has represented the Livingston Parish Gravity Drainage District No. 1 (LPGDD1) since 2014. The services provided include serving as the professional of record reviewing all development within the district, overseeing all construction and development. A critical component that QES has helped the drainage district with is creating a program to identify assets within the district. As part of this program, they are working to complete a report card of the infrastructure to develop a maintenance plan.

In addition to these services QES is currently in the process of completing a 2D model of the entire watershed. The model will ensure that constituents have a true understanding of flood risk, and stakeholders will better be able to understand land use throughout the district. Efforts to educate constituents and stakeholders included conducting regular education and outreach events throughout the district with QES representing LPGDD1 at civic organization meetings, homeowner association meetings and coordinating with Parish and City Floodplain Management Officials.

QES was instrumental in aligning the mission of LPGDD1 with the goals of the Community Rating System to benefit the City of Denham Springs and Livingston Parish. These efforts include educating local stakeholders on methods to implement annual and post event inspections CRS points.

### PROJECT RELEVANCE

- 2D Hydologic and Hydraulic Modeling
- Development of Maintenance Plan

**Team Members Who Worked on This Project:**
Deric Murphy, Yangbin Tong

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Civil Design & Construction, Inc. | *Past Performance Evaluation Discipline(s)** | Survey |
| *Project name* | **Southern University Ravine Protection** | *Firm responsibility (prime or sub?)* | Sub |
| *Project number* | H.014747 | *Owner's Name* | DOTD |
| *Project location* | East Baton Rouge, LA | *Owner's Project Manager* | Corey Landry |
| *Owner's address, phone, email* | 1201 Capital Access Rd, Baton Rouge, LA 70802, (225) 379-1232 / nicholas.olivier@la.gov | | |
| *Services commenced by this firm (mm/yy)* | 09/21 | *Total consultant contract cost ($1,000's)* | N/A |
| *Services completed by this firm (mm/yy)* | 03/22 | *Cost of consultant services provided by this firm ($1,000's)* | $187 |

A full topographic survey of the areas as depicted in the Southern University Planning Assistance to States Ravine and Riverbank Instability Technical Assessment, dated 2020 was required for this stabilization project. The topographic survey was to provide sufficient cross sections of the ravine from the existing F Street Project improvements to the discharge at the Mississippi River, being the projection of the Scott's Bluff to the Millennium Apartments, to fully develop the shape and location of the ravine, high banks, deposits, and scour locations. In some locations, the high bank is defined by retaining walls or other installed features. Any improvements, buildings, parking lots, utilities within 100' of the top bank of the Ravine shall be included in the topographic survey. In the area of the ROTC building, as defined by Project 2, Terrestrial scanning of the wall to help determine the current deformation of the wall will be utilized to help determine the stability of the wall. LA One Call and Coordination with Southern University Facility Manager will be completed to locate all utilities along, over, and through the Ravine.

CD&C as a subconsultant on this project was responsible for topographic surveying of the areas required as well as coordination and incorporation of all utility data obtained by both CD&C and by SUE sub-consultant TBS.

### PROJECT RELEVANCE

- Topographic Survey of Channel and Overbanks
- Utility Coordination

**Team Members Who Worked on This Project:**
Ralph Burgess, Christopher Ballard, Phil Dupree, Trent Norris

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Civil Design & Construction, Inc. | *Past Performance Evaluation Discipline(s)** | Survey |
| *Project name* | **LWI Region 5 – Task Order #2** | *Firm responsibility (prime or sub?)* | Sub |
| *Project number* | H.02728.5 | *Owner's Name* | HDR Engineering, Inc. |
| *Project location* | Tangipahoa Parish, LA | *Owner's Project Manager* | Danielle Rung |
| *Owner's address, phone, email* | 5750 Johnston Street, Suite 105, Lafayette, LA 70503, (337) 347-5621, danielle.rung@hdrinc.com | | |
| *Services commenced by this firm (mm/yy)* | 02/22 | *Total consultant contract cost ($1,000's)* | N/A |
| *Services completed by this firm (mm/yy)* | 11/22 | *Cost of consultant services provided by this firm ($1,000's)* | $159 |

In 2018, the state launched the Louisiana Watershed Initiative, introducing a new watershed-based approach to reducing flood risk in Louisiana. Guided by a federally approved Action Plan, the funds will support statewide planning, watershed modeling, data collection and projects that reduce flood risk. This Project for the Louisiana Watershed Initiative statewide modeling is for Region 5. The intent of this project as a whole is to create a watershed model for each basin in the state. This specific task order covered the survey of over 60 structures in St Landry Parish, Jefferson Davis Parish, Acadia Parish, St Mary Parish.

CD&C completed a variety of topographic survey deliverables depending on the modeling need for each structure.

### PROJECT RELEVANCE

- Topographic Survey of Channel and Overbanks
- Topographic Survey of Bridges and Other Hydraulic Structures

**Team Members Who Worked on This Project:**
Ralph Burgess, Christopher Ballard, Phil Dupree, Trent Norris

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | Civil Design & Construction, Inc. | *Past Performance Evaluation Discipline(s)** | Survey |
| *Project name* | **LWI Region 5 – Task Order #3** | *Firm responsibility (prime or sub?)* | Sub |
| *Project number* | H.02728.5 | *Owner's Name* | HDR Engineering, Inc. |
| *Project location* | Tangipahoa Parish, LA | *Owner's Project Manager* | Danielle Rung |
| *Owner's address, phone, email* | 5750 Johnston Street, Suite 105, Lafayette, LA 70503, (337) 347-5621, danielle.rung@hdrinc.com | | |
| *Services commenced by this firm (mm/yy)* | 02/22 | *Total consultant contract cost ($1,000's)* | N/A |
| *Services completed by this firm (mm/yy)* | 11/22 | *Cost of consultant services provided by this firm ($1,000's)* | $229 |

