PROPOSAL FOR ENGINEERING AND RELATED SERVICES

US 190: UPRR Overpass Near Opelousas

February 10, 2022

CONTRACT NO. 4400023434
CONTRACT FOR US 190: UPRR OVERPASS NEAR OPELOUSAS
STATE PROJECT NO. H.000445
F.A.P. NO. H000445
ROUTE US 190
ST. LANDRY PARISH

UPRR Looking West

Submitted to:
Louisiana Department of Transportation and Development (DOTD)

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Submitted by:
Michael Baker International, Inc.

Michael Baker
INTERNATIONAL

SECTIONS

1-11

Michael Baker International: Bridge Replacement over KCS Railroad S.R. 471

DOTD FORM: 24-102

(Revised June 1, 2021)

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.

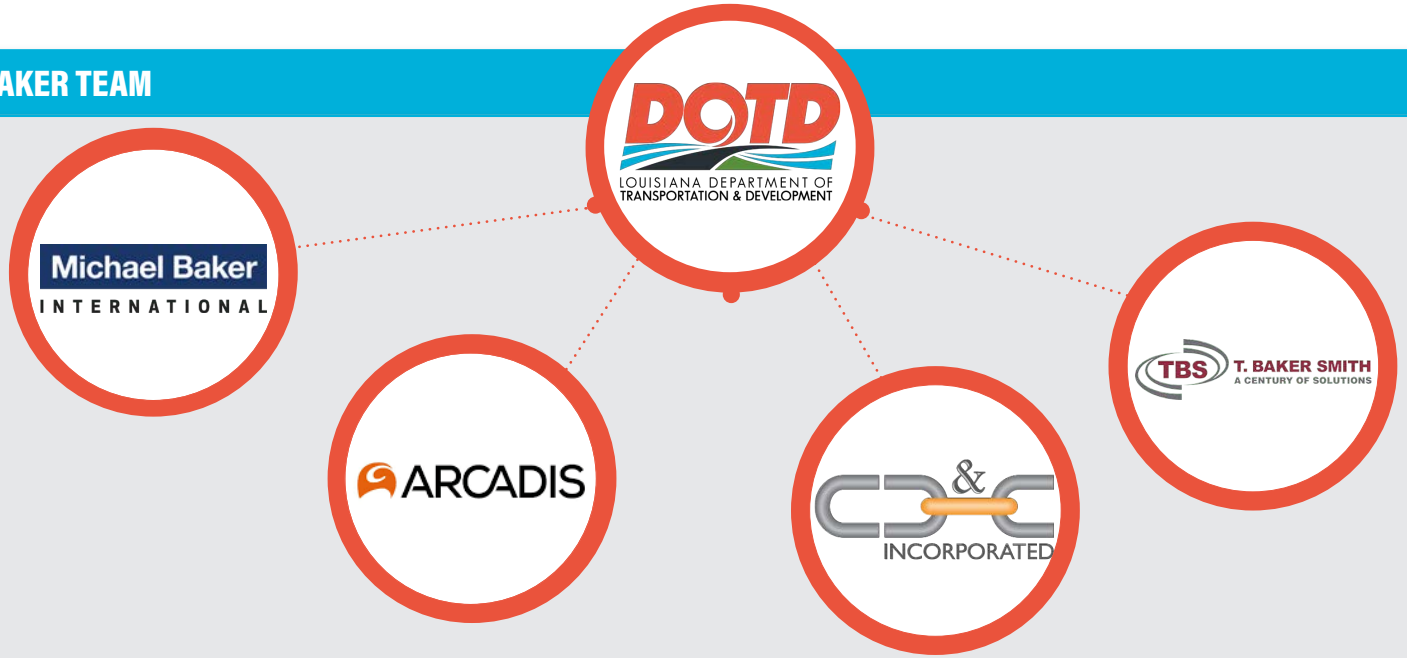
ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.

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

1. Contract title as shown in the advertisement	CONTRACT NO. 4400023434 CONTRACT FOR US 190: UPRR OVERPASS NEAR OPELOUSAS STATE PROJECT NO. H.000445 F.A.P. NO. H000445 ROUTE US 190 ST. LANDRY PARISH
2. Contract number(s) as shown in the advertisement	4400023434
3. State Project Number(s), if shown in the advertisement	H.000445
4. Prime consultant name (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 V.F. 0000010
6. Prime consultant mailing address	Michael Baker International, Inc., 2600 CitiPlace Drive, Suite 450, Baton Rouge, Louisiana 70808
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	Michael Baker International, Inc., 2600 CitiPlace Drive, Suite 450, Baton Rouge, Louisiana 70808
8. Name, title, phone number, and email address of prime consultant's contract point of contact	Daniel Thornhill, PE Associate Vice President / Transportation Department Manager 225-218-2846 | daniel.thornhill@mbakerintl.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	Daniel Thornhill, PE Associate Vice President / Transportation Department Manager 225-218-2846 | daniel.thornhill@mbakerintl.com

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 (shall be the same person as #9):* *Date:* February 10, 2022 *Addendum Acknowledged: n/a*	
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):* n/a	*Firm(s)' %:* n/a

YOUR MICHAEL BAKER TEAM



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 bridge replacement for US 190: UPRR Overpass near Opelousas project.

SECTION

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Existing U-turn Underpass (UPRR Bridge)

12. Past Performance Evaluation Discipline Table:

Evaluation Disciplines	*% of Overall Contract*	Michael Baker INTERNATIONAL	ARCADIS	C&C INCORPORATED	TBS T. BAKER SMITH A CENTURY OF SOLUTIONS
Bridge	**67.50%**	**62.00%**	**38.00%**	**0.00%**	**0.00%**
Road	**17.50%**	**62.00%**	**38.00%**	**0.00%**	**0.00%**
Traffic	**5.00%**	**3.00%**	**97.00%**	**0.00%**	**0.00%**
Survey	**6.00%**	**0.00%**	**0.00%**	**100.00%**	**0.00%**
Environmental	**1.00%**	**100.00%**	**0.00%**	**0.00%**	**0.00%**
Other (SUE)	**3.00%**	**0.00%**	**0.00%**	**0.00%**	**100.00%**
*Identify the percentage of work for the **overall contract** to be performed by the prime consultant and each sub-consultant.*					
Percent of Contract	**100.00%**	**53.85%**	**37.15%**	**6.00%**	**3.00%**

SECTION

13

US 190 UPRR Existing Bridge East Bound

13. Firm Size:

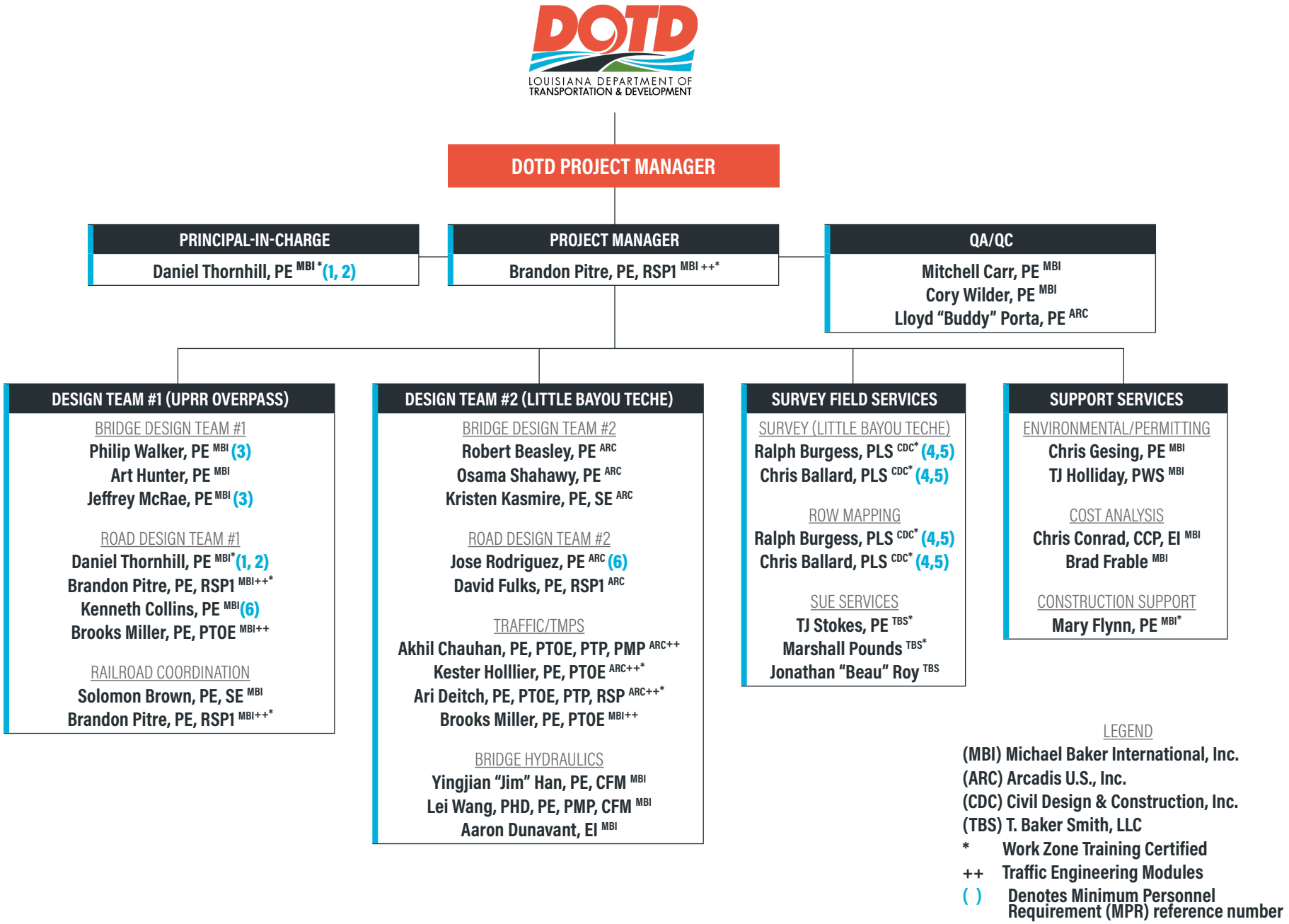
The Michael Baker team has the resources of a large firm with the familiarity and presence of our Baton Rouge office. We are ready and capable to meet the needs of the DOTD on the local level. **Our bridge and road experts are ready to get to work, building on our extensive experience in projects similar in nature, which can be seen in Section 17.**

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, INC. (MICHAEL BAKER) ▪ 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. ▪ 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**
	Clerical	**1**	**2**
	Engineer	**3**	**5**
	Engineer Intern	**2**	**4**
	Engineer - Other	**1**	**8**
	Environmental Manager	**1**	**2**
	GIS Analyst	**1**	**3**
	Principal	**1**	**3**
	Senior Technician	**1**	**6**
	Supervisor - Eng	**1**	**1**
	Supervisor - Other	**2**	**3**
	Technician	**1**	**5**
ARCADIS U.S., INC. (ARCADIS) ▪ Arcadis is a global design and engineering firm with local offices in both Baton Rouge and New Orleans since 1980. The 75 staff working in these offices are already a part of the local community. Arcadis is also a global leader in roadway and bridge design, with a history dating back over 100 years. Arcadis has designed complex "mega-bridges" all over the world. ▪ Their extensive reach to award-winning technical experts remains available to their Louisiana-based engineers. They truly deliver global expertise, applied locally.	Principal	**3**	**5**
	Engineer	**5**	**17**
	Engineering – Aide	**1**	**5**
	Supervisor Engineer	**6**	**10**

CIVIL DESIGN & CONSTRUCTION, INC. (CDC) ▪ Established in 2005, CD&C is an engineering and land surveying firm located in Port Allen, Louisiana, 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 the DOTD as a DBE Engineering and Land Surveying Firm. Their services include civil engineering, cost engineering, and land surveying for various governmental agencies on the local, state, and federal levels as well as private entities. ▪ CD&C has performed numerous projects for DOTD and has an excellent professional relationship with the DOTD. CD&C offers a wealth of positive history for relevant engineering and land surveying experience for the DOTD. We feel that their past performance is excellent both in meeting contract schedules and the quality of work delivered.	Surveyor	**2**	**2**
	Party Chief	**2**	**4**
	Instrument Man	**2**	**2**
	Rodman	**2**	**2**
	CADD Operator	**1**	**1**
	Senior Technician	**2**	**5**
T. BAKER SMITH, LLC (TBS) ▪ TBS is a fully integrated, professional consulting firm committed to delivering successful project outcomes for our clients in the public works sector. ▪ With 75 years of combined experienced, their qualified key SUE staff and successful track record contribute to their ability to deliver your project on time and within schedule, while their rigorous quality control processes ensure a quality product. Their SUE team of expert engineers, surveyors, and technicians employs cutting-edge technology and decades of experience to help clients mitigate uncertainties and risks associated with existing underground utilities. Design engineers, utility owners, and contractors will all benefit from the application of their SUE expertise.	Supervisor ENG	**1**	**3**
	Supervisor Other	**0**	**20**
	Engineer	**0**	**18**
	Surveyor	**0**	**12**
	Senior Technician	**1**	**13**
	Party Chief	**1**	**20**

National Flood Hazard Layer FIRMette at Little Bayou Teche

14. Organizational Chart:



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

SECTION

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Existing UPRR (Missouri Pacific Railroad)

15. Minimum Personnel Requirements:

MPR No.	*Personnel being used to meet the MPR*	*Firm employed by*	*Type of license / certification required*	*State of license*	*License / certification expiration date*
1	Daniel Thornhill, PE	Michael Baker INTERNATIONAL	PE	LA	PE.0032367 / 09/30/2022
2	Daniel Thornhill, PE	Michael Baker INTERNATIONAL	PE	LA	PE.0032367 / 09/30/2022
3	Philip Walker, PE	Michael Baker INTERNATIONAL	PE	LA	PE.0046394 / 09/30/2022
	Jeffrey McRae, PE	Michael Baker INTERNATIONAL	PE	LA	PE.0034554 / 09/30/2023
4	Ralph Burgess, PLS	C&C INCORPORATED	PLS	LA	PLS.0005040 09/30/2022
	Chris Ballard, PLS	C&C INCORPORATED	PLS	LA	PLS.0005033 09/30/2022
5	Ralph Burgess, PLS	C&C INCORPORATED	PLS	LA	PLS.0005040 09/30/2022
	Chris Ballard, PLS	C&C INCORPORATED	PLS	LA	PLS.0005033 09/30/2022
6	Kenneth Collins, PE	Michael Baker INTERNATIONAL	PE	LA	PE.0033109 / 09/30/2023
	Jose Rodriguez, PE	ARCADIS	PE	LA	PE.0030492 / 03/31/2023

SECTION

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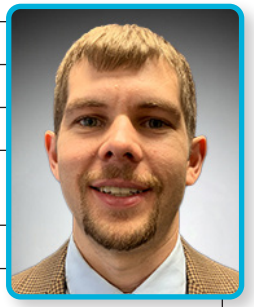
US 190 UPRR Overpass (Westbound)

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.			
Name	**Daniel Thornhill, PE**		*Years of relevant experience with this employer*	2
Title	Transportation Department Manager		*Years of relevant experience with other employer(s)*	22
Degree(s) / Years / Specialization		B.S., 1997, Civil Engineering, Louisiana State University		
Active registration number / state / expiration date		PE.0032367 / LA / 09/30/2022		
Year registered	2006	*Discipline*	Civil	
Active registration number / state / expiration date		25136 / AL / 12/31/2021		
Year registered	2002	*Discipline*	Civil	
Year registered	2012	*Discipline*	NHI 142005 - NEPA and Transportation Decision Making	
Contract role(s) / brief description of responsibilities		**Fulfills the roles of MPR 1 and 2. Principal and Road Design Lead.** Mr. Thornhill will be responsible for contract management. He will be the point-of-contact for this contract and will coordinate directly with the DOTD project manager.		

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 time specified in the applicable MPR(s).*
04/14 – 08/16	**DPW Bridge Replacement Program (Cuyhanga Parkway and Pecos Drive), East Baton Rouge Parish, Louisiana.** *East Baton Rouge Parish.* Project Manager. Responsible-in-charge for the replacement of Cuyhanga Parkway Bridge over Jones Creek and Pecos Road Bridge over Shoe Creek. Project included development of construction plans, sizing of bridge opening with HEC-RAS hydraulic model, and relocation of local sewer lines in conflict with new construction. Both bridges were cast-in-place decks with sidewalks resting on concrete bent caps on driving PCC Piles.
11/09 – 09/15	**Espasie Drive Bridge Replacement over Edith Coulee, Lafayette, Louisiana.** *Lafayette Consolidated Government.* Project Manager/Lead Design. Responsible for the replacement of an existing bridge on concrete bents and timber piles with a Pre-Cast Arch Span Bridge. Responsibilities included overall management of project along with hydraulic design for sizing the replacement structure for the channel along with all roadway horizontal and vertical alignments and roadway drainage.
01/02 – 03/04	**Garvee Amendment Bridge Replacement Program for Multiple Counties, Alabama.** *Alabama Department of Transportation.* Project Engineer. Responsible for the design and development of construction plans for bridge replacement projects. Responsibilities included design of bridge superstructure and substructure and the road improvements to match new bridge elevations. Bridges substructures were either drilled shafts socketed in rock bed or shallow foundations with driven steel "H" piles. Bridge projects were in Jefferson County, Marshall County, Culman County and Marion County. Mr. Thornhill was also responsible for all road improvements for the approaches for each bridge.
08/12 – 01/18	**Juban Road (LA 1026) Widening, Livingston Parish, Louisiana.** *Livingston Parish.* Project Manager/Engineer. Responsible for the layout of horizontal and vertical alignments for the widening of existing 2-lane roadway to a 4-lane boulevard with three multi-lane roundabout intersections which includes sidepaths along both sides of roadway from first roundabout (at Juban Crossing 5th Driveway) to US 190 (Florida St.).
04/99 – 09/99	**Baton Rouge Metropolitan Airport Entrance Road Improvements, East Baton Rouge Parish, Louisiana.** *East Baton Rouge Parish.* Project Engineer. Responsible for hydraulic/hydrology study for the design of subsurface drainage for the realigned entrance roads for the airport and the sizing of the bridge structure over Monte Sano Bayou based on hydraulic analysis. Project included a series of road realignments to tie into new parking garage and improved terminal entrance.
03/14 – 08/15	**I-12 Entrance Ramp at Millerville Road, East Baton Rouge Parish, Louisiana.** *East Baton Rouge Parish.* Project Manager/Engineer. Responsible for the design of a new westbound entrance ramp from Millerville Road to I-12. Project included widening of Millerville Road to accommodate new double left turn lanes at new intersection at new development. Project included developing traffic control plans for lane shift of three (3) lanes along I-12 to provide protection for construction workers while building the new entrance ramp along with addition of new traffic signal and removal of existing traffic signal at another intersection.

05/16 – 01/18	**Ham Reid Road at Lake Street (LA 3092) Intersection Improvement Project, Lake Charles, Louisiana.** *Calcasieu Parish Police Jury.* Project Engineer/Manager. Responsible for the production of Construction Plans for a new Single Lane Roundabout at the intersection of Ham Reid Road and Lake Street (LA 3092). Permit project for Calcasieu Parish through DOTD District 7. Project is currently in Final Design Phase.
08/16 – 06/17	**W. Parker Blvd Intersection Improvement, East Baton Rouge Parish, Louisiana.** *East Baton Rouge Parish.* Project Manager. Responsible for the addition of a left turn from W. Parker Blvd onto Burbank Dr. Project included the removal and replacement of existing sidewalks to adhere to ADA standard. Project tied to DOTD maintained LA 42 (Burbank Dr).
05/98 – 11/00	**Bluebonnet Road Realignment, EBR DPW, East Baton Rouge Parish, Louisiana.** *East Baton Rouge Parish.* Project Engineer. Responsible for hydraulic/hydrology study for two existing drainage channels designed the sub-surface drainage for a new 4-lane roadway with medians, assisted with the horizontal and vertical layouts, and aided in the preparation of contract plans in accordance to East Baton Rouge Standard Plans and Specifications. Project crossed or tied into three DOTD maintained roadways (I-10 Interchange, LA 73 (Jefferson Hwy), and US 61 (Airline Hwy).
12/06 – 06/10	**Green Light Plan (GLP), East Baton Rouge Parish, Louisiana.** *East Baton Rouge Parish.* Project Manager. Responsible for the design and construction of 7 projects in East Baton Rouge Parish. ▪ Siegen Lane - Highland Road to Perkins Road (DOTD Roadway) ▪ Highland Road - Old Perkins Road to Airline Highway (DOTD Roadway) (Included new bridges and railroad coordination for at grade crossing) ▪ Jones Creek Road – Coursey Blvd to South Harrell's Ferry Road (Included new bridges) ▪ South Harrell's Ferry Road – Millerville Road to O'Neal Lane (Included new box culvert bridge) ▪ O'Neal Lane – South Harrell's Ferry Road to just south of I-12 (DOTD Roadway) ▪ Lobdell Avenue – Government Street to Florida Blvd ▪ Ford Street – Plank Road to Mickens Road
08/97 – 11/00	**Off-System Bridge Replacement, Rapides Parish, Louisiana.** *Louisiana Department of Transportation and Development.* Engineer Intern. Responsible for the development of hydraulic design for six off-system bridges in Rapides Parish. Hydraulic design included the delineation of drainage basins, calculation of hydraulic flows, sizing of channel opening through both WSPRO and HEC-RAS and setting the low chord for each bridge structure.
11/21 – Ongoing	**US 371: KCS RR Overpass HBI, Webster Parish, Louisiana.** *Louisiana Department of Transportation and Development.* Project Manager. Responsibilities include design of alignments and bridge layouts along with the management of schedule and invoices for the replacement of 3 bridges at 2 locations in Webster Parish along US 371. First location is the replacement of a single bridge in the town of Sibley and the second location is replacement of two parallel bridges just north of the interchange with I-20. Additional responsibilities include the development of construction plans and coordination with KCS Railroad and DOTD Railroad Section.



Firm employed by	Michael Baker International, Inc.		
Name	**Brandon Pitre, PE, RSP**$_1$	*Years of relevant experience with this employer*	2
Title	Project Manager - Transportation	*Years of relevant experience with other employer(s)*	7
Degree(s) / Years / Specialization	MS / 2012 / Civil Engineering / Texas A & M University BS / 2010 / Civil Engineering / Louisiana State University		
Active registration number / state / expiration date	PE.0040975 / LA / 03/31/2023		
Year registered	2016	*Discipline*	Civil
Contract role(s) / brief description of responsibilities	**Project Manager.** Mr. Pitre will be responsible for geometric, hydraulic design, railroad coordination, and will coordinate directly with DOTD Project Manager.		

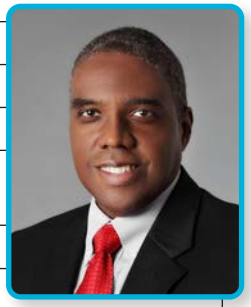
Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).*
08/19 – 12/19	**Alphonse Forbes Road Bridge Replacement, Central, Louisiana.** *East Baton Rouge Parish.* Transportation Engineer. Assisted on project by collecting relevant design data, as-built drawings, and similar go-by project drawings and documents. Responsible for compiling preliminary hydraulics study report, reviewing roadway design drawings, performing QC/QA of project deliverables, and generating a preliminary construction cost estimate.
05/16 – 08/17	**Bootlegger Road Mill and Overlay and Bridge Replacement, Covington, Louisiana.** *St. Tammany Parish.* Transportation Engineer. Assisted in design and plan production for a proposed roadway design project involving an asphalt pavement mill and overlay, full-depth pavement replacement and bridge replacement, along with a proposed bicycle-pedestrian shared-use path.
08/14 – 08/15	**LA 63 Bridges Near Bluff Creek, East Feliciana Parish, Louisiana.** *Louisiana Department of Transportation.* Roadway Designer. Served as roadway designer for a bridge replacement project which consisted of replacing three structurally deficient bridges. Responsible for design and modeling of roadway portion of project for one of the bridges where proposed roadway alignment needed to tie into proposed bridge finished grade elevation. Work included utilizing Microstation and InRoads to develop the roadway construction plans, a temporary detour bridge, and preliminary cost estimate.
06/18 – 12/19	**US 90 Ramps at LA 88 Roundabouts for Highway Safety Design Retainer, New Iberia, Louisiana.** *Louisiana Department of Transportation.* Roadway Design Engineer. Served as lead roadway design engineer for this project whose scope consisted of converting the eastbound and westbound US 90 ramp terminals into two multi-lane roundabouts, along with making improvements to the existing drainage network to increase hydraulic capacity. Responsible for design and plan production, completing the 100% Preliminary Plans based on comments from the client at the Plan-In-Hand meeting. This involved making several changes to the MicroStation files by modifying the typical pavement sections and details, revising the construction sequencing layout, modifying the drainage design, and creating the permanent signing and
12/17 - 07/18	**US 190B at Jefferson Avenue Roundabout Design for Highway Safety Design Retainer, Covington, Louisiana.** *Louisiana Department of Transportation.* Roadway Design Engineer. Responsible for design and plan production for this project whose scope consisted of converting a 4-way intersection into a single-lane roundabout. Responsible for completing 100% Preliminary Plans based on comments from the client at the Plan-In-Hand meeting. This involved making several changes to the MicroStation files such as revisions to the typical pavement section and details, plan and profile sheets, and construction sequencing sheets. Developed the 60% Final Plans which involved determining the required construction items and developing the accompanying construction cost estimate. Other work included hydraulics calculations and preparation of the hydraulics report.
10/16 - 01/17	**I-12 Widening, LA 21 to US 190, Covington, Louisiana.** *Louisiana Department of Transportation.* Transportation Engineer. Created typical section sheets for an interstate widening project. Performed hydraulic analysis to check adequacy of existing cross drains and created existing and design drainage maps.

03/16 - 10/17	**Pavement Preservation Retainer, Bossier, Claiborne, and East Feliciana Parish, Louisiana.** *Louisiana Department of Transportation.* Transportation Engineer. Served as lead engineer on design and production of letter-size construction plans for three roadway rehabilitation projects. Responsible for conducting field surveys which included tasks such as establishing centerline stationing, documenting existing pavement and guardrail conditions, measuring existing driveways, turn-outs, mailboxes, cross drains, and guardrail length. Developed construction plans which included summary sheets of estimated quantities of required construction items, typical roadway section sheets, and all applicable special detail sheets.
11/15 – 06/17	**Francis Road Extension, Covington, Louisiana.** *St. Tammany Parish.* Transportation Engineer. Assisted in design and plan production of a 2-lane asphalt roadway extension project to better serve local community by providing better connectivity between local subdivisions and recreational facility. Responsible for conducting drainage analysis to compare pre- and post-development drainage design and to determine required culvert sizing.
12/19 - 08/20	**I-2 Design Build, Pharr, Texas.** *TxDOT.* Transportation Engineer. As part of the retaining wall team for this interstate widening project, responsible for utilizing Power GeoPak to extract relevant horizontal and vertical alignment data for the retaining walls, including bridge abutment walls at overpass structures, from the 3D roadway model. Also responsible for creating the plan and profile sheets along with all relevant typical section detail sheets to show the type of wall construction required for the proposed retaining walls along the interstate corridor.
11/21 - Ongoing	**US 371: KCS RR Overpasses HBI, Webster Parish, Louisiana.** *Louisiana Department of Transportation.* Transportation Engineer. Serving as lead road design engineer on bridge replacement project involving three structurally deficient steel girder bridges at two locations in Sibley and Minden, LA. Responsible for developing the horizontal and vertical alignments as well as the roadway model for the project while adhering to horizontal and vertical clearance requirements established by KCS for the proposed bridge structures. Also responsible for overseeing the preliminary and final design plan production. Will also be in charge or coordinating critical design elements with KCS and other structural engineers working on the bridge design.

Firm employed by	Michael Baker International, Inc.			
Name	**Philip Walker, PE**		*Years of relevant experience with this employer*	4
Title	Regional Practice Lead - Bridge		*Years of relevant experience with other employer(s)*	27
Degree(s) / Years / Specialization		M.S.C.E., 1991, Structural Engineering, Georgia Institute of Technology B.S.C.E., 1990, Structural Engineering, Tennessee Technological University		
Active registration number / state / expiration date		PE.0046394 / LA / 09/30/2022		
Year registered	2022	*Discipline*	Civil	
Contract role(s) / brief description of responsibilities		**Fulfilles the role of MPR 3. Bridge Design Team #1 Leader.** Mr. Walker will serve as Bridge Design Team #1 Leader and will be responsible for all aspects of bridge design and bridge plans.		

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 time specified in the applicable MPR(s).*
10/21 - Ongoing	**SR 28 Bridge over the Strong River, Simpson County, Mississippi.** *Mississippi Department of Transportation.* Technical Advisor. Philip is providing suggestions and guidance to the team while guiding responses to client comments for the design of a three span post-tensioned spliced precast concrete beam bridge across the Strong River.
12/14 - 01/15	**Harrisburg Overpass, Houston METRO East Corridor Project, Houston, Texas.** *Houston METRO.* QAQC Review. Philip provided QC Review of the 885-foot-long bridge carrying both two tracks of light rail and two lanes of highway traffic. He reviewed both calculations and each plan phase submittal. Project consisted of multiple spans of precast concrete girders made continuous for live load with a substructure containing multiple reinforced concrete straddle bents supported on drilled shafts. Direct fixation was used to connect rails to raised plinths to superstructure deck.
03/09 - 04/14	**Mid-Bay Bridge Authority General Engineering Contract – Phase 2 and Phase 3, Okaloosa County, Florida.** *Mid-Bay Bridge Authority.* Philip was the Structural Project Manager and Engineer of Record responsible for all structures along the 8 mile corridor. Project includes three grade separation structures and five waterway crossings. Project highlights included minimization of wetlands impacts, prohibition on stream construction to protect endangered species, use of hybrid girders and weathering steel, and use of work trestles at various locations. Project also includes an overhead gantry to facilitate tolling along with other standard overhead sign structures.
02/07 - 05/09	**HBT Bridge over HBT Railroad - Houston METRO North Corridor Project, Houston, Texas.** *Houston METRO.* QC Reviewer. Mr. Walker was the QC reviewer for structural details along the 1722' viaduct supporting twin light rail tracks. The bridge consisted of fifteen spans of precast Texas U-beam superstructure and a central 426' unit consisting of a 3 span structure consisting of parallel steel box girders. Mr. Walker was the Engineer of Record for a Rolling Stock Analysis of a three-span continuous steel box girder superstructure supporting two parallel light rail tracks. The special study was conducted to verify the appropriateness of live load impact factors used. The work consisted of conducting a time history analysis of vehicles traveling across the structure using the modal superposition technique.
11/08 - 09/13	**Main Street Bridge over White Oak Bayou – Houston METRO North Corridor Project, Houston, Texas.** *Houston METRO.* Engineer of Record. Philip was the Engineer of Record for design of strengthening and reconstruction of the historic structure for purpose of carrying light rail tracks. Historic requirements and permit limitations dictated use of an atypical structural system consisting of reinforced concrete T-beams spanning up to 80 feet for the 420-foot-long bridge. Bridge deck and track profile was required to match the existing bridge grade which transitioned 20 feet vertically from the north bank of the waterway up to a track station platform at the third floor of the University of Houston campus building.
06/05 - 12/11	**Mid-Bay Bridge Authority General Engineering Contract – Phase 1, Okaloosa County, Florida.** *Mid-Bay Bridge Authority.* Philip was the Structural Project Manager and Engineer of Record responsible for all structures along the 3.5-mile corridor. Project includes three bridge structures with various walls, sign structures, and mastarms. Bridge structures include two 245-foot simple span hybrid steel plate girder structures and a 95-foot simple span AASHTO Type IV girder structure.
07/06 - 12/11	**SR 559 over CSX Railroad, Polk County, Florida.** *Florida Department of Transportation District 1.* Philip was the Structural Project Manager and Engineer of Record for the 422-foot AASHTO Type VI girder bridge. Adjacent storage tanks necessitated requirement of drilled shaft foundations at both intermediate piers and end bents to minimize construction vibrations. Project included wrap-around MSE walls and various cantilever sign structures.

02/06 - 01/09	**Leisey Road Extension Project, Hillsborough County, Florida.** *Newland Communities.* Structural Project Manager and Engineer of Record. Mr. Walker served as the Structural Project Manager and Engineer of Record for all structures along the corridor. The project included a 160-ft. truss bridge carrying two lanes of traffic with sidewalks across CSX railroad tracks at the entrance to the housing development. The project's design reflected incorporation of the requirements of FDOT's Florida Greenbook. The structure's span length across the tracks satisfied FDOT's requirements for horizontal clearance when crash walls were not provided. The Pratt Truss utilizing weathering steel provided the aesthetic look of an "old railroad bridge" that was desired by the owner. The development's fees incorporated maintenance costs for stain removal from concrete surfaces due to use of weathering steel.
03/05 - 02/13	**SR 79 over Holmes Creek, Vernon, Florida.** *Florida Department of Transportation District 3.* Philip was the Structural Project Manager and Engineer of Record for the twin 1000-foot AASHTO Type IV girder bridges. He was responsible for all contract documents for the bridge, retaining walls (anchored sheet pile), and mastarm structures. The presence of artesian pressure and swampy conditions required the design of two foundation solutions – steel pipe piles and drilled shafts. He provided technical direction and supervision to a staff of three engineers and two technicians.
12/98 - 03/00	**US 17 Bridge Replacements, Duval County, Florida.** *Florida Department of Transportation District 2.* Philip was the Project Manager for construction assistance and shop drawing review for construction at seven sites along the corridor. Superstructure types consisted of box culverts, reinforced concrete flat slabs bridges, and bridges utilizing precast concrete AASHTO girders. Both drilled shafts and driven piling were used for deep foundations.
01/96 - 04/96	**US 1 Bridge Replacements, Duval County, Florida.** *Florida Department of Transportation District 2.* Assisted in the design of the AASHTO girder structures. HDR provided preliminary, final and post design services for the reconstruction of eight bridges and their roadway approaches located in northwest Florida. Descriptions for each of the bridges are as follows: (01/1996 to 04/1996) ▪ US 1 over Durbin Creek. The crossing consists of a pair of 159-foot long bridges. The multi-span superstructure utilized AASHTO Type II Girders. All bents were supported by precast concrete piling. ▪ US 1 over Moses Creek. The crossing consists of a pair of 150-foot long bridges. The multi-span superstructure utilized AASHTO Type II Girders. All bents were supported by precast concrete piling. ▪ US 1 over Moultrie Creek. The crossing consists of a pair of 210-foot long bridges. The multi-span superstructure was a reinforced concrete flat slab section. ▪ Racetrack Road over Durbin Creek. The bridge was a 376-foot long structure. The multi-span superstructure utilized AASHTO Type III Girders. All bents were supported by precast concrete piling. ▪ SR 207 over Cracker Branch. The bridge was a 171-foot long structure. The multi-span superstructure was a reinforced concrete flat slab section.
01/05 - 05/05	**Guthrie Bridge at Gila River Constructability Study, Safford, Arizona.** *Arizona Department of Transportation.* Mr. Walker conducted a constructability review of and provided construction drawing input for erection of steel plate girders for the 240-ft center span of the 1084 ft bridge. The center span crossed an active Union Pacific Railroad line and environmentally sensitive areas along the adjacent Gila River. Alternatives reviewed included incremental launching, temporary falsework and use of specialized crane erection.
08/98 - 05/99	**Beaver Street Bridge Replacement, Jacksonville, Florida.** *Florida Department of Transportation District 2.* Structural project manager for construction assistance and shop drawing review for construction of urban arterial over a rail yard. Superstructure consisted of AASHTO girder approaches up to a two-span steel plate girder unit that crossed eight lines of track.



Firm employed by	Michael Baker International, Inc.		
Name	**Art Hunter, PE**	*Years of relevant experience with this employer*	4
Title	Project Manager – Structural Engineering	*Years of relevant experience with other employer(s)*	38
Degree(s) / Years / Specialization	M.E.C.E. / 1989 / Structural, University of Texas at Arlington B.S.C.E. / 1978 / Structures, University of Texas at Arlington		
Active registration number / state / expiration date	PE.0021661 / LA / 09/30/2021		
Year registered	1985	*Discipline*	Civil
Active registration number / state / expiration date	53138 / TX / 12/31/2020		
Year registered	1983	*Discipline*	Structural
Contract role(s) / brief description of responsibilities	Bridge Engineer. Mr. Hunter will be responsible for design of bridge plans.		

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 time specified in the applicable MPR(s).*
01/90 - 12/91	**DART Light Rail Track Section OC 2, Dallas, Texas.** *Dallas Area Rapid Transit.* Structural Engineer. 4,800 foot dual track bridge with 846 foot steel main span and prestressed concrete beam approaches. Designed the main span which is a three-span, continuous, horizontally curved steel plate girder with composite deck. Three girder cross sections have spans of 263, 320, 263 feet.
03/97 - 12/97	**Norfolk Southern Cloggsville Bypass, Cleveland, Ohio.** Structural Engineer. Seven miles of improvements in an active rail corridor that includes double tracking, arch culvert extension, bridge widening and new bridge construction. Supervised engineering, performed design check, specifications and post design construction support for a 150 feet long, single span, ballasted dual track, steel plate girder bridge with full height abutments.
08/19 – 12/19	**Bayou Derriseaux Bridges Design Services, Cleveland County, Arkansas.** *Arkansas Department of Transportation.* QA/QC Engineer. Responsible for quality review of preliminary and final bridge plans. Quality review was an essential assurance to the client that experienced engineers have review plans before submittal. This process reduced errors and omissions in final engineering documents. Michael Baker is provided engineering services for the replacement of two bridges over Bayou Derriseaux on Highway 212 in Cleveland County, Arkansas. Individual sites included a closely located main bridge and a relief bridge. Michael Baker is provided roadway and bridge design and plans for replacement of the bridges and approaches which included hydraulic and geotechnical studies. The bridge design and plans entailed integral bridge types with steel rolled beam superstructures, as well as steel shell pile substructure. The new structures were constructed on the existing centerline with temporary access roads to facilitate maintenance of traffic. Project challenges included poor soil conditions and difficult access in the marshy wetland conditions.
11/18 – 01/19	**Big Creek Relief Bridges Design Services, Cleveland County, Arkansas.** *Arkansas Department of Transportation.* QA/QC Engineer. Responsible for quality review of preliminary and final bridge plans. Quality review was an essential assurance to the client that experienced engineers have review plans before submittal. This process reduced errors and omissions in final engineering documents. Michael Baker is provided engineering services for the replacement of two bridges over Bayou Derriseaux on Highway 212 in Cleveland County, Arkansas. Individual sites included the closely located main bridge and a relief bridge. Michael Baker is provided roadway and bridge designs and plans for the replacement of the bridges and approaches which included hydraulic and geotechnical studies. The bridge design and plans entailed continuous concrete slab bridge types, as well as steel shell pile substructure. New structures were constructed on an offset alignment to facilitate maintenance of traffic and achieve the desired roadway geometry.
07/19 – 08/19	**Palarm Creek Str & Apprs, Faulkner County, Arkansas.** *Arkansas Department of Transportation.* QA/QC Engineer. Responsible for quality review of preliminary and final bridge plans. Quality review was an essential assurance to the client that experienced engineers have review plans before submittal. This process reduced errors and omissions in final engineering documents.
07/19 – 11/19	**TO 55 Cornie Bayou, Columbia County, Arkansas.** *Arkansas Department of Transportation.* QA/QC Engineer. Responsible for quality review of preliminary and final bridge plans. Quality review was an essential assurance to the client that experienced engineers have review plans before submittal. This process reduced errors and omissions in final engineering documents.