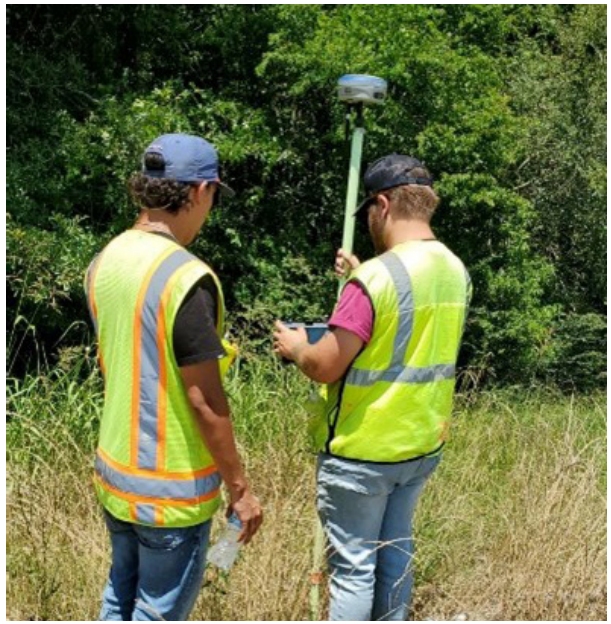
In 2018, the state launched the Louisiana Watershed Initiative, introducing a new watershed-based approach to reducing flood risk in Louisiana. Guided by a federally approved Action Plan, the funds will support statewide planning, watershed modeling, data collection and projects that reduce flood risk. This Project for the Louisiana Watershed Initiative statewide modeling is for Region 5. The intent of this project as a whole is to create a watershed model for each basin in the state. This specific task order covered the survey of over 160 Structures in Lafayette Parish, Vermillion Parish, and St. Mary Parish.

CD&C completed a variety of topographic survey deliverables depending on the modeling need for each structure.

### PROJECT RELEVANCE

- Topographic Survey of Channel and Overbanks
- Topographic Survey of Bridges and Other Hydraulic Structures

**Team Members Who Worked on This Project:**
Ralph Burgess, Christopher Ballard, Phil Dupree, Trent Norris



## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | WSP USA, Inc. | *Past Performance Evaluation Discipline(s)** | Bridge |
| *Project name* | **Various Hydropower Structure Inspections** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | 31300057.004 .007 | *Owner's Name* | Brookfield Renewable |
| *Project location* | North Carolina | *Owner's Project Manager* | Ashley Thomas, Compliance Manager |
| *Owner's address, phone, email* | 326 3rd Avenue, Suite 201, Montgomery, WV, 25136; 304.574.8590; Ashley.thomas@brookfieldrenewable.com | | |
| *Services commenced by this firm (mm/yy)* | 2020 | *Total consultant contract cost ($1,000's)* | $200 |
| *Services completed by this firm (mm/yy)* | 2022 | *Cost of consultant services provided by this firm ($1,000's)* | $200 |

WSP has inspected several dams for Brookfield Renewable. The following is a sampling of these projects:

Santeetlah Detailed Tainter Gate Inspection, Graham, NC: WSP performed a hands-on rope access inspection of the tainter gates at the Santeetlah station. Prior to the completion of the 'arm's length' visual inspection our team completed a comprehensive review of available documentation. The inspection was completed in accordance with the SPRAT Safe Practices for Rope Access Manual. After mobilizing to site, the inspection team participated in a pre-inspection safety meeting with Brookfield to review project specific LOTO and safety procedures. The hands-on inspection included: Structural steel members, Connections, including gusset plates double angles, bolts and rivets, Hubs and trunnions, Side seals, bottom seal and seal surfaces, Visible sections of the skin plate, Mini Gates and operators, lifting chains, cables, and connection fittings, Upstream skin plate and lifting attachment points. Sufficient information was collected during the detailed inspection to reconcile the as-built section properties with what is shown on available construction record drawings and compared to the results from the previous 10-year inspection. The GIR included photographic and textual documentation for each noted deficiency. The report also included a high-level discussion as to the structural implications of the deficiency.

Additional recent project for Brookfield Energy include:

- Santeetlah Penstock Visual Inspection, Robbinsville, NC, 2022
- Cheoah Dam Detailed Tainter Gate Inspection, Robbinsville, NC, 2022
- Chilhowee Dam Detailed Tainter Gate Inspection, Tallassee, TN, 2021

### PROJECT RELEVANCE

- Tainter Gate Spillway Inpection
- Report of Structural Deficiencies

**Team Members Who Worked on This Project:**
Michael Craig; Casey Howard

## 17. Firm Experience:

| | | | |
|---|---|---|---|
| *Firm name* | WSP USA, Inc. | *Past Performance Evaluation Discipline(s)** | Bridge |
| *Project name* | **Various Hydropower Structure Inspections** | *Firm responsibility (prime or sub?)* | Prime |
| *Project number* | 31300093.000 | *Owner's Name* | Confidential Client |
| *Project location* | Oregon | *Owner's Project Manager* | Confidential Client |
| *Owner's address, phone, email* | Confidential Client | | |
| *Services commenced by this firm (mm/yy)* | 2020 | *Total consultant contract cost ($1,000's)* | $300 |
| *Services completed by this firm (mm/yy)* | 2022 | *Cost of consultant services provided by this firm ($1,000's)* | $300 |

WSP has inspected several dams for a private client in Oregon. The following is a sampling of these projects:

Detailed Tainter Gate Inspection, OR: WSP performed a hands on inspection of 13 Tainter gates in June 2020, and also performed a hands on inspection of 3 Tainter gates in July 2020. Prior to mobilization, the inspection team reviewed all available documentation and previous inspections, and anchoring and access plans were developed in accordance with SPRAT Safe Practices for Rope Access. Upon arrival at the site, the inspection teams participated in a pre-inspection safety meeting with Company representatives, reviewed Lock-Out/ Tag-Out procedures, and locked and tagged out all necessary equipment before beginning the inspection. The hands-on inspections included: structural steel members; connections, including rivets, nuts, bolts, welds and gusset plates; hubs, trunnions and pins; skin plates; side seals, bottom seals and sealing surfaces; lifting chains and attachment points; and pier walls. A full-open test was performed on each gate, to check for proper operation, as well as allowing for the inspection of the upstream face of the skin plate, lifting chains and connections.