05/17 – 01/19	**I-45 and S.M. Wright Freeway Conversion, Texas.** *Texas Department of Transportation - Dallas District.* Senior Structural Engineer. Responsible for ensuring bridge design is completed in compliance with design criteria. Responsible for scope adherence, technical work plan, discipline coordination and project controls. Customer relations duties included conducting meetings, progress reporting, presentations, comment resolution and field design changes. Performed design quality control of bridges and bridge demolition. The project is scheduled to opened to traffic in 2022. Michael Baker is assisting in the construction of exit and entrance roadway ramps linking I-45 (Julius Schepps Freeway) with local arterial and converting U.S. 175 (S.M. Wright Freeway) to a 35 mile-per-hour, six-lane, signalized, at-grade, landscaped arterial. S.M. Wright Boulevard will have enhanced gateways and walks that will initiate community investment, development, and rejuvenation.
2009- 2010	**DFW Connector, Dallas, Texas.** *Dallas/Fort Worth International Airport.* Program Manager. Performed independent structural check of bridge slab, prestressed girders, bearings, conventional bents, post tension straddle bents and abutments. Responsible for scope adherence, earned value tracking, budget performance, technical work plan and project controls for the design team. Customer relations duties included conducting meetings, progress reporting, presentations, comment resolution with consultants and confirming field design changes. The DFWC develop, design and build $1 billion improvements to 8 miles of SH121 / SH 114 through expanding roadway capacity, toll managed lanes and frontage roads. The project contained 37 bridges for the main lanes, direct connectors and cross streets. The bridges are prestressed girders superstructure with hammer head, inverted T, multicolumn and post tensioned straddle bents.
2004 – 2005	**Bridge Replacement, Collin County, Dallas, Texas.** *Texas Department of Transportation - Dallas District.* Project Manager. Responsible for final design, plans, specification, and estimate for the bridge replacement. Replaced existing obsolete county road bridges. The bridges are CR 475 and CR 476 at Sister Grove Creek, CR 534 and CR 574 at Pilot Grove Creek, CR 631 at Pot Rack Creek. The AASHTO Type B and C prestressed concrete beam replacement bridges are 26 feet wide and range from 80 to 150 feet long.
2002 - 2003	**DFW Airport Terminal D Bridges 8, 9, and 10, Dallas, Texas.** *Dallas/Fort Worth International Airport.* Lead Structural Engineer. Supervised the bridge engineers and responsible for sealing many plan sets. Project consisted of 800 feet of cast in place post-tension box girder for bridges 8 and 10. Span vary in length from 70 to 125 feet. Bridge 9 is a 375-feet long AASHTO Type IV girder. Bridge 10 continuous span superstructure is bifurcated in span three into a single span unit and a two-span unit. Bridge 10 complexity include width varies from 102 to 24 feet; internal hinge in span 3; 100 feet radius along the baseline in the units beyond the bifurcation; integral bent caps; two story end bent supporting bridge 8 and 10; four straddle bents and two single column piers. Bridge 8 contains similar complexities. Design features include complex geometry, coordination with Terminal Building Structure and ramp transitions. Responsible for directing the 9-person design team, performed geometry checks, subconsultant coordination, plan preparation, performed quality control of the bridge design
1997 – 1998	**Oak Ridge Road Bridge over Shingle Creek, Orange County, Florida.** *Orange County.* Project Manager. Responsible for client relation, subconsultant coordination, bridge layout, bridge design, plan preparation, specifications, and estimate. Provided structural, roadway, drainage, bridge hydraulic, scour, permitting, construction administration services for the widening of a 39-meter long five span bridge and reconstruction of 103 meters of Oak Ridge Road. The two eastbound lanes of the five lane existing bridge were demolished. The three span replacement bridge is 12-meter wide, with AASHTO Type II girder supersturcture and includes barrier separated pedestrian sidewalks.

Firm employed by	Michael Baker International, Inc.				
Name	**Jeffrey McRae, PE**		*Years of relevant experience with this employer*	24	
Title	Technical Manager - Bridge		*Years of relevant experience with other employer(s)*	0	
Degree(s) / Years / Specialization			B.S., 1996, Civil Engineering, Mississippi State University		
Active registration number / state / expiration date			PE.0034554 / LA / 09/30/2021		
Year registered	2009	*Discipline*	Civil		
Active registration number / state / expiration date			015120 / WV / 12/31/2022		
Year registered	2002	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Fulfills the role of MPR 3. Bridge Design.** Mr. McRae will be responsible for design of the bridge plans.		

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 time specified in the applicable MPR(s).*
01/06 - 12/12	**S.R. 27 Reconstruction Between the Kansas City Railroad and US 80, State Route 27, Vicksburg, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included project management, generation of engineering design calculations, bridge geometry, bridge quantities and conceptual through final design contract plans. This project consisted of preparation of right-of- way and construction plans to reconstruct S.R. 27 between the Kansas City Railroad and US 80 in Warren County, MS. Michael Baker performed bridge and retaining wall design as well as roadway lighting. Suconsultants, ABMB and CivilTech, provided the necessary roadway design.
01/10 - 04/13	**S.R. 16 from S.R. 15 to S.R. 19 Bridge Design, Neshoba County, Mississippi.** *Mississippi Department of Transportation.* Engineer. Responsibilities included generation of engineering design calculations, bridge geometry, bridge quantities, and conceptual through preliminary bridge design contract plans for ten bridges. Michael Baker provided engineering services for improvements to 10 miles of S.R. 16 from S.R. 15 to S.R. 19. Michael Baker's services included the Phase A preliminary bridge plans for eight bridges, including hydraulic design for three bridges and a railroad crossing bridge, and stream and wetland delineation.
12/00 - 01/04	**S.R. 22 / Nissan Roads, Madison County, Mississippi.** *Mississippi Department of Transportation.* Assistant Engineer. Responsibilities included generation and checking of engineering design calculations, bridge quantities and final design contract plans. Responsibilities also included generating all bridge design calculations and contract plans for an AASHTO beam bridge located at Nissan Drive over the Illinois Central Railroad. This Nissan project was for the development of contract plans for three access roads to the site of the Nissan Plant in Canton, Madison County, Mississippi.
11/13 - 12/19	**S.R. 28 Big Creek, Quinn Creek, and Strong River Bridge Replacements, Simpson County, Mississippi.** *Mississippi Department of Transportation.* Engineer. Responsibilities included generating preliminary bridge R.O.W. plans, geometric calculations and design calculations for three hydraulic bridge crossings. One of the crossings, Strong River, required four separate alternates to be detailed as well as a construct-ability report and cost estimate comparison discussing the advantages and disadvantages of each alternate. Michael Baker is providing engineering services for the replacement of the S.R. 28 bridges over Big Creek, Quinn Creek, and Strong River. Michael Baker's services included hydraulic analyses, scour assessments, stream bank stabilization evaluations, preparation of hydraulic analysis reports, and conceptual and preliminary design.
03/09 - 03/21	**S.R. 9 Bridge Replacements, Calhoun County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included overall project management, QA/QC of bridge design calculations, and generation of final contract plans. Michael Baker provided engineering and design services for final bridge construction plans for four bridge replacements: Bridge No. 35.5 over Shutispear Creek, Bridge No. 40.7 over Yalobusha River Relief, Bridge No. 40.9 over Yalobusha River, and Bridge No. 41.2 over Yalobusha River Relief on S.R.9.
09/13 - 12/16	**S.R. 3 Bridge Hydraulic Design, Tate County, Mississippi.** *Mississippi Department of Transportation.* Engineer. Responsibilities included generating preliminary bridge R.O.W. plans, geometric calculations and design calculations for two hydraulic bridge crossings. Michael Baker provided engineering services for the replacement of the S.R. 3 bridges over Strayhorn Creek and Arkabutla Creek. Michael Baker's services included bridge hydraulic analyses, scour analysis and evaluation, bridge scour and stream bank stabilization design, and conceptual and preliminary structural design.

05/12 - 12/14	**S.R. 6 West Batesville Bypass Engineering Design, Panola County, Mississippi.** *Mississippi Department of Transportation.* Engineer. Responsibilities included generation of engineering design calculations, bridge geometry, bridge quantities, and conceptual through preliminary bridge design contract plans for five bridges. Michael Baker provided engineering services for the design of the S.R. 6 West Batesville Bypass, a new six-mile, four-lane, controlled-access highway with two interchanges. Michael Baker's services included field surveying, bridge hydraulic and structural design, and right-of-way plans.
03/12 - 04/13	**S.R. 178 Bridge Replacement Right-of-Way Plans, Itawamba County, Mississippi**. *Mississippi Department of Transportation.* Engineer. Responsibilities included generation of engineering and geometric design calculations, and development of final right-of-way bridge plans for eight bridges and two box bridge extensions. Michael Baker developed final right-of-way plans for replacement of eight bridges, extension of two box bridges, removal of one box bridge, and addition of a stream relocation and a new box bridge under a relocated local road. The roadways, totaling approximately seven miles along S.R. 178 between Clay and the Alabama State Line, were upgraded either to new construction standards or to 3R standards, depending on the locations. The project was divided into five sites. Three sites required detour roads, and two sites were temporarily closed to traffic. Michael Baker also performed all hydraulic analyses at the bridges and box bridges.
04/07 - 03/10	**Reunion Parkway over I-55 Interchange in Madison County, Mississippi.** *Madison County.* Project Manager. Responsibilities included project management duties and generation of engineering design calculations, bridge geometry, bridge quantities, and conceptual through final design contract plans. This project includes bridge and retaining wall design, as well as surveying for a Single Point Urban Interchange (SPUI) located at the intersection of I-55 and Reunion Parkway in Madison County, MS. The bridge is a curved steel box girder design.
09/06 - 03/10	**US 61 Intersection at Catherine Devereux Road, Adams County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included project management duties and generation of engineering design calculations, bridge geometry, bridge quantities, and conceptual through final design contract plans. This project consisted of preparation of Right-of-way and Construction Plans to reconstruct the intersection of US 61 at Catherine Devereux Road in Adams County, Mississippi. Michael Baker shared in the duty of bridge and MSE retaining wall design with the prime, ABMB Engineers.
03/05 - 09/08	**S.R. 601 - Canal Road (Center Project), Harrison County, Mississippi.** *Mississippi Department of Transportation.* Engineer. Responsibilities included generation of engineering design calculations, bridge geometry, bridge quantities, and conceptual through final design contract plans. Michael Baker provided engineering services for Alternate No. 2 (with North Connector Road) for the development of contract plans for the middle section (approximately 3.0 Miles) of a four-lane divided highway on new alignment from US 90 to I-10. Four bridges are on the alignment. Michael Baker also provided aerial mapping and centerline alignment for the entire length of the highway from US 90 to I-10.
01/99 - 12/02	**I-55/I-20/ US 49 Rehabilitation; Stack #3 Design Phase, Jackson, Mississippi.** *Mississippi Department of Transportation.* Engineer. Responsibilities included generation and checking of engineering design calculations, bridge quantities, and final design contract plans. Responsibilities included generating design calculations and contract plans for the substructure and AASHTO beam superstructure spans as well as checking of curved steel girder design for Ramp G-6 over I-20 and U.S. 49. Responsibilities also included checking and regeneration of form grades, beam seats, etc. at four other bridge sites. Michael Baker provided engineering services (field surveys, preliminary through final design, and certain construction phase services including public relations assistance) for the rehabilitation of the interchanges of Interstate 20 with both Interstate 55 and U.S. Highway 49 in Jackson, Mississippi. The total project will be built through a series of four separate construction contracts all designed by Michael Baker. Current project is "STACK III". The project was awarded The 2010 Grand Conceptor Award for Engineering Excellence presented by the American Council of Engineering Companies of Mississippi.
01/95 - 12/02	**S.R. 463 Single-Point Urban Interchange with I-55, Madison, Mississippi.** *Mississippi Department of Transportation.* Assistant Engineer. Responsibilities included generation and checking of engineering design calculations, bridge quantities and final design contract plans. Responsibilities also included generating all bridge and retaining wall quantities, checking design calculations including COGO and overhead sign support structures and checking of all bridge shop drawings. Michael Baker provided professional engineering and technical services in connection with the rehabilitation of the S.R. 463/I-55 Interchange, approximately five miles north of Jackson. This project reconstructed the diamond-shape interchange into a single-point urban interchange. As part of the project, Michael Baker performed complete field surveys for design as well as preliminary and final designs for roadway and bridge work. It also prepared plans and specifications and right-of-way deeds and plats.

Firm employed by	Michael Baker International, Inc.				
Name	**Kenneth Collins, PE**			*Years of relevant experience with this employer*	36
Title	Senior Roadway Designer			*Years of relevant experience with other employer(s)*	0
Degree(s) / Years / Specialization			B.S., 1983, Civil Engineering, Louisiana State University		
Active registration number / state / expiration date			PE.0033109 / LA / 09/30/2021		
Year registered	2007	*Discipline*	Civil		
Active registration number / state / expiration date			10497 / MS / 12/31/2021		
Year registered	1989	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Fulfills the role of MPR 6. Roadway Engineer.** Mr. Collins will be responsible for roadway and hydraulics design.		

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 time specified in the applicable MPR(s).*
11/16 – 12/18	**Mayes Street Bridge Replacement, Jackson, Mississippi.** *City of Jackson, Mississippi.* Project Manager. Responsible for overall project management of all design disciplines. Responsible for all coordination with the client and other parties involved. Michael Baker developed final roadway and bridge construction plans to replace an existing bridge on Mayes Street that spans the ICRR railroad in Jackson, Mississippi. This project replaced the existing 160-foot-long bridge with a 224-foot-long prestressed concrete bridge.
07/05 – 10/05	**U.S. 49 Bridge "F" Over the KCSRR, Rankin County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsible for roadway plans including traffic control. This project was for the revisions to roadway plans and the addition of retaining walls for replacement of U.S. 49 Bridge (Bridge "F") over the Kansas City Southern Railroad on the U.S. 49/I-55/I-20 Interchange Rehabilitation Project (Stack No. 3).
06/92 – 12/93	**S.R. 26 Pearl River Bridge Replacement, Bogalusa, Louisiana.** *Mississippi Department of Transportation.* Project Manager. Responsible for overall project management. Produced structural design calculations and drawings for S.R. 26 bridge. Michael Baker provided engineering services for a 3,000-foot long bridge having a navigational span using Bulb-T girders and providing navigational clearances for future barge traffic.
06/96 – 11/97	**I-10 Widening, Harrison County, Mississippi, From Exit 28 to East of the Biloxi River Bridges, Harrison County, Mississippi.** *Mississippi Department of Transportation.* Engineer. Responsible for the design of the widening of the two I-10 bridges over Fritz Creek and Biloxi River. Michael Baker provided engineering services to add one additional lane each direction to I-10 from just east of the Wolf River to just east of the Biloxi River, approximately 12.6 miles. The project included widening 10 pairs of structures.
08/11 – 09/11	**Replacement of the S.R. 512 Bridge over the Chickasawhay River, Clarke County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Served as project manager for overall design and plan development. Michael Baker provided engineering services for the replacement of the S.R. 512 bridge over the Chickasawhay River. Michael Baker's services included a review of previous design plans, field survey, and the development of final construction plans.
04/06 – 05/13	**Reconstruction of I-55 from North of Old Agency Road to South of S.R. 463, Madison County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsible for overall project management and oversight of design and plan preparation. Michael Baker provided engineering services for the reconstruction of three miles of I-55 from Old Agency Road to S.R. 463. The reconstruction created a split-diamond interchange with frontage roads and several bridges and retaining walls. A new four-lane boulevard was constructed as the southern leg of the interchange, and an existing 2-lane road was reconstructed into a 4-lane boulevard as the northern leg. Additional bridges and retaining walls were also constructed along these roads. Michael Baker provided field surveys, digital orthophotography mapping, preliminary and final roadway, bridge, and retaining wall design; hydraulics and hydrology; maps and deeds; signalization, intelligent transportation system, and lighting design; construction phase services; and quality control/quality assurance.

01/01 – 12/02	**I-55/I-20/ US 49 Rehabilitation; Stack #3 Design Phase, Jackson, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsible for contract administration and oversight of project; the re-design and updating of previously designed plans for the major interchange of one highway and two interstates in Jackson, Mississippi. Work included updating 15-year old plans to current standards and specifications, modification of alignments, recreating traffic control and all other aspects of this major interchange, including re-design of a curved plate girder "fly-over" bridge. Michael Baker provided engineering services (field surveys, preliminary through final design, and certain construction phase services including public relations assistance) for the rehabilitation of the interchanges of I-20 with both I-55 and US 49 in Jackson, Mississippi. The total project will be built through a series of four separate construction contracts, all designed by Michael Baker. Current project is "STACK III". The project was awarded The 2010 Grand Conceptor Award for Engineering Excellence presented by the American Council of Engineering Companies of Mississippi.
05/11 – 02/13	**I-269 from East of I-55 to North of S.R. 305, DeSoto County, Mississippi.** *Mississippi Department of Transportation.* Technical Manager. Responsible for the overall technical management of the design and preparation of the plans, including the contract administration portion of the project. Michael Baker provided engineering services for I-269 from east of I-55 to north of S.R. 305. Michael Baker's services included detailed mapping from aerial photography, field surveys, traffic analysis, the preparation of final right-of-way plans, and preparation of final construction plans.

Firm employed by	Michael Baker International, Inc.				
Name	**Brooks Miller, Jr., PE, PTOE**		*Years of relevant experience with this employer*	21	
Title	Traffic and Roadway Engineer		*Years of relevant experience with other employer(s)*	0	
Degree(s) / Years / Specialization			M.S., 1998, Civil Engineering, Mississippi State University B.S., 1996 Civil Engineering, Mississippi State University		
Active registration number / state / expiration date			PE.0034472 / LA / 09/30/2021		
Year registered	2009	*Discipline*	Civil		
Active registration number / state / expiration date			15573 / Mississippi / 12/31/2021		
Year registered	2002	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Roadway/Traffic Engineer.** Mr. Miller will be responsible for helping with traffic control and reviewing the traffic management plan.		

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 time specified in the applicable MPR(s).*
05/19 – 09/19	**S.R. 6 (US-82) Widening and Additional Lanes from S.R. 14 to US-31 in Prattville, Alabama.** *Alabama Department of Transportation.* Project Manager. Responsible for roadway and drainage design for Final Construction Plans to the client for a 3-mile highway widening project on US-82 in Prattville, AL. Project included the replacement of 2 bridges. A hydraulic bridge over Autauga Creek and a second bridge over a Norfolk Southern Railroad line. The project also included the design for asphalt paving with a concrete paving alternate.
02/17 – 08/18	**S.R. 304 and McIngvale Road Interchange, Final Construction Plans, Desoto County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Michael Baker developed Phase B Final Contract Plans for a new diamond interchange at S.R. 304 and McIngvale Road. Michael Baker provided final design for four ramps and developed a 3D design model of the new interchange using PowerGeopak. Included in this contract, Michael Baker developed drainage plans, permanent signing and pavement marking plans, traffic control plans and details, construction signing, and traffic signal design for two traffic signals located at the EB and WB ramp intersections with McIngvale Road. Michael Baker prepared intelligent transportation system (ITS) plans and details for a fiber connection between traffic signals and existing ITS infrastructure.
04/06 – 08/11	**Reconstruction of I-55 from North of Old Agency Road to South of S.R. 463, Madison County, Mississippi.** *Mississippi Department of Transportation.* Civil Engineer. Responsibilities included roadway design, plan/profile sheets, form grades, pavement marking details, permanent signing details and earthwork quantities. Michael Baker provided engineering services for the reconstruction of three miles of I-55 from Old Agency Road to S.R. 463. The reconstruction created a split-diamond interchange with frontage roads and several bridges and retaining walls. A new four-lane boulevard was constructed as the southern leg of the interchange, and an existing two-lane road was reconstructed into a four-lane boulevard as the northern leg. Additional bridges and retaining walls were also constructed along these roads. Michael Baker provided field surveys, digital orthophotography mapping, preliminary and final roadway, bridge, and retaining wall design; hydraulics and hydrology; maps and deeds; signalization, intelligent transportation system, and lighting design; construction phase services; and quality control/quality assurance.
04/07 – 02/13	**I-269 from East of I-55 to North of S.R. 305, DeSoto County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsible for the project management, budget setup, roadway design plans and details, QA/QC and final submittal of roadway design plans. Michael Baker provided engineering services for I-269 from east of I-55 to north of S.R. 305, and services included detailed mapping from aerial photography, field surveys, traffic analysis, the preparation of final right-of-way plans, and preparation of final construction plans.
01/13 – 07/14	**US 49 Improvements between Florence and the Scales Area, Rankin County, Mississippi.** *Mississippi Department of Transportation.* Technical Manager. Responsible for traffic signal design, ITS, and sign and pavement marking. Michael Baker provided engineering services for roadway and bridge construction on US 49 between Florence and the Scale Area just south of I-20. Michael Baker's services included the development of detailed design plans for bridges and roadway, including lighting, traffic control, signing, signalization, and intelligent transportation systems.

02/10 – 11/10	**I-15 Corridor Expansion, Utah County, Utah.** *Utah Department of Transportation.* Civil Engineer. I-15 CORE was a 1.2-billion-dollar project in Utah County that included the reconstruction of 24 miles of I-15, including 10 interchanges and 63 bridges. Served as the Maintenance of Traffic Manager from February 2011 to project completion in December 2012. Responsibilities included providing maintenance of traffic (MOT) and construction phasing design. Coordinated and resolved traffic issues with owners, contractors and local agency stakeholders. Responsible for submitting Requests and Notices of Closures with UDOT, conducted Technical Workgroup meetings, and handled MOT design changes during construction. Served as the Maintenance of Traffic (MOT) Design Lead from project startup in January 2010 to February 2011. Provided the maintenance of traffic and construction phasing design for the four-mile segment of I-15, including three full interchanges. Michael Baker provided design services for a four-mile segment of the I-15 Corridor Expansion Project, including three full interchanges. Michael Baker's services included highway design, structural design, accelerated bridge construction design, design management, maintenance and protection of traffic management, drainage design, and construction phasing for a four-mile segment of the I-15 Corridor Expansion Project.
12/09 – 01/14	**I-55/S.R. 570 Interchange Improvements, McComb, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsible for the project management, budget setup, plan design and detail, quantity calculations, QC/QA, and final roadway design and traffic signal plans. Under an engineering services master agreement, Michael Baker performed the field survey and developed final roadway and traffic signal design plans for interchange improvements at the I-55 and S.R. 570 interchange. The project widened and lengthened the entrance and exit ramps to add turn lanes and included two new traffic signals on S.R. 570. Michael Baker performed the traffic modeling for the improvements and designing conduit and fiber-optic cable installations to interconnect the new traffic signals with the master system.

Firm employed by	Michael Baker International, Inc.				
Name	**Solomon Brown, PE, SE**		*Years of relevant experience with this employer*	3	
Title	Project Manager		*Years of relevant experience with other employer(s)*	12	
Degree(s) / Years / Specialization			B.S., 2005, Civil Engineering, University of Illinois at Urbana-Champaign		
Active registration number / state / expiration date			062.063244 / IL / 11/30/2021		
Year registered	2011	*Discipline*	Civil		
Active registration number / state / expiration date			081.007641 / IL / 11/30/2022		
	2015		Structural		
Contract role(s) / brief description of responsibilities			**Railroad Coordination.** Mr. Brown will be responsible in assisting with railroad coordination.		

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 time specified in the applicable MPR(s).*
02/10 - 07/17	**51st Street Bridge Replacement, Chicago, Illinois.** *Norfolk Southern Corporation.* Project Manager. Project responsibilities included project management and coordination, inspections, structural design and plan preparation for steel superstructure and drilled shaft foundations. The existing bridges carrying intermodal yard facilities over a city street were in various states of deterioration and required rehabilitation and reconstruction. The combined bridge widths comprise approximately one thousand feet of intermodal facility and carry thirty tracks and multiple access roadways. The bridges are ballasted steel deck beam structures and constructed in stages to maintain railroad operations during construction. Coordination with multiple City departments was a key part of the project.
06/14 - 06/15	**Bridge Rehabilitation: I-57 over IL-10 and Illinois Central Railroad (ICRR), Champaign County, Illinois.** *Illinois Department of Transportation.* Project Engineer. Project responsibilities included bridge inspection, TS&L preparation, review of design calculations and plan development and review. Rehabilitation of a six-span, 304-foot long structure carrying I-57 over IL-10 and the ICRR near Champaign, Illinois. The existing structure was constructed in 1964 and has been repaired multiple times in the past. IDOT desired to inspect the bridge and determine the extent of rehabilitation work required in 2015-2016. The proposed scope of work encompassed a new deck, substructure repairs, wingwall realignment and reconstruction, new expansion bearings, replacement diaphragms and steel repairs. The work was performed within six months in order to meet a June 2015 letting. Scope of work included inspection and rehabilitation recommendations, TS&L preparation, structural calculation and plan development, and construction support.
02/12 - 12/12	**Bridge MP 5.66 over Elkhart River, New Paris, Indiana.** *Norfolk Southern Corporation.* Project Engineer. Responsible for inspection, design and plan preparation for the pier replacement of the two span open deck plate girder railroad bridge. The existing pier had been undermined and was showing significant deterioration. Temporary falsework bents were constructed on either side of the existing pier to maintain operations during construction. The falsework piles were then incorporated into the final foundation layout of the pier. Permits from the IDNR were obtained on behalf of Norfolk Southern permitting the construction of an access causeway for construction of the new pier.
06/11 - 09/12	**Bridge LG-19.36 over Petersburg Road, Mount Holly Springs, Pennsylvania.** *Norfolk Southern Corporation.* Project Engineer. Responsible for inspection, structural design and plan preparation for steel superstructure and abutment modifications. Coordination with multiple state and local agencies was a key part of the project. The existing single span open deck bridge supported on masonry abutments needed to be rehabilitated to accommodate corridor improvements. The new superstructure consisted of ballasted steel deck beams with a steel deck plate. The existing masonry abutment seat and backwall were modified to support the new structure type. The new bridge was constructed in stages to maintain railroad operations during construction.
05/04 - 07/04	**Bridge N-568.30 Rehabilitation, Kenova, West Virginia.** *Norfolk Southern Corporation.* Project Manager. Project responsibilities included project management, coordination, inspection, design, plan preparation, cost estimating, and specification preparation for the rehabilitation of steel railroad bridge. The existing 5-span through truss bridge over the Ohio River had a severely deteriorated lateral system that had to be completely replaced while maintaining rail operations.

Firm employed by	Arcadis				
Name	**Robert Beasley, PE**		*Years of relevant experience with this employer*	32	
Title	Senior Bridge Engineer		*Years of relevant experience with other employer(s)*	0	
Degree(s) / Years / Specialization		BS, 1989, Civil Engineering, University of Akron, Structures			
Active registration number / state / expiration date		PE.0034159 / LA / 03/31/2023			
Year registered	2005	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities		**Bridge Team #2 Design Lead.** Mr. Beasley will serve as bridge design team #2 lead for Little Bayou Teche Bridge and will be responsible for development of bridge construction plans.			

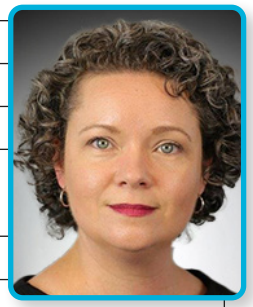
Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).*
11/17 – Ongoing	**I-10. Highland to LA 73 Design-Build, East Baton Rouge Parish, LA / H.009250.** *DOTD.* Independent Design Reviewer. For performing an independent design assessment and analytical check of the new interstate bridges over Highland Road (LA 42) as well as for the widening and rehabilitation of the interstate bridges over Bayou Manchac. The Highland Road bridge was 310'-0" long with a 190'-0" steel plate girder main span. The Bayou Manchac bridge was 200'-0" long with 25'-0" slab spans on pile bents. Arcadis completed separate, independent calculations of the deck, girders, slab spans, bearings, splices, and substructure using DOTD approved design software.
01/07 – 11/13	**Gulf Intracoastal Waterway, West Closure Complex, New Orleans, LA.** *US Army Corps of Engineers.* Lead Bridge Engineer. This $800 million project which was completed using the ECI (early contractor involvement) method. This method is the same as Construction Management at Risk (CMAR). Arcadis worked directly with the Corps and Contractor to reduce flood risk for residences and businesses in three parishes on the west bank of the Mississippi River. As a part of this project Arcadis developed an access bridge using precast, prestressed concrete voided slabs on pile bents with precast concrete piles. Portions of the access structure were supported on the pump station inlet walls.
03/19 – Ongoing	**US 90 Business Signing Upgrade Construction Engineering Support Task Orders, Jefferson & Orleans Parishes, LA / H.010634.5.** *DOTD.* Senior Structural Engineer: Responsible for review of Requests for Information (RFI), Steel and Anchor Bolt Shop Drawings, and other Contractor Submittals. Participated in designing of the overhead and roadside signing structures following DOTD and AASHTO design standards for the US 90 Business corridor for a length of approximately 9.8 miles.
05/12 – 11/16	**National Gateway, Baltimore Division – Three Bridges, Montgomery County, MD.** *Confidential Transportation Client.* Lead Bridge Engineer. The project consisted of increasing vertical clearance at three bridge sites: E. Deer Park Dr. over CSX and Bridge P-40 over CSX in Montgomery County, MD; SR 175 over CSX in Anne Arundel County, MD. E. Deer Park Dr. Bridge is an 86' long, three span bridge that required the superstructure and pier columns to be replaced. Aesthetics were critical to the town of Washington Grove. Bridge P-40 replaced an out-of-service highway bridge being utilized as a pedestrian bridge. The three-span bridge was replaced with a 101.3 ft. single span, prefabricated steel truss supported on the original abutments. The SR 175 bridge in Jessup, MD is a three span, rolled steel beam superstructure that was raised to achieve the required vertical clearance. The piers and abutments were modified, and bearings replaced.
06/18 – Ongoing	**Clearance Improvement Project – Guilford Road, Baltimore, MD.** *Confidential Transportation Client.* Lead Bridge Engineer. The project consisted of replacing a deficient structure at the Guilford Road Bridge over CSX. The existing stone arch was replaced with 58 ft. span, shallow depth plate girders to achieve the required vertical clearance. The project was designed to Maryland State Highway Administration (MDSHA) standards.
06/18 – Ongoing	**Clearance Improvement Project – Harford Road, Baltimore, MD.** *Confidential Transportation Client.* Lead Bridge Engineer. The project consisted of replacing a deficient structure at the Harford Road Bridge over CSX. The existing stone arch was replaced with 71 ft. span, shallow depth plate girders to achieve the required vertical clearance. Soldier pile walls are constructed in front of the abutments to provide for two tracks. The project was designed to MDSHA standards.

08/12 – 10/14	**River Subdivision Second Main – Coxsackie Phase 2, Coxsackie, NY.** *Confidential Transportation Client.* Lead Bridge Engineer. The project consisted of the design of two replacement bridges. Both bridges were constructed in phases to maintain one track in service at all times. Bridge 1 is a 107.8 ft. single span, ballasted deck plate girder spanning over Coxsackie Creek. The pile cap was supported on two 72 in. drilled shafts for each abutment. Extensive temporary shoring was required to maintain the existing bridge in service because the rear abutment was failing. Bridge 2 is a 187.5 ft. long, three-span bridge carrying CSX over Hannacrois Creek. The ballasted deck plate girder superstructure has spans of 45 ft.-97.5 ft.-45 ft.
04/13 – 10/15	**General Engineering Services, New Philadelphia, OH.** *Ohio Department of Transportation, District 11.* Bridge Engineer. Two-year contract that included 12 task orders. Provided bridge oversight and engineering services on multiple bridge projects including: HAS-250-0.81: Alternative Study for the replacement of US 250 bridge under Columbus & Ohio River Railroad - our team with national rail experts performed railroad coordination, shoofly design, drainage design, maintenance of rail & vehicular traffic coordination, developed railroad relocation costs and completed the report in less than three months.
02/12 – 08/12	**River Subdivision Second Main – Coxsackie Phase 1, Coxsackie, NY.** *Confidential Transportation Client.* Lead Bridge Engineer. The project consisted of coordination and rail design for approximately 8 miles of second main. Arcadis inspected and load rated five bridges. Bridge types included single and multispan riveted deck plate girders, welded ballasted through girders, ballast deck beams and a metal culvert. Responsibilities included inspecting bridges, checking load-rating calculations, and leading the preliminary design effort on the two replacement bridges.
01/05 – 08/13	**Crain Ave. Relocation, Kent, OH.** *Ohio Department of Transportation.* Lead Structural Engineer. This project consisted of the widening and realignment of 2,800 feet of roadway in a congested area of downtown Kent on Crain Avenue, North Mantua Street, North Water Street, Lake Street, and Fairchild Ave. The project also included the replacement and relocation of a 250-foot bridge over the Cuyahoga River and CSX railroad tracks, the relocation of utilities, a utility/bike bridge, multiple retaining walls, pedestrian/bike facilities, street lighting, LED bike path lighting, three new traffic signals and streetscaping. The project included extensive right-of-way acquisition and phased maintenance of traffic plans. Preliminary Development included preparation of all required environmental documents, permit applications, reports, and other supporting materials in accordance with the guidelines established by ODOT's Office of Environmental Services. Arcadis assisted in obtaining funding and coordinating the project with Portage County and various other agencies.

Firm employed by	Arcadis				
Name	**Osama Shahawy, PE**		*Years of relevant experience with this employer*	1	
Title	Bridge Practice Manager		*Years of relevant experience with other employer(s)*	30	
Degree(s) / Years / Specialization			M.S., 1991, Civil (Structures), Florida State University B.S., 1983, Civil Engineering		
Active registration number / state / expiration date			PE.0035652 / LA / 09/2022		
Year registered	2001	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Bridge Designer.** Mr. Shahawy will be part of Bridge Design Team #2 and will be responsible of bridge design at Little Bayou Teche.		

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 time specified in the applicable MPR(s).*
04/12 – 05/13	**LA 1 over I-19 Bridge Rehabilitation, Rapides Parish, LA.** *DOTD.* Project Manager, Engineer of record to provide professional inspection, rehabilitation design, and construction engineering services. The Bridge is a four spans steel plate girder has uneven settlement and rotation at the abutments which required to rehabilitate to stabilize the movement and raise the bridge back to its original as built elevation. Responsibilities include directing team and overall task involves the preparation of geometric layout plan development; bridge design and final plans, specifications and estimates for LA 1 Bridge over I-49. Preform QA/QC, prepare construction cost estimate, review and revise plans based on Louisiana Department of Transportation and Development (DOTD) comments.
07/11 – 05/13	**MacArthur Drive Bridge Interchange, Rapides Parish, LA.** *DOTD.* Structure Technical Leader, Engineer of record for widening revising and redesign the MacArthur Drive Interchange completing phase 1. The design and plan production are related to the design changes required for Ramps 7 and 8. Design deck slab for 18 spans, which include Trapezoidal girders & Bulb-T girders. Design Bearing Pads for all proposed Trapezoidal and Bulb-T girders. Design Inverted-T Caps and special geometric columns for three Pier. Responsible for the design and production geometric and span layout modifications, superstructures, substructures. Review for accuracy and completeness of the plans and related designs prepared for the project. Ensures quality and adheres to established design policies, procedures, standards and guidelines in the preparation and review of all design products for compliance and good engineering practice as directed by a Project Quality Control Plan.
10/20 – Ongoing	**I-10 Construction Management at Risk (CMAR) RCP Phase Project, Baton Rouge, LA.** *DOTD.* Structure Task Lead, Engineer of record for CMAR to improve I-10 through widening and reconstruction of the main lane from three to four lanes in each direction, including bridge replacement and rehabilitation, interchange and ramp modification, shoulder widening, and auxiliary lane(s) from LA 415 to Essen Lane on I-10 and I-12. Responsibilities: include replacing Nairn Dr. Bridge over I-10 with a signature type bridge. prepare conceptual bridge plans required for the Right-of-Way Corridor. Responsibility includes design and detail Nairn Dr. Bridge and providing peer review for City Lake Bridge oversight. Participate in meetings and work with the CMAR Contractor and Department of Transportation and Development to develop preferred bridge concepts at completion.
05/20 – 11/20	**East Baton Rouge City-Parish, Alphonse Forbes B, City of Baton Rouge, Baton Rouge, LA.** *DOTD.* Structure Manager for the replacement of the Alphonse Forbes Road Bridge over Sandy Creek located in Central, Louisiana, in East Baton Rouge Parish. The project will replace an existing bridge on Alphonse-Forbes Road over Sandy Creek with a new nine-span flat slab bridge on pile bents. The project was designed to fit within the existing right-of-way and meet the required hydraulic opening. Reviewed final plan and calculations QC design analysis and final bridge structure plans for five spans slab bridge. Provide read lines and review comments for final plans and estimated quantities according to DOTD guidelines.
07/11– 05/13	**Mississippi River Bridge at Vicksburg, Mississippi, LA.** *DOTD.* Chief Engineer, Vice President. Structure team leader, Engineer of Record for the four-lane continuous main steel-truss through-deck bridge covers a total length of 1,716 ft. and a width of 60 ft. The main truss consists of two symmetrical 640.5 ft. cantilever spans and one 435 ft. drop span. The approach spans consist of 101 prestressed concrete spans and reinforced concrete pier caps. Responsible for review of as-built plans and all rehab projects plans; indexed and developed inspection forms; supervised and reviewed results from the 3D computer model; model calibration; performed QA/QC and assisted in developing the final report.

05/12 – 05/13	**Condition Evaluation and Rehabilitation of Fish Creek Bridge, Baton Rouge, LA.** *DOTD.* Structure task lead, Engineer of record for condition and assessment. Fish Creek Bridge has 14 spans with reinforced concrete t-beams and multi-column bents. It was originally constructed in 1946 and widened in 1977. Responsible for the design and production of the rehabilitation plans. The repairs included strengthening of the reinforced concrete pile caps, prestressed piles, RC girders, bearings, concrete deck, and expansion joints replacement.
06/09 – 04/13	**Gilleland Creek Bridge, Austin, TX.** *Capital Metro.* Project Manager, Engineer of record to develop plans and specifications for 13 spans heavy railroad bridge. The basic design is the same as that used by Burlington Northern and Santa Fe (BNSF) and Union Pacific Railroad to build elevated structures. Responsibilities included design and details of precast concrete bridge. Provide stage construction sequence and guideline to replace the existing bridge in place while maintaining the daily rail traffic. QAQC final plans, prepare preliminary construction estimates and construction specification. Provide construction support, review construction schedule, shop drawings, construction material logs, welding specifications and certificates, monitor work progress.
08/07 – 11/08	**BNSF Railroad Bridge Over IH820, Fort Worth, TX.** *TXDOT.* Project Manager, Engineer of record for design and analysis of Steel through Railroad Bridge. The through bridge is simple supported with 140 ft. span and 24 ft. wide distance between the steel plate girders. Responsibilities includes analyzing and calculating the bridge loads according to American Railway Engineering and Maintenance of Way Association. Design and detail required drainage system. Select and provide special detailing for skewed bent caps and girders knee brackets. Quantity calculation and design check. Prepare and review final plans.