Penstock Inspection, OR: WSP performed a hands on inspection of the three penstocks in February 2022. Prior to mobilization, the inspection team reviewed all available documentation, developed anchoring and access plans in accordance with SPRAT Safe Practices for Rope Access. Upon arrival at the site, the inspection teams participated in a pre-inspection safety meeting with Company representatives, the team then performed a visual inspection of the penstock shell, anchor blocks, ring girders and footings. Ultrasonic thickness readings were taken at each segment of the penstock at various positions circumferentially to assess corrosion conditions on the interior of the penstock.

### PROJECT RELEVANCE

- Gated Spillway Structural Inspection
- Report of Structural Deficiencies

**Team Members Who Worked on This Project:**
Michael Craig

**PROVEN SUCCESS, TESTED METHODS, AND EXPERT STAFF |** The Michael Baker team has successfully delivered more than $13M in IDIQ task orders in the past eight years in various services for DOTD. We will utilize Michael Baker's 15 years of DOTD project experience and technical experts to seamlessly provide the services required under the DOTD IDIQ Contract for Dam Safety and Public Works Statewide.

In response to the scope of work provided, we have outlined the approach and methodology the Michael Baker team proposes to execute and successfully deliver this contract while meeting the scope, schedule, and budget goals of the DOTD.

## PROJECT UNDERSTANDING

DOTD is seeking qualified firms to provide support services to their Statewide Dam Safety and Public Works IDIQ contract. This will include a range of services on an as needed basis through individual Task Orders (TOs). TOs and associated fees will be collaboratively refined between Michael Baker and DOTD. We understand that this project will require a wide array of expertise including, water resource analysis & design, geotechnical analysis & design, structural analysis & design, hydraulic & hydrologic evaluation & design, infrastructure inspection, hazard mitigation planning, erosion mitigation, surveying services, property ownership research, plans preparation, construction support, community outreach, workshops, and other engineering services related to public works construction.

## MEET THE TEAM

The Michael Baker team includes multiple consultants chosen for their experience, bench strength, and familiarity with working on projects that meet DOTD requirements, while also meeting industry standard codes and design guidelines. Our staff has acquired years of experience not only working on dams, spillways, and other public works projects, but also working with DOTD. The requirements and processes required of any consultant working for DOTD is well known by all team members. Through a collaboration of local team members with a deep knowledge of State operated dams, spillways, and public work infrastructure throughout the state of Louisiana, we have assembled a uniquely qualified array of technical, professional, and management resources to staff the proposed organizational structure required for a project of this magnitude.

Our highly qualified team comprises talented professionals from the following firms:

Michael Baker International, Inc. (Michael Baker) is a leading provider of professional engineering and consulting services across the country that has served its clients effectively and efficiently to reach their goals in delivering civil works projects of all sizes for DOTD for more than 15 years. Michael Baker has worked on and is currently working on water resource, drainage, road bridge, environmental, aviation, and CE&I projects that encompasses a range of contract types such as traditional, IDIQ, staff augmentation service IDIQ, and design build IDIQ. Michael Baker will serve as the Prime Consultant providing project management and lead design services for the hydrologic & hydraulic analysis & design, dams & spillway analysis & design, infrastructure inspection, hazard mitigation planning, erosion mitigation, environmental permitting, QA/QC, cost estimating, value engineering, scheduling, and CE&I.

WSP USA Inc. (WSP) is one of the world's leading engineering and professional services firms. With 16,000 professionals across the United States, they are dedicated to their local communities and propelled by international brainpower. Looking at complex problems from different angles, WSP plans, designs, manages, and engineers their communities to thrive, delivering innovative and future-ready solutions. They are an industry leader in providing structural and mechanical expertise to the areas of hydraulic structures. As such, WSP will be providing lead design services in areas of structural and mechanical infrastructure design and assessment.

Terracon Consultants, Inc. (Terracon) is one of the nation's leading providers of geotechnical services. Their clients have access to one of the nation's largest owned and operated fleet of geotechnical exploration equipment, a network of more than 140 laboratories, including the largest network of accredited and validated accredited laboratories of any geotechnical firm in the country, and more than 175 locations serving all 50 states. In Louisiana, Terracon

has five offices in Baton Rouge, Lake Charles, New Orleans and Shreveport, providing statewide coverage for all of DOTD geotechnical service needs. Every day, clients rely on their ability to gather and analyze data in a timely manner. Terracon will provide all field geotechnical sampling, testing, and reporting required, and will support Michael Baker in geotechnical analysis and design. Terracon is also available to provide construction testing and material sampling during the construction phase.

Civil Design and Construction, Inc. (CD&C) is a civil engineering and land surveying firm that is SBA Certified as a Woman-Owned Small Business and is DBE Certified by DOTD. Their office is headquartered in Port Allen, Louisiana, but CD&C services the entire state of Louisiana. Their land surveying services include both boundary and topography services for many governmental clients including DOTD, USACE, and numerous parish and municipal governments such as East Baton Rouge, West Baton Rouge, Pointe Coupee, Iberville, Livingston, St. Tammany, and Orleans to name a few. CD&C also offers remote sensing technology such as terrestrial 3D Scanning and drone LiDAR services as part of our survey department. These remote sensing technologies are often used in applications such as site topography, route surveys, pipelines, industrial applications, structural surveys, architectural design, and landscape architectural design, etc. CD&C will provide all surveying and subsurface utility engineering (SUE) services required for this project.

Quality Engineering and Surveying, Inc. (QES) is a full-service, multi-discipline firm specializing in civil engineering, environmental, grants management, landscape architecture, land surveying, and program management with an established team of professionals located in Livingston Parish, Louisiana. They consist of professional engineers, landscape architects, and survey crews with over two centuries of experience in projects throughout Louisiana. QES melds the technical aspects of civil engineering with the understanding of public interest to provide innovative solutions to projects that are vital in the effort to enhance the quality of life for Louisiana residents. Leveraging their experience in hydrologic and hydraulic studies and, QES will support the team in hydraulics & hydrology modeling, and other water resource services.

## IDIQ PROCESS

The Michael Baker team is vastly experienced in performing various services for DOTD under IDIQ contracts similar to this contract. We will utilize this experience to streamline the process as efficiently as possible. Michael Baker has developed the following outline to guide its Project Managers to a successful project delivery.