Firm employed by	Arcadis				
Name	**Kristen Kasmire, PE, SE**		*Years of relevant experience with this employer*	7	
Title	Senior Bridge Engineer		*Years of relevant experience with other employer(s)*	18	
Degree(s) / Years / Specialization			M.S, 2004, Civil Engineering, Georgia Institute of Technology B.S., 1996, Civil Engineering, Georgia Institute of Technology		
Active registration number / state / expiration date			PE.0043461 / LA / 09/2023		
Year registered	2001	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Bridge Engineer.** Ms. Kasmire serve as bridge engineer for bridge design team #2 and responsible for the design of the Little Bayou Teche Bridge.		

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 time specified in the applicable MPR(s).*
05/20 – 11/20	**Alphonse Forbes Bridge at Sandy Bayou Replacement, Watson, LA / 18-Br-Pt-0017.** *City of East Baton Rouge.* Bridge Quality Assurance and Technical Advisor. Oversight of bridge design and plan production to ensure project met the requirements of the City, complied with AASHTO and City policies, and underwent Arcadis Quality Control and Quality Assurance process. The project will replace an existing bridge on Alphonse-Forbes Road over Sandy Creek with a new 9-span flat slab bridge on pile bents. The project was designed to fit within the existing right-of-way and meet the required hydraulic opening.
01/20 - Ongoing	**US 90 Business Signing Upgrades, Jefferson and Orleans Parishes, LA.** *DOTD.* Structures Technical Advisor. Provide high-level structural guidance and review for the replacement of overhead and roadside sign structures. The existing and proposed sign structures are attached to existing bridges of various configurations and material types which required unique structural solutions to handle the current design loads without negatively impacting the existing bridges.
09/16 – Ongoing	**I-16 / I-95 Interchange Widening, Chatham County, GA.** *GDOT.* Project Manager and Bridge Design Lead. Responsible for the delivery of roadway and bridge costing plans, full survey database, and an approved environmental document (Categorical Exclusion) to support this Interchange Reconstruction and Interstate Widening project. As bridge lead, Kristen prepared conceptual staging plans for eight bridge replacements and provided cost estimates for the replacements, two new flyover ramps and some minor repair work. As the Project Manager, Kristen leads a multi-disciplinary team and works closely with GDOT's Office of Innovative Delivery to ensure the costing plans and supporting documents are delivered on schedule, enabling the Department to select the Design-Build team in June 2018.
10/14 – Ongoing	**Buena Vista Road Bridges (Spider Web Network), Columbus, GA.** *GDOT.* Bridge Design Lead for this TIA funded project will replace an at-grade railroad crossing with a grade separated crossing, improving safety and reducing travel delays on Buena Vista Road. Approximately 7 trains per day cross Buena Vista Road causing significant delays to the 27,000 cars traveling that corridor. Through analysis of traffic patterns in the area, the corridor will be re-aligned and several intersections reconstructed to improve traffic flow and reduce congestion. The project will require staging of traffic to construct the grade separation while limiting impacts to the traveling public. The project also includes 4 retaining walls and the replacement of an existing bridge carrying Buena Vista Road over Bull Creek. The bridge will be replaced using stage-construction.
09/15 – 06/18	**I-85 Express Lanes Design Build, Gwinnett County, GA.** *GDOT.* Bridge Design Lead. Responsible for producing design plans for impacted bridges to accommodate expansion of a congested Metro Atlanta interstate. The design plans propose to completely replace the southbound (SB) bridge over I-985; constructing one new bridge to transport I-85 northbound (NB) managed lane over general purpose lanes and widening I-85 NB, and SB bridges over SR 20. The SB bridge over I-985 is a three-span PSC beam bridge, utilizing 74-inch bulb tee beams to span up to 163 feet. The bridge is supported on concrete piers with a mix of spread and pile footings and will be stage-constructed to maintain interstate traffic. NB managed lane bridge over I-985 is also a three-span bridge, using 78-inch Florida I-Beams to span up to 183 feet. Stability of this long-span beam was carefully analyzed during manufacture, transport, erection and in the final condition. The twin bridges over SR 20 are four-span bridges with span lengths ranging from 52 to 96 feet. The widening will be constructed of 54-inch bulb tee beams supported on reinforced concrete intermediate bents and steel h-pile end bents. Rock is shallow around the bridge and foundations will be a combination of spread footings founded on rock and pile supported footings.

07/08 – 07/09	**SR 54, Norfolk Southern (NS) Railway, and Lee Street over I-75, Clayton County, GA.** *GDOT.* Bridge Design Lead for quality control review of the design of three bridges and related temporary shoring. This project was a contractor-proposed redesign to improve the constructability of the original design. The re-design included a temporary track for NS carried on the new Lee Street Bridge for maintenance of rail traffic during construction. The Lee Street Bridge, the replacement NS Bridge and all adjacent temporary works were designed to meet American Railway Engineering and Maintenance-of-Way Association.
07/12 – 07/13	**SR 90 Over CSX Transportation, Macon County, GA.** *GDOT.* Bridge Design Lead for this three-span American Association of State Highway and Transportation Officials (AASHTO) beam bridge over CSX Transportation was designed for GDOT using AASHTO LRFD Specifications. The superstructure consists of two 73 ft. 6 in. Type III beam spans and one 121ft. Bulb Tee span. The end bents and concrete intermediate bents are supported on pre-stressed concrete piles. Due to the proximity of the columns to the railroad, the intermediate bents were designed for train collision. Served as the Lead Bridge Engineer, responsible for the design of all elements of the superstructure and substructure design. Directed engineers and coordinated with subs.
11/14 – 06/15	**I-285/GA 400 Interchange Reconstruction, Fulton/DeKalb Counties, GA.** *GDOT.* Bridge Design Lead. Responsible for costing plans for 26 bridges in this major interchange reconstruction. Worked closely with GDOT, and other discipline leads to support the Request for Proposal (RFP) for this DBF project. Participated in one-on-one meetings and ATC meetings with the developers, reviewed ATC submittals, assisted GDOT in preparing its construction cost estimate, and provided review and input on the RFP documents as they were developed. Has a unique insight into GDOT's priorities, concerns, and risk management tactics based on her collaboration with GDOT to support and develop the RFP. Most of the bridges on this project are prestressed concrete beam bridges with a maximum span length of 165 ft., supported on reinforced concrete bents with steel pile foundations. Several ramp bridges will be curved steel plate girders on concrete hammerhead piers. Span lengths for the ramps range up 250 ft. This five-level interchange has complex geometry and staging considerations with some bridges requiring span-by-span staging to maintain traffic throughout the construction duration.

Firm employed by	Arcadis				
Name	**Jose Rodriguez, PE**			*Years of relevant experience with this employer*	1
Title	Senior Civil Engineer			*Years of relevant experience with other employer(s)*	24
Degree(s) / Years / Specialization			B.S., 1992, Civil Engineering, University of New Orleans		
Active registration number / state / expiration date			PE.0030492 / LA / 03/31/2023		
Year registered	2003	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Fulfills the role of MPR 6. Roadway Design Lead.** Mr. Rodriquez will serve as roadway design lead for Little Bayou Teche Bridge.		

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 time specified in the applicable MPR(s).*
02/07 – 10/09	**John James Audubon Bridge Approach (Design-Build [DB]), New Roads, LA.** *DOTD.* Project Designer. Responsible for the geometric horizontal and vertical alignment for five approach bridges to the John James Audubon Cable Stay Bridge. The longest cable-stayed bridge in the Western Hemisphere consisting of 1,583' main span. Jose was also in charge of the quality control for all bridge approaches and the design of all precast concrete girders for the project.
01/06 – 09/09	**New Orleans Submerged Roadway Program Management, New Orleans, LA.** *DOTD / New Orleans Regional Planning Commission.* Project Designer and Quality Control Reviewer. For this multi-million dollar program management team for the DOTD and the Federal Highway Administration (FHWA). Jose helped develop design guidelines and processes for the standardization of engineering work for the repair of damaged roadways by Hurricane Katrina in the City of New Orleans and other parishes. He was responsible for conducting quality control reviews on roadway plans prepared by other engineering firms for compliance with DOTD and FHWA design standards.
02/10 – 06/11	**I-10 from Veterans to Clearview, Metairie, LA.** *DOTD.* Project Designer. Responsible for roadway plan preparation for widening 1.2 miles of I-10 from three lanes to five lanes in each direction. The project also included bridge work to accommodate the new roadway widening. Jose was also responsible for the alignment and design of concrete sound walls along the corridor. He helped implement an innovative two-sided concrete stamp process for the noise wall precast concrete panels.
05/12 – 12/15	**Earhart Boulevard-Causeway Interchange, New Orleans, LA.** *DOTD.* Project Designer. Responsible for the geometric design and roadway plan preparation for the Earhart Boulevard-Causeway Interchange. The Earhart Boulevard Causeway Interchange purpose was to assist in traffic congestion relief for the east-west flow in traffic for the New Orleans Metro Area. It consisted of the development of roadway and bridge ramps for the creation of an elevated signal-controlled interchange. The estimated construction cost for this project was approximately fifty-nine million dollars. Responsible for the development of all horizontal and vertical alignments for this project as well as roadway plan preparation, developing all roadway cross sections, drainage design, utility conflict resolution and cost estimating for the project. Bentley InRoads was used for the development of the roadway plans for this project.
07/09 – 07/15	**Peters Road Expansion, Phases I, II and III, Plaquemines, LA.** *DOTD.* Project Designer. Responsible for the geometric design, plan preparation and wetland delineation of Peters Road Phases I, II and III. The projects consisted of a new roadway, elevated crossing over the Intracoastal Waterway, approach roadways in Jefferson and Plaquemines Parishes to tie Peters Road to Louisiana 23 near Barrier Road. The projects were prepared in coordination with Plaquemines Parish, DOTD and the U.S. Army Corps of Engineers.
06/04 – 01/11	**Causeway Boulevard Interchange Improvements Phases I and II, Metairie, LA.** *DOTD.* Project Designer. This project consisted of widening Causeway Boulevard elevated structure at Veterans Boulevard and the construction of new at-grade and elevated ramps to provide better accesses, improve safety and ease congestion at this heavily traveled interchange. Responsible for evaluating existing girders, the design of new precast concrete girders and the roadway plan preparation for this project. Also, responsible for evaluating and design of new sewer and water lines for the project as well as coordinating the removal and replacement of all utilities affected by the new roadways and/or structure foundations.
01/08 – 05/08	**I-12 to Bush Corridor Study Phase III (IES), St. Tammany Parish (STP), LA.** *DOTD.* Project Designer. Responsible for evaluating environmental issues and developing design alternatives in accordance with the National Environmental Policy Act (NEPA) for transportation improvements.

01/20 – 05/20	**NC73 Highway Widening, Mecklenburg County, North Carolina.** *North Carolina DOT.* Project Engineer. Responsible for the Temporary Traffic Control Plan preparation for the widening of NC 73. A principal arterial roadway, NC 73 Highway, was widened from a two-lane undivided roadway into a four-lane divided highway with a 30-foot wide median. The project presented many challenges for the Temporary Traffic Management Plan's preparation due to the high traffic volumes on NC 73, time restrictions for lane closures, and all NASCAR events at Charlotte Motor Speedway for the duration of the project. To mitigate traffic disruption and enhance roadway safety, assisted in preparing the Transportation Operation Plans and sequence of construction for the project. All design work was performed following NCDOT and the latest MUTCD standards.
04/18 – 09/20	**Texas High-Speed Rail, Dallas to Houston, Texas.** *Texas Central Railway.* Project Designer. Assisted with establishing flood elevations for the alignment of over 240 miles of rail tracts. Also responsible for the realignment of at-grade roadways impacted by the High-Speed rail.
10/17 – 03/18	**Traffic Turn Lanes on Highway LA 3127, St. James, LA.** *Yuhuang Chemical Inc.* Quality Control (QC). Review for the design of two turn lanes into the Yuhuang Chemical Methanol plant in St. James Louisiana. During construction, Jose provided the owner with construction design services for the duration of the construction phase.
12/15 – 01/16	**Magnolia Ridge Levee Project, St. Charles Parish, LA.** *City of New Orleans.* Quality Control (QC). QC review and plan preparation for the Magnolia Ridge Levee project for St. Charles Parish.

Firm employed by	Arcadis			
Name	**David Fulks, PE**		*Years of relevant experience with this employer*	14
Title	Roadway Design Engineer		*Years of relevant experience with other employer(s)*	12
Degree(s) / Years / Specialization	M.S., 2019, Engineering Management, The George Washington University B.S., 1997, Civil Engineering, Portland State University			
Active registration number / state / expiration date	PE.030151 / LA / Exp. 09/2022			
Year registered	2002	*Discipline*	Civil	
Contract role(s) / brief description of responsibilities	**Roadway Designer.** Mr. Fulks will serve a roadway designer for Little Bayou Teche Bridge and will be responsible for roadway improvements at this location.			

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 time specified in the applicable MPR(s).*
04/13 – 07/14	**US 11 Railroad Bridge Replacement and Corridor Improvements EA, St. Tammany Parish, LA.** *DOTD.* Lead Engineer. Geometry and roadway design, line and grade study development, and cost estimates for the replacement of an historic railroad overpass bridge and upgrading an existing two-lane rural highway to a four-lane divided highway with access control. Early coordination with Norfolk Southern Railroad.
07/15 – 06/17	**US 190B at Jefferson Ave Roundabout Design, St. Tammany Parish, LA.** *DOTD.* Roadway Engineer. Geometric and roadway design, preliminary plans preparation, and cost estimate for replacing an existing four-way signalized intersection with a single-lane elliptical roundabout.
05/14 – 05/15	**Joe Sevario / Roddy Road Roundabouts Stage 0 Feasibility Study, Ascension Parish, LA.** *DOTD.* Task Manager and Lead Engineer. Geometric and roadway design and cost estimates for the replacement of ten existing stop-controlled intersections with single-lane roundabouts.
01/14 – 03/17	**Pete's Highway EA, Livingston Parish, LA.** *DOTD.* Lead Roadway / Bridge Geometrics and Cost Engineer. High-priority project completing an environmental assessment and traffic engineering services related to improving congestion and operations along Range Avenue in the vicinity of the I-12 interchange. Design alternatives included two split diamond interchange options with roundabout, partial clover leaves, and collector-distributor road components at both Range Avenue and the next existing, eastern overpass at Pete's Highway (LA 16) and a diverging diamond interchange alternative at Range Avenue.
11/14 – 10/15	**LA 44 and Loosemore Road Roundabout, Ascension Parish, LA.** *DOTD.* Deputy Project Manager and Lead Engineer. Geometric and roadway design, preliminary subsurface utility investigation, and cost estimates for the replacement of an existing two-way stop-controlled intersection with either a single-lane roundabout or two single-lane roundabouts and right-in/right-out control at the existing intersection.
12/13 – 06/15	**Safety Studies Retainer - LA 3235 Stage 0 Safety Feasibility Study, Lafourche Parish, LA.** *DOTD.* Lead Roadway Geometrics and Cost Engineer. Designed geometric layout of safety improvements including access management, restrictive intersections, and added turn lanes. Developed construction cost estimates for proposed improvements to assess feasibility of proposed alternatives.
09/09 – 03/12	**I-20 – Garrett Road Connector Interchange Improvements, Ouachita Parish, LA.** *DOTD.* Lead Engineer. Geometry and roadway design of the new KCS Railroad overpass and connector between Kansas Lane and Garrett Road, including interstate interchange modifications to include two-lane roundabouts at ramp intersections, and three two-lane roundabouts along the corridor outside of the interchange. Improvements to the pedestrian and bicycle facilities were included in accordance with the DOTD Complete Streets Policy. The compact project area required a detailed layout to confirm feasibility.
08/11 – 09/13	**Chef Menteur Bridge and Approaches Replacement EA and Line and Grade Study, Orleans Parish, LA.** *DOTD.* Lead Roadway/Bridge Geometrics and Cost Engineer. Responsible for preparing the proposed geometric configurations of a bridge replacement at Chef Menteur Pass. Investigated four alignments as well as both low-level moveable and high-level fixed span bridge configurations. Performed detailed geometric layouts of both the mainline highway, bridge, and adjacent collector roadways to mitigate impacts to environmentally sensitive resources and local residential, commercial, and historical interests.

09/12 – 09/13	**US 165 Connector and Ouachita River Bridge EIS, Ouachita Parish, LA.** *DOTD.* Roadway Design Engineer. Responsible for preparing roadway and bridge general plan designs, line and grade report development, and cost estimates for a new five-mile elevated highway through Chauvin Swamp north of Monroe, LA. An in-town corridor was also developed which entailed upgrading Louisville Avenue and Hudson Lane in Monroe, the Lea Joyner Bridge over the Ouachita River, and Stella Street in West Monroe to function as a one-way couplet. Early coordination with Delta Southern Railroad was included.
06/00 – 12/00	**Hesper and Helios Avenue Street Rehabilitation, Harvey, LA.** *Jefferson Parish Engineering Department.* Roadway Engineer. Completed inspections and rehabilitation recommendations for eight blocks of local streets. Rehabilitation required demolition and replacement of concrete road panels, milling and overlay of asphalt surfaces, and installation of drainage inlets and subsurface drainage, as well as replacement of damaged and under-performing subsurface drainage. Performed inspections, collaborated with Parish representatives and utility companies, identified appropriate rehabilitation measures, and produced plans illustrating the rehabilitation recommendations.
2/09 – 4/10	**US 90 – WBV 73 Western Tie-In Crossing Lake Cataouatche Area, Jefferson Parish & St. Charles Parish, LA.** *United States Army Corps of Engineers (USACE) – New Orleans District.* Deputy Project Manager and Lead Roadway / Drainage Engineer. Development of preliminary and final design P&S for a 2,540-foot PPC girder / column bent bridge, highway approaches, and frontage roadways.
2/01 – 8/01	**US 190 (Gause Boulevard) from LA 433 to US 11, Slidell, LA.** *DOTD.* Roadway / Drainage Designer. Alignment modification and capacity increase for a 3.5-mile stretch of this state highway. The project included two bridges, a transition from a rural minor arterial to an urban principal arterial, dozens of minor intersections with side streets, a railway crossing, and numerous drainage culverts. The roadway geometric and drainage designs were completed, and design plans were produced. This project required applying many geometric elements, such as super-elevation and multiple closely spaced horizontal curves that required a delicate balance of occasional conflicting requirements.

Firm employed by	Arcadis		
Name	**Akhil Chauhan, PE, PTOE, PTP, PMP**	*Years of relevant experience with this employer*	13
Title	Principal Engineer	*Years of relevant experience with other employer(s)*	5
Degree(s) / Years / Specialization	M.S., 2003, Transportation Engineering, Massachusetts Institute of Technology B.S., 2001, Civil Engineering, Indian Institute of Technology		
Active registration number / state / expiration date	PE.033703 / LA / Exp. 09/2022; PTOE #2544 / USA / Exp. 11/2023 PTP #246 / USA / Exp. 12/2021; PMP #1444676 / PA / Exp. 08/2023		
Year registered	2008	*Discipline*	Civil
Contract role(s) / brief description of responsibilities	**TMP Leader.** Mr. Chauhan will serve as traffic management plan leader for the development of the required TMPs for both bridge locations.		