### CONTRACT MANAGEMENT

Within 10 days of award notification, Michael Baker will provide the DOTD Project Manager with our team's QA/QC plan and will include our team's key personnel, their responsibilities, and contact information. The plan will also include procedures for design work, establishing the manuals and guidelines that will be followed during future project implementation as well as proposed checklist that will be provided to the DOTD Project Manager with each milestone. Additionally, the Michael Baker Project Manager will provide a list of all job classifications for Michael Baker and each team member for DOTD development of "Specific Rates of Compensation" list that will be used for the duration of the IDIQ. TO compensation type will be determined per specific project. Compensation could be either lump sum, specific rates, or not to exceed and could either be negotiated manhours of non-negotiated task orders.

**Development of TO Scope:** Initial project scope will be provided by the DOTD Project Manager. The Michael Baker team will review the scope and type of work to determine if adequate scope of work is provided or if any change or modification should be required. We will work with the DOTD Project Manager to finalize the scope of the task order.

**Development of TO Fee:** Once the scope is finalized, the Michael Baker Project Manager will develop a man-hour proposal that will identify all specific work tasks and the anticipated hours to perform these tasks along with any estimated direct expenses. For non-negotiated manhours, our team will verify that hours provided by DOTD are reasonable and attainable for task order success. The Michael Baker Project Manager will provide a breakdown of scope and fees for each team member as required by DOTD Construction Contract Services.

**Notice of TO Execution:** Once all scope and fee documents are in order and accepted by DOTD, they will then issue a Notice of Task Order Execution (NOTOE) for review prior to requiring signatures and insurance documentation.

**Project Wise Set-Up:** After Michael Baker has reviewed and accepted the terms of the NOTOE, final task order documentation will be forwarded to the team for final execution. The DOTD Project Manager will then set up ProjectWise folders to begin the exchange of information and data provided by DOTD for ease of communication between design team and DOTD. The Project Manager assigned to this contract is experienced with

the ProjectWise procedures that this DOTD department utilizes, making for an easy transition to begin the project

## PROJECT EXECUTION

Once all contractual documentation is in place, Michael Baker will begin to leverage its team members specifically suited for the TO at hand. A project management plan will be issued to all team members identifying their role in the project, project goals, project design guidelines and manuals, and the project budget and schedule. Team members will be required to sign-off on the plan, thus committing themselves to the successful completion of the project. Team members will begin to familiarize themselves with the scope of the project and all tasks required under the scope. Team members will also begin to assemble special project requirements and references such as gage data, LIDAR survey data, aerial photography, and modeling software. Although it is understood that a wide variety of services may be provided under this contract, below is an outline of the typical design / construction type task order.

**Notice To Proceed (NTP):** The NTP date will be the official start of the project. Once the NTP has been received, the team will perform a site visit of the project location to identify visible design constraints and existing conditions that will be addressed at the kickoff meeting.

**Kick-Off Meeting:** The Project Manager will coordinate, schedule, and conduct the kickoff meeting with DOTD and necessary Michal Baker team members before work begins on each TO. The kick-off meeting will be used to introduce team members and their roles to the DOTD Project Manager, establish the overall goals of the project, outline work tasks and present a preliminary project schedule. Also determined in the project kick-off meeting, will be frequency of future progress meetings, and opportunity for the design team to request any data that may be beneficial to the success of the project.

**Pre-Design Planning:** In this phase the Project Manager along with the DOTD Project Manager's concurrence will schedule the services of all pre-design activities, including, but not limited to geotechnical investigations, surveying services, SUE services, hydrologic and hydraulic modeling and analysis, and field inspections. The scope and budget for each activity will be forwarded to the DOTD Project Manager so that full understanding of these activities is known by all parties.

**Preliminary Design:** Preliminary engineering and design will begin as soon as possible or when all available pre-design information is available. Preliminary design will encompass identification of required improvements with adequate detail in order to establish a construction cost estimate with a 70% confidence rating. Typical preliminary design will include title sheet, state, parish and vicinity maps, quantity charts, existing and proposed conditions plan sheets, plan and profile sheets, erosion control sheets, and typical and specific detail sheets. Typical construction specifications and preliminary cost estimate are also provided at this milestone.

**Environmental Permitting:** If environmental clearance is required for a TO, the Michael Baker team has environmental professionals identified in this proposal that can provide the necessary field work and preparation of environmental permits and documents. The Michael Baker design team will support the environmental technical experts in preparing the necessary permit applications, exhibits, and sketches. It is assumed that most projects will fall under the categorical exclusions; however, if there is a need for NEPA clearance, our team has identified, Chris Gesing and TJ Holliday of Michael Baker to spearhead this task. Chris Gesing has been the lead on some major NEPA project which includes the award winning LA Environmental Clearance which is currently under construction from Golden Meadow to Grand Isle.

**Right of Way:** At this stage it will be the task of our surveyor, CD&C to provide verification of existing Right of Way and provide preliminary acquisition maps of any property that will be required to purchase fee-title rights for the construction of the project. CD&C is experienced in property boundary surveying and ROW mapping, for various types of projects, including waterway improvements, roadway improvements, utility locations, etc. CD&C has experience in providing surveys and mapping in accordance with requirements of the DOTD Location and Survey Department.

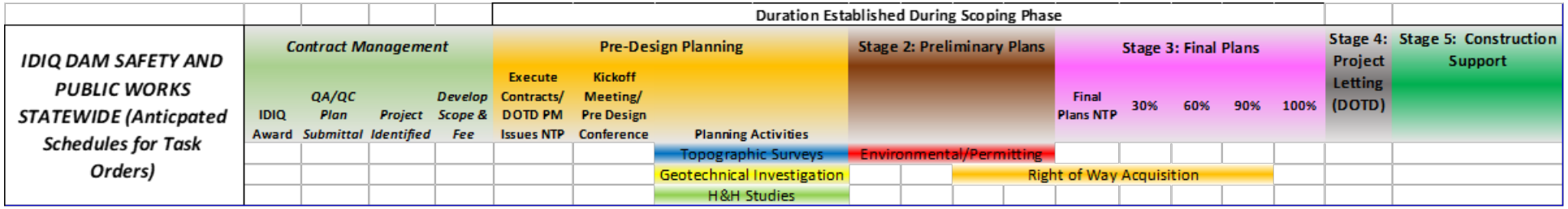
**Final Design:** After environmental clearance has been achieved, ROW has been acquired, and DOTD has requested final plans, the Michael Baker team will refine the preliminary plans with any additional requirements identified in the preliminary plan review as well as the environmental permitting phase. The final design will provide specific details of all construction items in order to be publicly bid. The cost estimate and construction specifications will be refined as well to provide a final version of all

contract documents including the construction plans, specification, cost estimate, and construction schedule. A combination of team members will provide this service to DOTD.