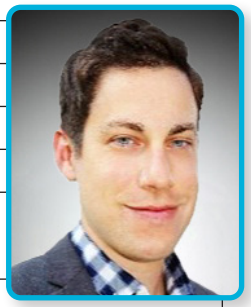
Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).*
04/13 – 10/20	**US 11 Railroad Bridge Replacement and Corridor Improvements EA, St. Tammany Parish, LA / H.000688.2.** *DOTD.* Principal Engineer. Responsible for crash analysis, operating speed tabulations, intersection and corridor analysis, line and grade, and public outreach for the proposed widening of US 11 between US 190 (Gause Boulevard) and I-12 in Slidell. Proposed improvements include the replacement of a bridge crossing the Norfolk Southern Railroad. Critically, this project includes analysis of several innovative alternatives for the proposed corridor, including "superstreets" and J-turn concepts.
07/12 – 11/14	**Chef Menteur Bridge and Approaches EA, Orleans Parish, LA / H.000263.2.** *DOTD.* Principal Traffic Engineer. Responsible for the high-priority bridge replacement EA and Line and Grade Study, responsible for coordinating traffic impact study. Traffic impact study coordination included reviewing available data with DOTD traffic engineer to identify gaps and propose additional data needs, investigating planned transportation improvement projects and traffic generators with DOTD and New Orleans RPC, reviewing design hour volumes (DHVs), average daily traffic (ADTs), and peak hour, and 24-hour truck percentages, and reviewing intersection and road segment capacity analyses.
11/20 – Ongoing	**I-10 CMAR, East Baton Rouge Parish, LA / H.001400.** *DOTD.* Principal Engineer: Responsible for technical advisory and QAQC of all traffic engineering tasks including development of permanent signing plans, Interchange Modification Reports, and Transportation Management Plans for the widening of I-10 from LA 415 to Essen Lane and improvements to interchanges along this segment. One critical component of the project is maintaining traffic during the construction of new bridge structures. Multiple scenarios are being evaluated using a calibrated mesoscopic model to determine the impacts during construction and mitigations that will be necessary to minimize delay.
08/18 – 12/19	**I-10 Widening Mesoscopic Model and TMP, East Baton Rouge Parish, LA / H004100.** *DOTD.* Principal Engineer: Responsible for supervising development of mesoscopic traffic model used for this project. The object of the study was to develop an existing conditions model. Responsibilities included defining study area, assessing data needs, developing data collection plan, preparing calibration documentation, and preparing model documentation.
01/18 – Ongoing	**I-20 Mesoscopic Model and TMP Using Dynameq, Bossier Parish, LA / H012889.** *DOTD.* Principal Engineer: Responsible for supervising development of mesoscopic traffic model to predict queueing, delay and alternate travel patterns due to planned construction on I-20 to replace pavement. The project is anticipated to disrupt traffic in this critical portion of I-20. The project scope includes development and calibration of mesoscopic model, analysis of alternative routes, safety analysis, operational analysis, assistance with public outreach, development of a Level 4 TMP, and development of work zone mitigation strategies.

12/13 – 06/15	**LA 3235 Stage 0 Feasibility Study, Lafourche Parish, LA / H.010688.1.** *DOTD.* Project Manager: Responsible for the preparation of a formal traffic and access management Stage 0 study, in accordance with DOTD Stage 0 Manual of Standard Practice, that analyzed alternatives and enhanced mobility and safety on LA 3235. Main tasks included traffic data collection, warrant studies, traffic analysis, safety analysis, development of conceptual layouts, and public outreach. Intersections found to warrant signalization were also modeled in unconventional designs including U-turns, J-turns, and RCUTs. A preliminary cost estimate and conceptual layout drawings were also produced. During the study, it was found that crash modification factors (CMFs) for many access management principles are not found in the HSM's Part C predictive methods. Therefore, proposed a corridor-based approach in which Part D CMFs were applied at the corridor level after using Part C to predict future no-build crashes. This approach predicted changes to crash frequency, crash type, and severity type for the two build alternatives. The predicted crashes provided the opportunity to perform a cost/benefit analysis based on safety.
05/19 - Ongoing	**I-20 / I-220 Interchange Improvements and BAFB Access Design-Build, Bossier Parish, LA / H.003370.** *DOTD.* Principal Engineer: Responsible for overseeing the development of addendum to Interchange Modification Report, Transportation Management Plan, Temporary Traffic Control Plans, and Permanent Signing Plans to accommodate the design and construction of the project. The design-build project includes the modification of the existing interchange at I-20 / I-220 with additional ramps and extension of I-220 to provide access to Barksdale Air Force Base.
01/14 – 02/17	**Traffic Engineering Retainer - US 71 Corridor Traffic and Safety Study – Phase 1, Rapides Parish, LA. / H.010824.** *DOTD.* Project Manager: Responsible for the preparation of a corridor study for the purpose of enhancing mobility and safety on US 71 in Alexandria, LA. Main tasks included traffic data collection, warrant studies, traffic analysis, safety data analysis, and development of conceptual layouts. Data collection effort included automated one-week counts, manual turning movement counts and spot speed studies. A preliminary cost estimate and conceptual layout drawings were also produced during the study.
04/16 – Ongoing	**Florida Avenue EA, Orleans Parish, LA / H.005720.2.** *DOTD.* Principal Traffic Engineer: Responsible for QA/QC and documentation for the project that includes traffic, environmental, line and grade, and public outreach and involvement services for one of the last projects funded by Louisiana's TIMED Program. The project traverses post-Katrina re-development areas in both Orleans and St. Bernard Parishes. Key considerations include the type and height of the bridge and controlling truck traffic diversion through neighborhoods. Using the New Orleans Regional Planning Commission's SELATRAM travel demand model (TDM), Arcadis coded alternatives for a comparative analysis of partial and full build scenarios.

Firm employed by	Arcadis				
Name	**Kester Hollier, PE, PTOE**		*Years of relevant experience with this employer*	1	
Title	Senior Traffic Engineer		*Years of relevant experience with other employer(s)*	16	
Degree(s) / Years / Specialization	B.S., 2004, Civil Engineering, Louisiana Tech University				
Active registration number / state / expiration date	PE.034304 / LA / Exp. 03/2023; PTOE #3928 / USA / Exp. 11/2021				
Year registered	2009	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities	**Traffic Engineer.** Mr. Hollier will serve as part of the traffic team and will be responsible for development of TMPs and traffic control plans.				

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 time specified in the applicable MPR(s).*
11/20 – Ongoing	**I-10 CMAR, East Baton Rouge Parish, LA / H.001400.** *DOTD.* Project Manager. Responsible for traffic engineering tasks including development of permanent signing plans and Interchange Modification Reports for the widening of I-10 from LA 415 to Essen Lane and improvements to interchanges along this segment. One critical component of the project is maintaining traffic during the construction of new bridge structures. Multiple scenarios are being evaluated using a calibrated mesoscopic model to determine the impacts during construction and mitigations that will be necessary to minimize delay.
09/12 – 02/16	**Replace Belle Chasse Tunnel and Bridge Stage 0 Feasibility Study and Stage 1 EA, Plaquemines Parish, LA / H.004791.** *DOTD.* Traffic Engineer. Responsible for the traffic analysis along LA 23 (Belle Chasse Highway) between LA 428 (Behrman Highway) and LA 406 (Woodland Highway) for multiple 6-lane bridge alternatives that would be proposed to replace the existing Belle Chasse Tunnel and lift bridge over the Intercoastal Waterway. These alternatives included 3%, 4%, and 5% bridge grades that modified roadway geometry and intersection location. Responsible for the review of the roadway portion and costs for the Line and Grade Study along with the review of the construction sequencing and traffic maintenance of the constructability review.
05/14 – 08/20	**Causeway Blvd. at Earhart Expwy. Interchange, Jefferson Parish, LA / H.002861.** *DOTD.* Traffic/Civil Engineer. Responsible for the design of traffic control and construction sequencing, pavement marking layout, quantity analysis, and quality control for a new interchange at LA 3139 (Earhart Expwy.) and LA 3046 (Causeway Blvd.) in Jefferson Parish, LA. Provided review for the interchange traffic sign and traffic signal layouts. Identified all necessary design waivers and design exceptions required for DOTD approval. Provided geometric layout design, typical section design and review, and joint layout design for several interchange ramps and underpasses.
06/11 – 02/13	**LA 1 Toll Facilities, Vernon Parish, LA. / H.011207.** *DOTD.* Traffic Engineer. Responsible for the new toll signage, pavement marking layout and queue analyses for the LA 1 Toll facility modifications at the new bridge in Leeville, LA.
11/17 – 07/20	**LA 466 (5th Street) Improvements Traffic Study, Je, LA / H.012885.** *City of Gretna.* Project Manager / Traffic Engineer. Responsible for the traffic study and impacts for the proposed complete streets improvements along the LA 466 corridor between LA 23 and Richard St. in Gretna, Louisiana. Tasks included data collection along the corridor and at designated intersections, safety and crash analysis along the corridor, trip generation/land use and performing existing traffic analysis and future traffic analysis for proposed final alternative. The traffic study was prepared to follow the Louisiana Department of Transportation and Development's Traffic Engineering Process and Report Guidelines. The project also included a stand along pedestrian study along the corridor at designated intersection and the design of accessible pedestrian signals at signalized intersections.
12/17 – 11/19	**Causeway Boulevard Widening Traffic Study, Jefferson Parish, LA / 2017-010-RBP.** *DOTD.* Project Manager / Traffic Engineer. Responsible for the traffic study for the proposed widening of Causeway Boulevard between Metairie Rd and West Esplanade Blvd. in Jefferson Parish, LA. Tasks included data collection, traffic volume redistribution, left-turn placement and turn bay storage length, and existing traffic analysis and future traffic analysis of a preferred alternative.

10/18 – 01/19	**LA 22 Traffic Circulation and Corridor Analysis, St. Tammany Parish, LA / H.972314.1.** *NORPC.* Traffic Engineer. Responsible for the development of three future alternatives along Northshore Boulevard between I-12 and US 190 in Slidell, LA. Managed the data collection process and peak period observations to determine existing traffic patterns as well as the safety analysis along the corridor. Developed three alternatives that used a combination of traffic signal retiming, J-turns, and roundabouts to provide better access management along Northshore Boulevard as well as improve traffic flow in the corridor for current and proposed future conditions with consideration given to proposed future developments using trip generation and land use analysis.
01/10 – 04/11 07/13 – 01/14	**Green Light Plan, Stumberg Lane Extension, East Baton Rouge Parish, LA / 03-CS-CI-0021.** *City of Baton Rouge.* Traffic Engineer. Responsible for the design of new traffic signals at US 61 (Airline Highway) and LA 73 (Jefferson Highway) for the extension of Stumberg Lane in Baton Rouge, LA. Also, responsible for the design and layout of the fiber optic interconnect along the proposed extension.
05/09 – 07/13	**LA 23 Widening (Lapalco Blvd. – Engineers Rd.), Jefferson and Plaquemines Parishes, LA / H.001375.** *DOTD.* Traffic/Civil Engineer. Responsible for the road design and geometrics for the widening of LA 23 in Jefferson and Plaquemines Parishes between Lapalco Blvd. (La 428) and Engineers Rd. (La 3017). Developed traffic analysis for the traffic signal timing and required turn bay lengths at intersections. Developed traffic signing plans, pavement marking layouts and temporary traffic control plans.
11/07 – 12/08	**US-61 Access Improvements, John the Baptist Parish, LA / S.P. No. 007-04-0050.** *DOTD/Marathon Petroleum Company.* Traffic Engineer. Responsible for the traffic forecasting and analysis for the Traffic Impact Study for the expansion plans for the Marathon Oil Refinery in Garyville, LA. Performed traffic analysis and signal design for the new main entrance to the refinery as well as the required turn lanes from US 61 to different points of entry to the refinery site.



Firm employed by	Arcadis				
Name	**Ari Deitch, PE, PTOE, PTP, RSP**		*Years of relevant experience with this employer*	7	
Title	Traffic Engineer		*Years of relevant experience with other employer(s)*	2	
Degree(s) / Years / Specialization	B.S., 2012, Biological Engineering, Louisiana State University				
Active registration number / state / expiration date	PE.0041842 / LA / Exp. 03/2022; PTOE #4346 / USA / Exp. 11/2023 PTP #690 / USA / Exp. 07/2022; RSP #37 / USA / Exp. 12/2021; ATSSA TCT / TCS				
Year registered	2018	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities	**Traffic Engineer.** Mr. Deitch will serve as part of the traffic team and will be responsible for development of TMPs and traffic control plans.				

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 time specified in the applicable MPR(s).*
05/19 - Ongoing	**I-20 / I-220 Interchange Imp. and BAFB Access TMP and IMR, LA / H.003370.** *DOTD.* Traffic Engineer. Responsible for development of addendum to Interchange Modification Report, Transportation Management Plan, Temporary Traffic Control Plans, and Permanent Signing Plans to accommodate the design and construction of the project. The design-build project includes the modification of the existing interchange at I-20 / I-220 with additional ramps and extension of I-220 to provide access to Barksdale Air Force Base.
08/14 – 10/18	**US 71 Corridor Traffic and Safety Study – Phase 1-3, Rapides Parish, LA / H.010824.** *DOTD.* Traffic Engineer. Responsible for providing traffic data collection, warrant studies, traffic analysis, safety data analysis, and development of conceptual layouts. Data collection effort included automated one-week counts, manual turning movement counts and spot speed studies. Collected crash data for the most recent three years from DOTD crash database, analysed crash summaries and identified historical high-crash locations and over-representative crashes, determined crash types, frequencies and crash rates, reviewed individual crash reports to determine type and location of each crash, identified crash "hot-spot" locations, contributing factors for high-crash rates, and determined potential improvements.
11/20 – Ongoing	**I-10 CMAR, East Baton Rouge Parish, LA / H.001400.** *DOTD.* Traffic Engineer. Responsible for wide range of traffic engineering tasks including development of permanent signing plans, Interchange Modification Reports, and Transportation Management Plans for the widening of I-10 from LA 415 to Essen Lane and improvements to interchanges along this segment.
10/19 – Ongoing	**I-10 New Orleans to Slidell Hard Shoulder Running, Orleans Parish, LA / H.013960.1.** *DOTD.* Traffic Engineer. Responsible for the development of conceptual drawings and typical sections for proposed Hard Shoulder Running (HSR) alternatives on I-10 between New Orleans and Slidell. Purpose of the project is to evaluate the feasibility of implementing HSR lanes along I-10 to alleviate existing bottlenecks and congestion along critical segments of the corridor.
10/15-Ongoing	**US 90 Business Signing Upgrades and TMP, Orleans and Jefferson Parishes, LA / H.010634.5.** *DOTD.* Assistant Project Manager. Responsibilities include taking inventory of existing signs and structures, developing a signing layout plan for the project area in accordance with the latest state and federal policy guidance, developing signing plans through 100% final design stage, developing a Transportation Management Plan to be used during construction of the project, and coordinating reviews and submittals with DOTD Traffic Engineering Design Section. The purpose of the project is to replace all existing signs within the project area, which includes sections of I-10 and US 90 Business in and around New Orleans' Central Business District. This requires careful planning in the placement of signs and structures to accommodate the complex roadway network in this area. Arcadis completed the design plans and TMP in 2019, and is currently providing engineering support during construction of the project.
04/19 – 12/19	**East Baton Rouge Parish Signal Detection Upgrades, East Baton Rouge Parish, LA / H.013830.** *DOTD.* Traffic Engineer. Technical lead of project tasks involving field signal inventory and the creation of updated signal plans and quantities. The project includes 39 intersections identified in East Baton Rouge Parish to be upgraded from video detection to magnetometer detection.
04/19 – 12/19	**US 90 Traffic Signal Timing Upgrades, Lafayette Parish, LA / H.012665.** *DOTD.* Traffic Engineer. Technical lead of project tasks involving traffic data collection and analysis, signal inventory, peak period determination and observations, warrant analysis, travel time runs, traffic signal analysis using Synchro 10 software, and development of updated TSI forms following latest DOTD standards.

08/14 – 06/15	**LA 3235 Stage 0 Feasibility Study, Lafourche Parish, LA / H.010688.1.** *DOTD.* Traffic Safety Analyst. Responsible for review of existing crash data and traffic operations analysis, development of safety countermeasures, conceptual drawings, and Stage 0 documentation. DOTD Stage 0 Safety Study to develop access management strategies and roadway improvements that will maintain and improve mobility, improve safety, support existing and future development along the LA 3235 corridor. The LA 3235 corridor was initially constructed as a high-speed roadway to facilitate truck traffic to and from Port Fourchon. Since its construction, numerous commercial and residential developments have created unsafe conditions along the corridor.
02/15 – 11/17	**Intersection Feasibility Study. Evangeline Thwy, Johnston St, & Louisiana Ave, Lafayette Parish, LA / H.011408.** *DOTD.* Traffic and Safety Analyst. Responsible for review of existing crash data, traffic operations analysis, and development of design alternatives. Objective is to develop alternatives for the intersection of Evangeline Thruway (US 167/90) and Johnston Street (US 167) / Louisiana Avenue (LA 94) that will improve safety and mobility. Evangeline Thruway consists of two one-way roadways with three lanes in each direction. Three alternatives for each intersection at Johnston Street / Louisiana Avenue were developed based on the results traffic and safety analysis.
01/17 – Ongoing	**Tunnel Flood Barrier Systems Design-Build Project, NY.** *MTA-TBTA.* Traffic Engineer. Responsible for the development of a comprehensive Transportation Management Plan (TMP) and Maintenance and Protection of Traffic (MPT) Plans for the design and construction of permanent and deployable flood protection systems at the Hugh L. Carey Tunnel and the Queens Mid-Town Tunnel in New York City, New York. Specific tasks include selection and application of state and federal policy guidance to develop temporary traffic control plans and sequencing for various construction phases of the project, coordinating with state and local agencies to satisfy MPT notification requirements, and developing procedures for the implementation and removal of temporary traffic control devices and equipment.

Firm employed by	Michael Baker International, Inc.				
Name	**Yingjian "Jim" Han, PE, CFM**		*Years of relevant experience with this employer*	1	
Title	Project Manager		*Years of relevant experience with other employer(s)*	15	
Degree(s) / Years / Specialization			M.S., 2005, Environmental Engineering, Vanderbilt University		
Active registration number / state / expiration date			PE.35782 / LA / 03/31/2023		
Year registered	2010	*Discipline*	Civil		
Active registration number / state / expiration date			#2820-15N, Certified Floodplain Manager (CFM)		
Year registered	2009	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Drainage Design Lead.** Mr. Han will be responsible for drainage design, bridge hydraulic modeling and analysis.		