**Construction Support:** It is anticipated that most TOs will result in a construction contract that will be awarded to the lowest bidding in accordance with Louisiana Public Bid Law. At this stage the Michael Baker team can assist DOTD during construction by providing Construction Engineering and Inspection services throughout the duration of the construction process. These may include construction inspections, daily observations, RFI response, invoice processing, review of change order requests, and submittal review.

**Project Close Out:** At the completion of construction the Michael Baker team is still serving its clients. Final inspection and punch list verification will be conducted along with making sure accurate as-builts plans are provided by the contractor. Warranty documents, operation manuals, and any other paper work will be forwarded to DOTD for record keeping. At the completion of the project, the Michael Baker Project Manager will meet with the DOTD Project Manager to discuss the overall project experience and determine how the Michael Baker team can improve on future TOs. This process will ensure that DOTD is completely satisfied with the services provided by the Michael Baker team.

*It is understood that Task Orders may vary, however, the graphic below summarizes the Project Execution Process:*



**19. Workload:**

| *Firm(s)*<br>*ALL FIRMS MUST BE REPRESENTED IN THIS TABLE* | *Past Performance Evaluation Discipline(s)* | *Contract Number and State Project Number* | *Project Name* | *Remaining Unpaid Balance* ** |
|---|---|---|---|---|
| Michael Baker INTERNATIONAL | CE&I/OV | Contract No. 4400025536<br>S.P. No. H.013997 | IDIQ Contract for Construction Engineering and Inspection Services in District 61, Loc Rd. over Borrow Pit (Blind RV BT LNCH), St. James Parish | $363,114 |
| | | Contract No. 4400014845<br>Task Order No. H.012018.6<br>S.P. No. H.012018.6<br>F.A.P. No. H012018 | IDIQ Contract for Construction Engineering and Inspection Services with majority of work in District 07 Statewide<br>Adaptive Traffic Signal and Implementation, Lafayette Parish | $231,573 |
| | | Contract No. 440001485<br>Task Order No. H.0003184.6<br>S.P. No. H.003184.6 | IDIQ Contract for Construction Engineering and Inspection Services with majority of work in District 07 Statewide, I-10: Texas State Line - E. of Coone Gully, Calcasieu Parish | $434,492 |
| | | Contract No. 440001485<br>Task Order No. H.013959.6<br>S.P. No. H.013959.6<br>F.A.P. No. H013959 | IDIQ Contract for Construction Engineering and Inspection Services (CE&I) with Majority of Work in District 07 Statewide Reeds Bridge Road over Calcasieu River Relief, Calcasieu Parish | $304,327 |
| | | Contract No. 4400013851 Task Order No. H.013271.6<br>S.P. No. H0.013271.6<br>F.A.P. No. H.013271 | IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I), Statewide<br>Tangipahoa PH Local Road Safety Upgrade, Tangipahoa Parish | $5 |
| | | Contract No. 4400013841 Task Order No. H.012473.6<br>S.P. No. H.012473.6<br>F.A.P. No. H012473 | IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I), Statewide<br>Marconi Dr. Shared-Use Path | $5 |
| | | Contract No.4400013851 Task Order No.H.009308.6S.P. No. H.009308.6 F.A.P. No. H009308 | IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I), Statewide New Orleans DPW SRTS Sidewalk Project | $28,608 |
| | | Contract No.4400013851 Task Order No. H.012527.6 S.P. No. H.012527.6 F.A.P. No. H012527 | Local Road Safety Upgrade (W. Feliciana), West Feliciana Parish | $60,084 |
| | | Contract No.4400013851 Task Order No. H.013082.6 S.P. No. H.013082.6 F.A.P. No. H013082 | Bootlegger Road Sidewalks, St. Tammany Parish | $45,880 |

**19. Workload:**

| *Firm(s)*<br>*ALL FIRMS MUST BE REPRESENTED IN THIS TABLE* | *Past Performance Evaluation Discipline(s)* | *Contract Number and State Project Number* | *Project Name* | *Remaining Unpaid Balance* ** |
|---|---|---|---|---|
| Michael Baker INTERNATIONAL | ITS | Contract No. 4400011253<br>S.P. No. H.011500.6 | Retainer Contract for Intelligent Transportation Systems (ITS), Lake Charles ITS Phase 3 | $60,473 |
| | | Contract No. 4400014845<br>S.P. No. H.012381.6 | IDIQ Contract for Construction Engineering and Inspection Services with majority of work in District 07 Statewide, Fiber Optic Mapping and Management Statewide, Calcasieu Parish | $24,673 |
| | | Contract No. 4400024424<br>S.P. No. H.013256 | I-10 ITS Scott to Lake Charles | $69,824 |
| | Road/Bridge | Contract No. 4400025026<br>S.P. No. H.015338<br>F.A.P. No. H015338 | Infrastructure Investment and Jobs Act (IIJA) Off-System Bridge Program – District 07, Supplemental Agreement No. 1 | $1,200,000 |
| | | Contract No. 4400021519<br>S.P. No. H.012030.5<br>F.A.P. No. H012030 | US 371: KCS RR Overpasses HBI | $279,995 |
| | Road/Bridge/ Environmental | Contract No. 4400019379<br>S.P. No. H.013797<br>F.A.P. No. H013797 | LA 30: EBR PL-I-10 | $107,285<br>$51,325<br>$199,243 |
| | Environmental | Contract No. 4400005484<br>S.P. No. H.005168<br>F.A.P. No. DE-9208 (500) | NORG EIS, New Orleans, Louisiana | $651,241 |
| | Environmental/ Road | Contract No. 4400005484<br>S.P. No. H.005168 | NORG – Avondale PEL Study, New Orleans, Louisiana Supplemental Agreement | $732,824<br>$36,618 |
| | Other (Water Resource) | Contract No. 4400017092<br>Task Order No. 2 | Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 6 | $345,715 |
| | | Contract No. 4400017092<br>Task Order No. 3 | Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 6 | $1,316,892 |
| | | Contract No. 4400017090<br>Task Order No. 2 | Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 4 | $666,577 |
| | | Contract No. 4400017090<br>Task Order No. 3 | Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 4 | $187,388 |
| | | Contract No. 4400017067<br>Task Order No. 1 | Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 1 | $1,888,807 |

**19. Workload:**

| *Firm(s)*<br>*ALL FIRMS MUST BE REPRESENTED IN THIS TABLE* | *Past Performance Evaluation Discipline(s)* | *Contract Number and State Project Number* | *Project Name* | *Remaining Unpaid Balance* ** |
|---|---|---|---|---|
| Michael Baker INTERNATIONAL | Other (Water Resource) | Contract No. 4400023101<br>Task Order No. 1<br>S.P. No. H.015040.1& H.015041.1 | IDIQ Contract for Louisiana Watershed Initiative/ State Projects Program (LWI-SPP) – Group 1<br>Beauregard, Vernon, and St. Landry Parishes | $393,909 |
| | | Contract No. 4400023101<br>Task Order No. 2<br>S.P. No. H.015044.1 | IDIQ Contract for Louisiana Watershed Initiative/ State Projects Program (LWI-SPP) – Group 1<br>Beauregard, Vernon, and St. Landry Parishes | $218,411 |
| | Other (Aviation) | Contract No. 4400019130<br>Task Order No. 1 | IDIQ Contract for Statewide Aviation Program Update – Phase II Statewide | $4,980 |

| *Firm(s)*<br>*ALL FIRMS MUST BE REPRESENTED IN THIS TABLE* | *Past Performance Evaluation Discipline(s)* | *Contract Number and State Project Number* | *Project Name* | *Remaining Unpaid Balance* ** |
|---|---|---|---|---|
| Terracon | Geotechnical | 4400019014 / H.003931.5-2 | I-10: Calcasieu River Bridge Additional Borings | $81,709 |
| | Geotechnical | 4400019014 / H.002868 | I-49 Frontage Road Bridges PDA Testing | $190,415 |
| | Geotechnical | 4400019014 / H.012033 | Cross Bayou and Caney Bayou | $20,362 |
| | Geotechnical | 4400006191 / H.012569.5 | Little Sugar Creek Bridge | $5,419 |
| | Geotechnical | 4400006191 / H.000385.5 | US190: LA415 & RR Overpass | $213,763 |
| | Geotechnical | 4400006191 / H.005121.5 | LA-1 and LA-415 Connector | $227,266 |
| | Environmental | 4400012893 (SA1) \| H.004273.5 | Lafayette Urban Section (I-49 Lafayette Connector) Phase II ESA, Lafayette Parish | $25,197 |
| | Geotechnical | 4400006191 / H.005967 | Nelson Road Extension and Bridge | $52,534 |
| | Geotechnical | H.011670.6 | Loyola Interchange Design-Build | $95,622 |
| | Geotechnical | 4400022901 / H.011094.5 | Hearne Ave. – Cross Bayou Bridge Replacement | $141,755 |

**19. Workload:**

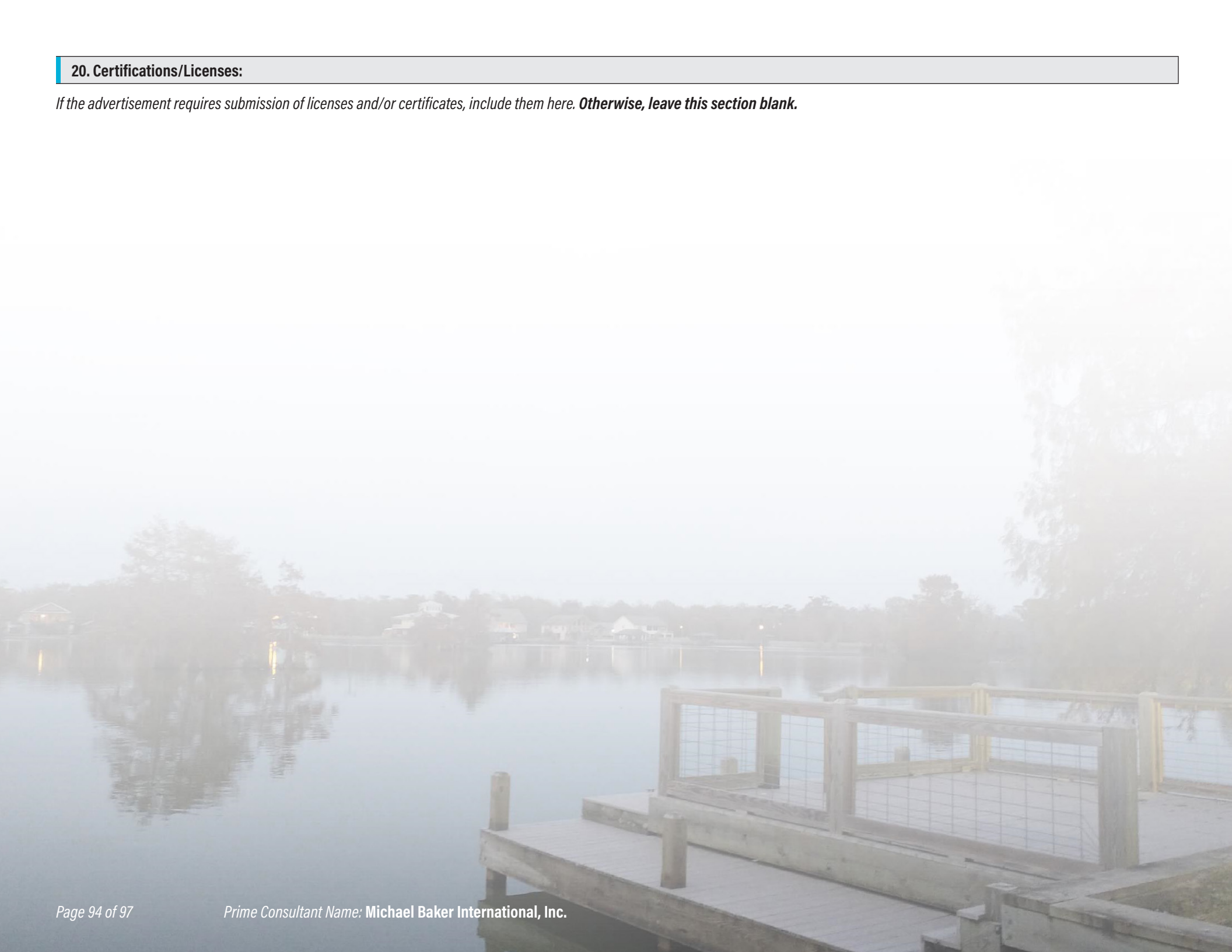
| *Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE* | *Past Performance Evaluation Discipline(s)* | *Contract Number and State Project Number* | *Project Name* | *Remaining Unpaid Balance ** |
|---|---|---|---|---|
| QUALITY | Roads | 4400020961 | IDIQ Contract for Nation Flood Insurance Program and the Cooperating Technical Partership Program - TO No. 1 -FEMA Grant EMT-2021-CA-00014, Phase 1, Discovery, Lower Sabine Watershed | $46,104.25 |