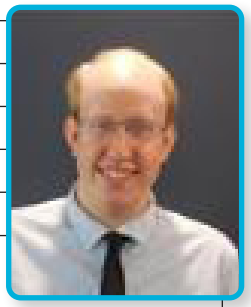
Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).*
09/20 – 06/21	**Cedar Bayou Watershed Channel Q122-00-00 Preliminary Engineering Study.** *Harris County Flood Control District.* ▪ Led 1D and 1D-2D coupled HEC-RAS unsteady state models development ▪ Stabilized the 1D and 1D-2D coupled HEC-RAS unsteady state models by changing time steps, channel cross section spacings, lateral weir modeling methods, 1D-2D iterations, and 1D and 2D calculation tolerances. ▪ Developed survey and geotechnical investigation scopes of services to support channel improvement and detention basin designs. ▪ Managed project schedules, progress reports, invoices, and sub-consultants.
03/19 – 06/21	**I-30 Widening from Linkcrest Drive to I-820 - Schematic and PS&E.** *TxDOT Fort Worth District.* ▪ Led the drainage study of the schematic phase in which the drainage crossings were modeled by HY-8 and HEC-RAS ▪ Updated the effective FEMA HEC-RAS model to the proposed condition to demonstrate that the roadway widening project has no adverse impact to Mary's Creek in Zone AE. ▪ Coordinated with TxDOT District Hydraulic Engineer to ensure the modeling methods to meet NFIP and TxDOT criteria. ▪ Designed the storm sewer systems including inlets, laterals, and trunk lines during the PS&E phase of the project using Geopak Drainage.
12/17 – 07/20	**FM 1960 Roadway Improvement PS&E.** *TxDOT Houston District.* ▪ As the drainage design team leader, worked closely with roadway and bridge engineers to design a complex storm water conveyance system including two detention ponds to safely convey and detain the collected storm water runoff to downstream receiving drainage channels without adversely impacting the downstream flow conditions and properties. ▪ Led a team of 3 professional engineers and 2 EITs including the staff from sub-consultants to develop a fully dynamic 1D XPSWMM model to simulate trunk lines, off-line detentions, and in-line detentions (over-sized storm sewer with restrictors). ▪ Led the PS&E development of the proposed drainage systems including storm sewer plans and profiles, detention basin grading and site plans, and outfall structures.
02/18 – 06/19	**FM 664 Bridge over Red Oak Creek Hydraulics Study.** *TxDOT Dallas District.* ▪ Led the bridge hydraulic study for this bridge replacement and widening project. ▪ Worked with roadway and structural engineers to investigate different bridge design alternatives including complete replacement, widening the existing bridge, salvaging the existing bridge for NB traffic and constructing a new SB bridge. ▪ Developed a HEC-RAS bridge model to support the preferred design alternative to show that the BFE (100-yr WSE) does not rise under the proposed condition. ▪ Prepared a bridge hydraulic report to document the existing conditions, bridge design alternatives, hydrology and hydraulic study assumptions, calculations and final conclusions.

11/15 – 01/17	**Lexington Blvd & Highlands Section III Drainage Improvements.** *City of Sugar Land.* ▪ Served as Project Manager and Lead Drainage Design Engineer for the local street and neighborhood flood mitigation projection in Sugar Land. ▪ Established a dynamic unsteady-state XPSWMM H&H model to identify the existing storm system capacity deficiencies. ▪ Developed several design alternatives based on the model results to reduce flood extents and depths. ▪ Prepared the bid package including the construction plan & project manual for the preferred design alternative chosen by the City of Sugar Land.
12/12 – 06/13	**Highway LA 66 Bridge over Bayou Sara Rehabilitation, St. Francisville, Louisiana.** *DOTD.* ▪ Severed as lead bridge hydraulic engineer for this bridge rehabilitation project ▪ Worked with roadway and structural engineers to evaluate new bridge and approaching roadway alignment and bridge low chord elevations. ▪ Developed the bridge hydraulic models by using HEC-RAS to model the bridge's existing and proposed conditions under 50-yr, 100-yr, 200-yr and 500-yr flood events. ▪ Calculated the bridge scour depths and designed the bridge scour countermeasures by following the guidelines of DOTD 2011 Hydraulics Manual, FHWA HEC-18 and HEC-23
09/09 – 08/12	**Hurricane and Storm Damage Risk Reduction System (HSDRRS) - West Bank and Vicinity, Hero to Oakville, Phase II, First Lift Levee Enlargement & Pumping Station, Plaquemines Parish, LA.** *USACE New Orleans District.* ▪ Designed an earthen levee system in the marsh by using a sand platform as working base. ▪ Coordinated with other disciplines' design leaders to effectively resolve issues regarding engineering design and constructability ▪ Developed the construction plan & specification and prepared the final bidding package. ▪ Provided the engineering services during construction and oversaw the contractor's performance.

Firm employed by	Michael Baker International, Inc.				
Name	**Lei Wang, PhD, PE, PMP, CFM**		*Years of relevant experience with this employer*	17	
Title	Project Manager		*Years of relevant experience with other employer(s)*	0	
Degree(s) / Years / Specialization			Ph.D., 2001, Civil Engineering, University of Missouri at Columbia M.S., 1989, Environmental Engineering, Tsinghua University, China B.S., 1987, Environmental Engineering, Tsinghua University, China		
Active registration number / state / expiration date			PE.16165/ MS / 12/31/2022		
Year registered	2004	*Discipline*	Civil		
Active registration number / state / expiration date			Project Management Professional 1240105 / n/a / 02/26/2024		
Year registered	2009	*Discipline*	Project Management		
Active registration number / state / expiration date			Certified Floodplain Manager 06-01888 / MS / 07/31/2022		
Year registered	2006	*Discipline*	Floodplain Management		
Contract role(s) / brief description of responsibilities			**Bridge Hydraulics Engineer.** Dr. Wang will serve as bridge hydraulics engineer and will be responsible for hydraulic analysis of Little Bayou Teche.		

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 time specified in the applicable MPR(s).*
09/19 - 11/20	**Helena Drainage Improvements, Jackson, Mississippi.** *Jackson County Board of Supervisors.* Hydraulic Engineer. Responsibilities included hydraulic SRH-2D modeling to simulate the flooding condition and drainage improvement design. MBI is providing Engineering and Related Services for Black Creek watershed drainage improvements and flood reduction study for Helena, MS.
04/18 - 11/18	**Maydell Bridge Replacement, Tampa, Florida.** *Florida Department of Transportation.* Hydraulic Engineer. Responsibilities included hydraulic modeling and scour analysis. MBI is providing engineering services for replacing the existing 616-foot-long Maydell Drive Bridge over Palm River in Tampa, Florida with a bridge of similar length on the current horizontal alignment, while maintaining the existing vertical clearance and providing the minimum required horizontal clearance at the navigational channel.
08/18 - 11/18	**Appalachian Corridor V Bridge Project, New Caney, Texas.** *Mississippi Department of Transportation.* Hydraulic Engineer. Responsibilities included hydraulic modeling and scour analysis. MBI provided design and engineering services for bridge hydraulics, conceptual and final bridge construction plans, and construction engineering services for four twin hydraulic bridge crossings on the Appalachian Corridor "V" alignment (S.R. 76) from Fairview to S.R. 23.
01/17 – 03/18	**U.S. Highway 49 Improvements between Florence and the Scales Area, Rankin County, Mississippi.** *Mississippi Department of Transportation.* Civil Engineer. Responsibilities included roadway drainage and storm water inlet design as well as a No-Rise hydraulic study for three roadway crossings. MBI provided engineering services for roadway and bridge construction on U.S. 49 between Florence and the Scale Area just south of I-20 in Rankin County.
03/18 – 08/18	**FEMA CLOMR Application for Saturn Parkway Design-Built Project, Maury County, Tennessee.** *Tennessee Department of Transportation.* Hydraulic Engineer. Responsibilities included hydraulic models, scour analysis, and preparing/filing the application package including floodplain and floodway revision. MBI provided engineering services included CLOMR application, design and preparation of final roadway/bridge construction plans for the Saturn Parkway in Maury County, Tennessee.
05/16 – 10/18	**S.R. 3 Bridge over Coldwater River Replacement, Tate County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included project management, hydraulic 1D and 2D analysis, and conceptual, preliminary, and final submittals of project reports. MBI provided engineering services for the replacement of the bridge carrying S.R. 3 over Coldwater River. Michael Baker's services included bridge hydraulic one- and two-dimensional model analyses, scour analysis and evaluation, bridge scour and stream bank stabilization design, conceptual and preliminary structural design, and preparation of right-of-way plans.

11/15 – 09/18	**U.S. 51 Bridge Replacements, Madison County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included project management, hydraulic 1D and 2D analysis, and conceptual, preliminary, and final submittals of project reports. MBI provided engineering services for the replacement of five U.S. 51 bridges over Tilda Bogue Creek, Tilda Bogue Tributary 8, and Doaks Creek. Michael Baker's services included bridge hydraulic one-and two-dimensional model analyses, scour analysis and evaluation, bridge scour and stream bank stabilization design, conceptual and preliminary structural design, and final right-of way plans.
06/13 – 04/14	**S.R. 57 Bridge over Bayou Castelle, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included project management, hydraulic modeling, scour analysis, and guard bank design. MBI provided engineering services for the replacement of the S.R. 57 concrete pipe culverts with 430-feet long bridge over Bayou Castelle.
11/13 – 12/15	**S.R. 28 Big Creek, Quinn Creek, and Strong River Bridge Replacements, Simpson County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included project management, hydraulic analysis, and conceptual, preliminary, and final submittals of project reports. MBI is providing engineering services for the replacement of the S.R. 28 bridges over Big Creek, Quinn Creek, and Strong River. Michael Baker's services included hydraulic analyses, scour assessments, stream bank stabilization evaluations, preparation of hydraulic analysis reports, and conceptual and preliminary design.
03/12 – 06/13	**S.R. 178 Bridge Replacement Right-of-Way Plans, Itawamba County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsibilities included project management, hydraulic analysis budget setup, hydraulic analysis, roadway design, plan/profile sheets, and preliminary and final submittal of right-of-way plans. MBI developed final right-of-way plans for replacement of eight bridges, extension of two box bridges, removal of one box bridge, and addition of a stream relocation and a new box bridge under a relocated local road. The roadways, totaling approximately seven miles along S.R. 178 between Clay and the Alabama State Line, were upgraded either to new construction standards or to 3R standards, depending on the locations. The project was divided into five sites. Three sites required detour roads, and two sites were temporarily closed to traffic. Michael Baker also performed all hydraulic analyses at the bridges and box bridges.
01/11 – 03/11	**Replacement of the S.R. 512 Bridge over the Chickasawhay River, Clarke County, Mississippi.** *Mississippi Department of Transportation.* Civil Engineer. Responsible for roadway drainage design including cross drain - pipe and culvert design, and erosion control design and part of roadway quantity calculation. MBI provided engineering services for the replacement of the S.R. 512 bridge over the Chickasawhay River. Michael Baker's services included a review of previous design plans, field survey, and the development of final construction plans.



Firm employed by	Michael Baker International, Inc.				
Name	**Aaron Dunavant, EIT**		*Years of relevant experience with this employer*	<1	
Title	Civil Associate I		*Years of relevant experience with other employer(s)*	5	
Degree(s) / Years / Specialization		B.S., 2015, Biological and Agricultural Engineering, Texas A&M University			
Active registration number / state / expiration date		EIT# 52242 / TX / 06/04/2023			
Year registered	2015	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities		**Bridge Hydraulics Designer.** Mr. Dunavant will serve as bridge hydraulics designer and will support the hydraulic design team.			

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 time specified in the applicable MPR(s).*
02/21 - Ongoing	**Louisiana Watershed Initiative Modeling Contract – Region 6, Louisiana.** *Louisiana Department of Transportation and Development.* HEC-RAS Modeler. Responsible for gathering background data to create a 2D HEC-RAS model. Responsible for creating model for entire eastern Louisiana coastal region and troubleshooting all errors. Created technical memos detailing all information and data from model.
07/17 - 05/18	**Houston Arboretum and Nature Center (HANC) Ravine Restoration Project, Houston, Texas.** *Houston Arboretum and Nature Center.* Project Engineer, CAD Designer, HEC-RAS Modeler. Perform initial site conditions survey and topography survey. Create construction plan set and details using CAD software. Perform scour analysis on proposed bridge design. HANC Project SWG -2017-00075. This project involves 1000 linear feet of stream at the Houston Arboretum and Nature Center. This project rehabilitates the banks of the ravine and replaces 2 old bridges.
08/17 - 02/18	**Spindletop Bayou Wetland Mitigation Bank Design, Chambers County, Texas.** *Wildwood Credits.* CAD Designer, HEC-RAS Modeler. Responsible for creating base DEM file using existing LIDAR and merge with point survey. Created 2D model in HEC-RAS to calculate size of levee breach needed to create wetlands. Used CAD Software to calculate cut/fill totals for constructed levees and mitigation bank design.
02/19 – 06/19	**2D Modeling Simulations for Hydraulic Impacts of Hudson Forest Bank Erosion, Houston, Texas.** *IDS Engineering.* HEC-RAS Modeler. Responsible for surveying project area with Trimble and bathymetry and combining with existing LIDAR to create DEM. Used HEC-RAS to create multiple proposed scenarios and calculate the difference shear stresses on the design bank.

Firm employed by	Civil Design & Consultant, 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 LA University		
Active registration number / state / expiration date			5040 / Louisiana / September 30, 2022		
Year registered	2010	*Discipline*	Land Surveyor		
Contract role(s) / brief description of responsibilities			**Fulfills the roles of MPR 4 and 5. Survey.** Mr. Burgess serve as topographic survey manager at Little Bayou Teche and will be responsible for development of right-of-way mapping.		

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 time specified in the applicable MPR(s).*
07/20 – 04/21	**H.013955, H.013956, H.013957, H.013958, H.013959, & H.013989 Rural Bridge Initiative.** *DOTD.* Mr. Burgess served as the firm's surveying Manager on these projects. He coordinated field effort and office data processing for all sites to ensure that the project followed the procedures and standards of DOTD Location and Survey. CD&C as a sub-consultant on this project is responsible for topographic surveying for 6 bridge sites across South Louisiana.
01/18 – 01/20	**H.004100 I-10: LA 415 to Essen Lane on I-10 and I-12, West and East Baton Rouge, LA.** *DOTD.* Mr. Burgess is the surveying Manager 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 including work on Tributaries of the Intercoastal Canal. This work included using 3D Scanning for the bridge at I-10 bridge @ LA 415 as well as scanning every 500' for control verification and incorporation of the Mobile Lidar for the I-10 pavement.
07/17 – 12/18	**H.010960.5-2, LA 30 Roundabout at Tanger I-10, Ascension Parish, LA.** *DOTD.* Mr. Burgess served as Survey Manager for the project. Duties included meeting with DOTD & 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.
01/16 – 08/16	**H.005733.5 US 190 Superstreet, St. Tammany Parish, LA.** *DOTD.* Mr. Burgess served as 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	**H.003184.5 I-10 Texas State Line –East of Coone Gully, Calcasieu Parish, LA.** *DOTD.* Mr. Burgess served as Survey Manager for the project. 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	**H.011235 I-49 South at Verot School Road, Lafayette, LA.** *DOTD.* Mr. Burgess served as the Survey Manager for the project. 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.
07/14 - 10/15	**H.011088.5 I-110 North Street to Plank Road, EBR Parish, LA.** *DOTD.* Mr. Burgess served as Survey Manager for the project. Duties included meeting with DOTD, coordination of traditional crews and 3D terrestrial scanning crew, review and verification of drainage map, merging and final review of all survey data for submittals. Other special duties were coordinating with DOTD District 61 for a rolling lane closure for location of drainage located in the interior of the project along the existing crash wall. Also, coordination with DOTD Records and EBR City Parish regarding the research of all drainage structures that enter and leave the project area.
04/17 – 07/17	**H.010006.5-3 LA 58 Petit Caillou Bridge Rehabilitation (Sarah Bridge), Terrebonne Parish, LA.** *DOTD.* Mr. Burgess served as Survey Manager on 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.

03/14 – 06/14	**H.008369 Cleo Road Roundabout, St. Tammany Parish, LA.** *DOTD.* Mr. Burgess served as the project manager for the project. CD&C was responsible for the topographic survey that began approximately 2400 ft. NW of intersection of I-59 and US Hwy 1090 and ended approximately 1000 ft. NW of intersection of I-59 and US Hwy 1090. The survey also included 500 ft. of Cleo Road and 175 ft. of Avenue D.
05/13 – 07/13	**H.009288 LA 1 Railroad Bridge at DOW, West Baton Rouge, LA.** *DOTD.* Survey Manager for this project located in West Baton Rouge Parish. The intent is to create a grade separation at the intersection of LA 1 and the R/R spur for DOW. CD&C is performing all of the topographic survey for this project including utility coordination and R/R coordination and permits so that CD&C can survey the spur and parallel line.
02/14 – 03/17	**H.010620 I-49 Design Build.** *DOTD.* Mr. Burgess managed and supervised all field work, utility coordination, and review of existing survey data for final topographic survey submittal. CD&C also produced ROW maps for the project. Mr. Burgess's duties for this portion also included title reports, review of property surveys and final submittal of final existing right of way plans.

Firm employed by	Civil Design & Consultant, Inc.				
Name	**Chris Ballard, PLS**		*Years of relevant experience with this employer*	6	
Title	Survey Project Manager		*Years of relevant experience with other employer(s)*	19	
Degree(s) / Years / Specialization		B.S., 2004, Biological Science, Southeastern University			
Active registration number / state / expiration date		5033 / Louisiana / September 30, 2022			
Year registered	2010	*Discipline*	Land Surveyor		
Contract role(s) / brief description of responsibilities		**Fulfills the roles of MPR 4 and 5. Survey.** Mr. Ballard will be responsible for topographic survey and right-of-way mapping.			

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 time specified in the applicable MPR(s).*
01/18 - 01/20	**H.004100 I-10: LA 415 to Essen Lane on I-10 and I-12, West and East Baton Rouge, LA.** *DOTD.* Mr. Ballard is the Surveying Project Manager 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 including work on Tributaries of the Intercoastal Canal. This work included using 3D Scanning for the bridge at I-10 bridge @ 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	**H.010006.5-3 LA 58 Petit Caillou Bridge Rehabilitation (Sarah Bridge), Terrebonne Parish, LA.** *DOTD.* Mr. Ballard served as the firms Survey Project Manager on 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.
02/19 - 09/19	**Bridge Replacements in East Feliciana Parish, Rural East Feliciana Parish, LA.** *DOTD.* Mr. Ballard is serving Survey Project Manager for this project for East Feliciana Parish Police Jury. It includes the replacement of 2 bridges which were damaged from flooding and the repairs to many rural roadways throughout the parish. These projects are being funded thru FEMA and all documentation has to be in accordance with FEMA's policies and procedures.
01/17 - 12/17	**East Baton Rouge Parish Bridges, East Baton Rouge Parish, LA.** *DOTD.* In 2017, CD&C has performed topographic surveys for at least 4 Bridge Replacement Projects throughout East Baton Rouge Parish. Mr. Ballard served as Survey Project Manager on each of these projects which included cross-sectioning and tracing the channel at each location. These included bridges over Dawson Creek, Claycut Bayou, Copper Mill Bayou, and Cypress Bayou.
10/16 - 11/16	**H.012728.5 LA 443: Tangi River Bridge Replacement, Tangipahoa Parish, LA.** *DOTD.* Mr. Ballard served as the Project Manager for this Project. 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.
09/17 - 12/17	**H.012650.5-1 District 62 Bridges, Livingston and Tangipahoa Parishes, LA.** *DOTD.* Mr. Ballard served as a Survey Project Manager for this project which included 5 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, 2 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 US190 one was surveyed utilizing 3D Terrestrial Scanning.
10/15 - 12/18	**H.003184.5 I-10 Texas State Line – East of Coone Gully, Calcasieu Parish, LA.** *DOTD.* Mr. Ballard served as the Survey Project Manager on this project which is a 6-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	**H.005733.5 US 190 Superstreet, St. Tammany Parish, LA.** *DOTD.* Mr. Ballard served as the Survey Project Manager on this project. CD&C provided a complete topo survey & 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	**H.011773 Hanks Dr/Landis Drive Pedestrian Improvements, East Baton Rouge Parish, LA.** *DOTD.* Mr. Ballard served as the Survey Project Manager on this project that included a topographic survey and establishment of the ROW for Hanks Dr. for installation of new sidewalk.
06/11 - 09/13	**260-01-0028, H.002372 LA 42 Widening and Improvements, Ascension Parish, LA.** *DOTD.* Mr. Ballard worked as a PLS on this project which included boundary and topography, establishing the existing ROW and acquisition of additional ROW.
07/17 - 12/18	**H.010960.5-2, LA 30 Roundabout at Tanger I-10, Ascension Parish, LA.** *DOTD.* Mr. Ballard served as the Survey Project Manager on this project that includes a complete topo survey, utility coordination and drainage, along with finish floor elevations of all buildings that fall within the survey limits. Project included data collection of the topography via traditional means and methods along with 3D terrestrial scanning.
08/16 - 12/17	**H.011235 I-49 South at Verot School Road, Lafayette, LA.** *DOTD.* Mr. Ballard served as the Survey Project Manager on this I-49 South project for DOTD. This project is to continue the improvements to the US 90 corridor to upgrade the roadway to interstate standards for I-49 South. This project includes traditional topography, 3D Scanning, and ROW mapping as part of the full scope. Special task was to coordinate with the Railroad company and perform railroad permitting for access to the rails.