| *Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE* | *Past Performance Evaluation Discipline(s)* | *Contract Number and State Project Number* | *Project Name* | *Remaining Unpaid Balance ** |
|---|---|---|---|---|
| C&C INCORPORATED | Surveying | 4400017091/ TO-3 | LWI Statewide Modeling R5 – Task Order #3 | $89,482 |
| | Surveying | 4400020019/H.011833.5 | St. Mary Street Sidewalks | $3,236 |
| | Surveying | 4400005673/H.011235.5 | I-49 South @ Verot School Rd | $155,840 |
| | Surveying | 4400017262/H.011235.5 | I-20: UPRR Overpass | $317,022 |
| | Surveying | 4400024831/H.015056 | LA 685 | $62,272 |
| | Surveying | 4400024831/H.015058 | LA 14 Business | $53,364 |

| *Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE* | *Past Performance Evaluation Discipline(s)* | *Contract Number and State Project Number* | *Project Name* | *Remaining Unpaid Balance ** |
|---|---|---|---|---|
| WSP | Bridge | 4400004763/H.010253.5 | ELEC. & MECH. ENG. ON CALL T09 | $192,651 |
| | Bridge | 4400017327/H.003931.5 | LADOTD P3 Advisory Svs On Call T01 | $258,521 |
| | Bridge | 4400017327/H.003931.5 | LADOTD P3 Advisory Svs On Call T02 | $246,640 |
| | Bridge | 4400017327/H.003931.5 | LADOTD P3 Advisory Svs On Call T04 | $1,818,105 |

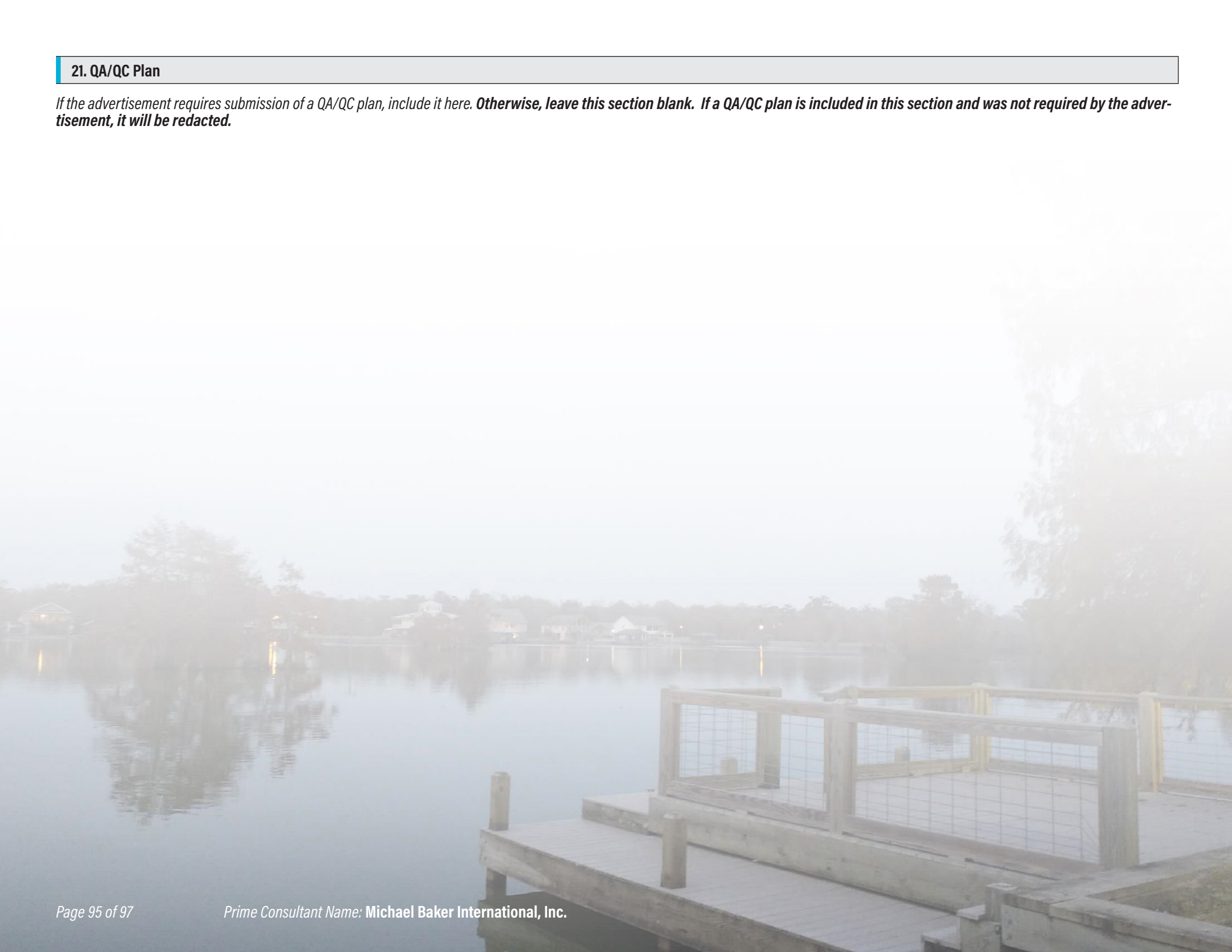
**20. Certifications/Licenses:**

*If the advertisement requires submission of licenses and/or certificates, include them here.* ***Otherwise, leave this section blank.***



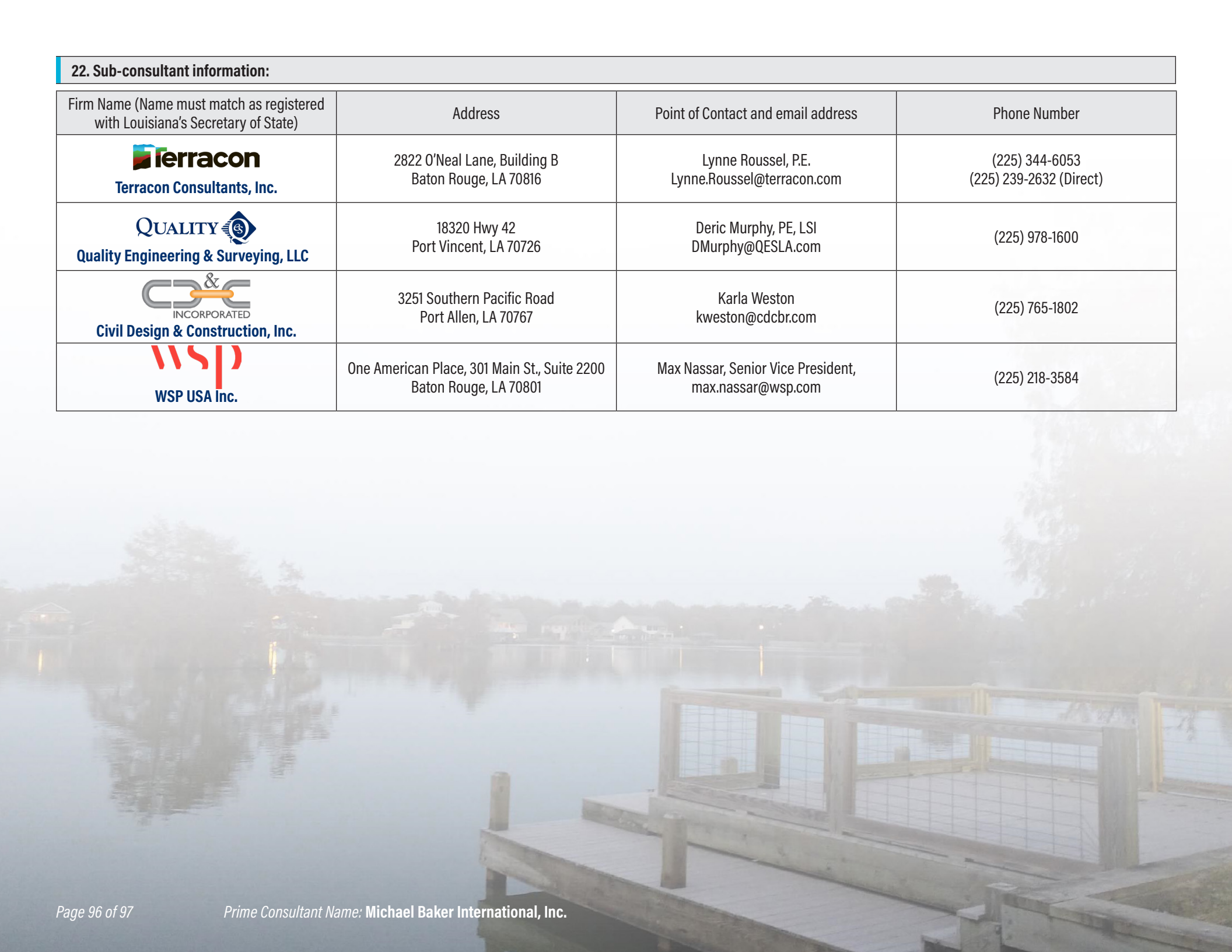
## 21. QA/QC Plan

*If the advertisement requires submission of a QA/QC plan, include it here.* ***Otherwise, leave this section blank. If a QA/QC plan is included in this section and was not required by the advertisement, it will be redacted.***



**22. Sub-consultant information:**

| Firm Name (Name must match as registered with Louisiana's Secretary of State) | Address | Point of Contact and email address | Phone Number |
|---|---|---|---|
| **Terracon Consultants, Inc.** | 2822 O'Neal Lane, Building B<br>Baton Rouge, LA 70816 | Lynne Roussel, P.E.<br>Lynne.Roussel@terracon.com | (225) 344-6053<br>(225) 239-2632 (Direct) |
| **Quality Engineering & Surveying, LLC** | 18320 Hwy 42<br>Port Vincent, LA 70726 | Deric Murphy, PE, LSI<br>DMurphy@QESLA.com | (225) 978-1600 |
| **Civil Design & Construction, Inc.** | 3251 Southern Pacific Road<br>Port Allen, LA 70767 | Karla Weston<br>kweston@cdcbr.com | (225) 765-1802 |
| **WSP USA Inc.** | One American Place, 301 Main St., Suite 2200<br>Baton Rouge, LA 70801 | Max Nassar, Senior Vice President,<br>max.nassar@wsp.com | (225) 218-3584 |



## 23. Location:

*If location is an evaluation criterion for this advertisement and the prime consultant intends to establish a local presence, describe the plan for doing so.* ***Otherwise, leave this section blank. Any information included in this section will be redacted if not required by the advertisement.***