Firm employed by	T. Baker Smith, LLC				
Name	**TJ Stokes, PE**		*Years of relevant experience with this employer*	1	
Title	Lead Professional, Utility Engineering		*Years of relevant experience with other employer(s)*	12	
Degree(s) / Years / Specialization		B.S., 2009, Industrial Engineering, Louisiana State University			
Active registration number / state / expiration date		PE. 0040079/ LA / 03/31/2022			
Year registered	2015	*Discipline*	Industrial		
Contract role(s) / brief description of responsibilities		**SUE Survey Manager.** Mr. Stokes will serve as SUE Survey Manager and will be responsible for the SUE survey plans.			

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 time specified in the applicable MPR(s).*
06/21 – 06/21	**Safety Widening of Roddy Road (US 61 to LA 935), Ascension Parish, Louisiana.** *Ascension Parish Government.* SUE Engineer. Provided Subsurface Utility Engineering and R/W Mapping for the for the Roddy Road Safety Widening from US 61 to LA 935 as part of the Move Ascension Program. Project included geometric improvements to be made at the LA 429 intersection including Left-turn bays on the EB, WB and SB approaches and right-turn bays at the NB and SB approaches; Geometric improvements at LA 935 to include Left-turn bays at the EB, NB and SB approaches, right-turn bays at the NB approach; replacement of the bridges over New River and Bayou Narcisse.
12/21 – 12/21	**LA 3127 Extension: LA 70 to LA 1, Ascension Parish, Louisiana.** *Ascension Parish Government.* SUE Engineer. Performed Subsurface Utility engineering (SUE) QL B-A in accordance with CI/ASCE 38-02 for all utilities affected by the project alignment. Level A test holes were conducted on 21 underground pipelines which either crossed the route or were within the Right of Way of the roadway. Subsurface utilities designated as part of the SUE services included water mains, sewer force mains, sewer effluent lines, pipelines carrying various products and ranging from 6" to 30" in diameter, buried electrical services, buried telephone, buried fiber optic telephone, fiber optic television, television, and gas mains. The project is proposed by Ascension Parish as the first phase of a 4-lane divided highway to the south of the City of Donaldsonville, LA.
11/21 – Ongoing	**Harrison Avenue Improvements (US 190 - LA 59), St. Tammany Parish, Louisiana.** *St. Tammany Parish Government.* SUE Engineer/Project Manager. Performed subsurface utility engineering and related services scope of work necessary to support the design of the widening of Harrison Ave. from US 190 to LA 59 in Covington, LA for St. Tammany Parish. The improvements along Harrison Ave. include approximately 13,200 feet of roadway widening along existing alignment including the installation of a raised median, construction of single lane roundabouts at Marigold Drive and Falconer Drive and various features such as bulb outs and R-CUT intersection treatments.

Firm employed by	T. Baker Smith, LLC				
Name	**Marshall Pounds**			*Years of relevant experience with this employer*	1
Title	Utility Engineering Coordinator			*Years of relevant experience with other employer(s)*	24
Degree(s) / Years / Specialization			n/a		
Active registration number / state / expiration date			n/a		
Year registered	n/a	*Discipline*	n/a		
Contract role(s) / brief description of responsibilities			**SUE Survey Field Technician.** Mr. Pounds will serve as SUE survey field technician.		

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 time specified in the applicable MPR(s).*
04/21 – 06/21	**Safety Widening of Roddy Road (US 61 to LA 935), Ascension Parish, Louisiana.** *Ascension Parish Government.* Utility Engineering Coordinator. Provided LA One Call scheduling and coordination for the for the Roddy Road Safety Widening from US 61 to LA 935 as part of the Move Ascension Program. Project included geometric improvements to be made at the LA 429 intersection including Left-turn bays on the EB, WB and SB approaches and right-turn bays at the NB and SB approaches; Geometric improvements at LA 935 to include Left-turn bays at the EB, NB and SB approaches, right-turn bays at the NB approach; replacement of the bridges over New River and Bayou Narcisse.
04/21 – 06/21	**MA-18-07, Roddy Road @ 621 Roundabout, Ascension Parish, Louisiana.** *Ascension Parish Government.* Utility Engineering Coordinator. Provided LA One Call scheduling and coordination.
09/21 – 11/21	**Harrison Avenue Improvements (US 190 - LA 59), St. Tammany Parish, Louisiana.** *St. Tammany Parish Government.* Utility Engineering Coordinator. Provided utility coordination review, preparation and research necessary to support the design of the widening of Harrison Ave. from US 190 to LA 59 in Covington, LA for St. Tammany Parish. The improvements along Harrison Ave. include approximately 13,200 feet of roadway widening along existing alignment including the installation of a raised median, construction of single lane roundabouts at Marigold Drive and Falconer Drive and various features such as bulb outs and R-CUT intersection treatments.
03/21 – 03/21	**14th Street Drainage Improvement Project, Galveston, TX.** *City of Galveston.* Utility Engineering Coordinator. Provided QA/QC of draft SUE report deliverable.

Firm employed by	T. Baker Smith, LLC				
Name	**Jonathan "Beau" Roy**			*Years of relevant experience with this employer*	4
Title	Senior Subsurface Utility Technician			*Years of relevant experience with other employer(s)*	13
Degree(s) / Years / Specialization			n/a		
Active registration number / state / expiration date			n/a		
Year registered	n/a	*Discipline*	n/a		
Contract role(s) / brief description of responsibilities			**SUE Survey Field Technician.** Mr. Roy will serve as SUE survey field technician.		

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 time specified in the applicable MPR(s).*
06/18 – 07/18	**LA 3127 Extension: LA 70 to LA 1, Ascension Parish, Louisiana.** *Ascension Parish Government.* SUE Technician/SUE Party Chief. Performed field SUE Quality Level (QL) B designation and QL A (location) test holes. Responsible for the preparation of detailed field notes for all utilities designated, field sketching of designation markings, and preparation of QL B field shot count sheets and QL A test hole data sheets. Coordinates with utility company locators, meets with utility company representatives in the field. Assist with field QC of designation data and performed review of SUE deliverable data for consistency with field designations; project included nearly 80,000 LF of QL B designation and 48 QL A test holes.
01/19 – 06/19	**Harrison Avenue Improvements (US 190 - LA 59), St. Tammany Parish, Louisiana.** *St. Tammany Parish Government.* SUE Field Crew Lead. Led a team of field technicians for the topographic field survey and field survey for the designation of utilities for SUE QL A-B. Probed and located testholes.
07/18 – 06/19	**AIP No. 3-22-0006-110-2018, LA 67 (Plank Road) Relocation, East Baton Rouge Parish, Louisiana.** *Louisiana Department of Transportation & Development/Volkert.* SUE Technician. Designated approximately 94,000 LF of underground utilities for the QL B phase. Prepared field notes, field sketches, shot count reports, and arranged on-site meetings with utility companies. He is scheduled to perform approximately 62 test holes for the QL A investigation phase utilizing non-destructive vacuum excavation. This project was geared towards the relocation of the Plank Road away from the Baton Rouge Airport Runway 13/31 encompassed a 68-acre investigation area.
06/18 – 06/21	**MA-18-07, Braud Rd. and Germany Rd. Roundabout, Ascension Parish, Louisiana.** *Ascension Parish Government.* SUE Technician. As field technician for QL A-B SUE, Beau was responsible for the designating and locating utilities; preparing detailed field notes, field sketches, shot count reports; and populating test hole data sheets. Utilizing a suite of geophysical equipment, including the RD8100 PCL, and minimally invasive vacuum excavation methods, he designated 25,000 LF of utilities and performed six test holes. He also assisted with field quality assurance checks of designation data and reviewed SUE deliverable data for consistency with field designations.

Firm employed by	Michael Baker International, Inc.				
Name	**Chris Gesing, PE**		*Years of relevant experience with this employer*	40	
Title	National Director of NEPA Services		*Years of relevant experience with other employer(s)*	0	
Degree(s) / Years / Specialization	M.S., 1984, Civil Engineering, Youngstown State University B.E., 1980, Civil Engineering, Youngstown State University				
Active registration number / state / expiration date	PE.0026996 / LA / 03/31/2023				
Year registered	1996	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities	**Environmental/Permitting.** Mr. Gesing will be responsible in assisting with any necessary environmental permits.				

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 time specified in the applicable MPR(s).*
07/11 - 07/12	**New Orleans Rail Gateway Environmental Impact Statement, Jefferson and Orleans Parishes, Louisiana.** *Louisiana Department of Transportation.* Project Manager. As Project Manager and Environmental Lead, responsible for project management and directing all work activities for preliminary engineering and NEPA/ environmental studies to modernize the entire 35-mile freight rail system through the New Orleans metropolitan area. Michael Baker is providing environmental and engineering services to develop an environmental impact statement 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.
05/08 - 12/10	**East-West Corridor Environmental Assessment, Bossier Parish, Louisiana.** *Northwest Louisiana Council of Governments (NWLCOG).* Project Manager. As Project Manager, Environmental Lead and principal NEPA document author, responsible for project management and directing all work activities for the environmental/ preliminary development 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. Michael Baker provided preliminary engineering and National Environmental Policy Act and environmental documentation for a new eight-mile, two-lane urban collector with right-of-way clearance for possible expansion to a four-lane boulevard. The purpose of the new 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.
04/01 - 04/16	**I-69, Section of Independent Utility No. 15, U.S. 171 to I-20, Bossier, Caddo, and DeSoto Parishes, Louisiana.** *Louisiana Department of Transportation.* Project Manager. Environmental Lead who managed this location and environmental study in northwestern Louisiana. Responsible for client satisfaction, budget, scope and schedule compliance, and direction of all work activities in Michael Baker offices located in numerous states and subconsultants. Michael Baker conducted a preliminary engineering and environmental study for I-69, Section of Independent Utility 15.
08/97 - 09/05	**North-South Expressway, Location and Environmental Study, EIS/ROD, Caddo Parish, Louisiana.** *Louisiana Department of Transportation.* Project Manager. Responsible for managing the location and environmental study in northwestern Louisiana. Responsible for contract development, budget, scope and schedule compliance, and direction of all work activities. Michael Baker conducted a preliminary engineering and environmental study of the North-South Expressway in Caddo Parish. The proposed highway will be an interstate facility on new location, approximately 56 kilometers (35 miles) in length, between I-220 in Shreveport, Louisiana, and the Arkansas state line.
08/02 - 12/04	**Stage 1 – Planning/Environmental Manual of Standard Practice, Statewide, Louisiana.** *Louisiana Department of Transportation.* Project Manager. Responsible for interviewing DOTD, federal and state resource agencies, and metropolitan planning organizations (MPOs) personnel to identify factors critical to the success of a streamlined DOTD environmental process. Facilitated institutional change within the DOTD, developed the Manual of Standard Practice and training program, and conducted several half-day training sessions. Also served as technical manager, principle author and course instructor on this project. The Stage 1 – Planning/ Environmental Manual of Standard Practice was prepared by Michael Baker to provide transportation project managers guidance in advancing transportation improvements projects through Stage 1 of the DOTD's Project Development Process (PDP).

Firm employed by	Michael Baker International, Inc.				
Name	**T.J. Holliday, PWS**		*Years of relevant experience with this employer*	12	
Title	Environmental Planning Manager		*Years of relevant experience with other employer(s)*	11	
Degree(s) / Years / Specialization		B.S. / 1998 / Delta State University			
Active registration number / state / expiration date		2447			
Year registered	2014	*Discipline*	Professional Wetland Scientist		
Contract role(s) / brief description of responsibilities		**Environmental/Permitting.** Mr. Holliday will be responsible in assisting with any necessary environmental permits.			

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 time specified in the applicable MPR(s).*
05/11 - Ongoing	**New Orleans Rail Gateway Environmental Impact Statement, Jefferson and Orleans Parishes, Louisiana.** *Louisiana Department of Transportation and Development.* Environmental Specialist. Conducted field studies and documented findings for wetlands and hazardous materials. Michael Baker is providing environmental and engineering services to develop an environmental impact statement 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.
01/10 - 04-13	**S.R. 16 from S.R. 15 to S.R. 19 Bridge Design, Neshoba County, Mississippi.** *Mississippi Department of Transportation.* Environmental Specialist. Responsible for field surveys to identify wetlands and other waters of the U.S. and preparation of a jurisdictional findings report for 404 permitting process. Michael Baker provided engineering services for improvements to 10 miles of S.R. 16 from S.R. 15 to S.R. 19. Michael Baker's services included the Phase A preliminary bridge plans for eight bridges, including hydraulic design for three bridges and a railroad crossing bridge, and stream and wetland delineation.
10/08 - 07/15	**FM 521 Environmental Assessment, Texas.** *Texas Department of Transportation.* Environmental Specialist. Responsible for completion of the EA document and preparation of the FONSI. Assisted with public involvement activities. Michael Baker performed an environmental assessment (EA) for the reconstructing and widening of FM 521, an existing two-lane rural undivided facility, to a four-lane divided urban arterial from Beltway 8 to FM 2234 (McHard Road). The project also includes ***improvements on FM 2234 at FM 521 and proposed grade separations at the Union Pacific Railroad (UPRR) crossings on both FM 2234 and FM 521.*** Michael Baker's services included wetlands delineation and permitting, public involvement, community impacts assessment, indirect and cumulative impacts assessments, and a Section 4(f) analysis.
02/11 - 06/11	**Wetlands Delineation for S.R. 7 and S.R. 8 Bridge Replacements, Marshall, Benton, and Calhoun Counties, Mississippi.** *Mississippi Department of Transportation.* Environmental Specialist. Conducted wetland and other waters assessments for a bridge replacement and road improvements along S.R. 7 in Marshall and Benton Counties and S.R. 8 in Calhoun County. Prepared jurisdictional findings report for submittal to USACE for 404 permit evaluation. Michael Baker performed wetland assessments and delineations for the replacement of the bridges on S.R. 7 in Marshall and Benton counties and S.R. 8 in Calhoun County. Michael Baker's services included data collection and analysis, field investigations, wetland delineations and assessments, and report preparation.
03/11 - 07/11	**Wetland Delineations and Assessments for the S.R. 493, S.R. 19, and I-55 Interchange Bridge Replacements, Kemper, Lauderdale, and Madison Counties, Mississippi.** *Mississippi Department of Transportation.* Environmental Specialist. Conducted field studies and prepared jurisdictional findings report. Michael Baker performed wetland assessments and delineations for the replacement of the bridges on S.R. 493 in Kemper County, S.R. 19 in Lauderdale County, and at the I-55 interchange in Madison County. Michael Baker's services included data collection and analysis, field investigations, wetland delineations and assessments, and report preparation.
05/10 - 02/13	**S.R. 607 Improvements from Texas Flat Road to I-59, Hancock and Pearl River Counties, Mississippi.** *Mississippi Department of Transportation.* Environmental Specialist. Responsible for wetland and other waters of the U.S. delineation and reporting. Michael Baker provided engineering services for the widening of S.R. 607 to four lanes from Texas Flat Road to I-59, including the reconstruction of a bridge over Alligator Branch, the replacement of a bridge over Second Alligator Branch, and the replacement of a bridge over Indian Camp Creek.

Firm employed by	Michael Baker International, Inc.				
Name	**Chris Conrad, CCP, EIT**			*Years of relevant experience with this employer*	11
Title	Department Manager			*Years of relevant experience with other employer(s)*	25
Degree(s) / Years / Specialization			B.S.C.E., 1989, Structural, University of Colorado at Denver		
Active registration number / state / expiration date			36579 / Engineer-In-Training / Colorado / n/a		
Year registered	1989	*Discipline*	Civil		
Active registration number / state / expiration date			3337 / Certified Cost Professional		
Year registered	2019	*Discipline*	n/a		
Contract role(s) / brief description of responsibilities			**Cost Analysis.** Mr. Conrad will be responsible for benefit cost analysis of bridge structures.		

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 time specified in the applicable MPR(s).*
01/19 - 04/20	**Independent Cost Estimate for Rt. 58 Lover's Leap Design-Build, Patrick County, VA.** *Virginia Department of Transportation.* Cost Estimator. Cost Estimator for the performance of the Independent Cost estimate (ICE) for this design-build project. Worked with the estimating team to complete the independent cost estimate (ICE) for VDOT for this design-build project. Coordinated with the Design-Build Team (DBT) for the development of the plans to a level of approximately 30%. Developed the work plan; means and methods; major equipment; selection of major materials and subcontractors for the estimate. Coordinated to complete an independent design estimate and construction QA/QC estimate for the project. Reviewed the DBT's Project Schedule and provided recommendations to VDOT on the proposal level schedule. Submitted independent cost estimate to VDOT within 90 days of the start of the task.
08/17 - 01/18	**IDIQ for Architectural And Engineering Work For Multimedia Environmental Compliance Support.** *Naval Facilities Engineering Command.* Cost Estimator. Responsible for developing cost estimates based upon design submission criteria. Completed a one-year assignment providing on-site cost estimating services for the USACE Middle East Division. He was responsible for the development of multiple independent cost estimates for projects all over the region. Provided quantity takeoff, unit pricing, indirect cost factor development, conceptual construction schedule, execution analysis and cost report preparation, as well as submission. Also participated in client review and comment response resolution.
12/17 - Ongoing	**Naugatuck Railroad Station Relocation, Naugatuck, Connecticut.** *Connecticut Department of Transportation.* Cost Estimator. Responsible for developing cost estimates based upon design submission criteria. Provided quantity takeoff, unit pricing, indirect cost factor development, conceptual construction schedule, execution analysis and cost report preparation, as well as submission. Also participated in client review and comment response resolution. Michael Baker provided planning and conceptual design for construction of a new rail station on the site of an existing surface parking lot in order to provide high-level platform service for up to a four-car consist on the Waterbury branch line. The station is expected to further advance redevelopment efforts in downtown Naugatuck. Design elements include an Americans with Disabilities Act (ADA) compliant platform, canopies, retaining walls, elevator, stairs, ramps, station signage and graphics, electrical (power) and communications systems, and station site/civil items.
03/16 - Ongoing	**Shore Line East Railroad Station Rehabilitations, Branford, Guilford, Madison, Clinton, and Westbrook, Connecticut.** *Connecticut Department of Transportation.* Senior Cost Estimator. Responsible for cost estimating team to provide design phased submission cost estimates to validate current project budget. Michael Baker is providing planning, civil engineering, electrical engineering, architecture, and construction phase services for the upgrade of five passenger stations along the Shore Line East Railroad Line, a high-speed commuter and intercity passenger rail system serving portions of southeast Connecticut and providing connecting service to New York. The Shore Line East connects Old Saybrook to New Haven's Union Station and locations south toward Stamford and New York City
01/17 - 02/17	**Pavement Condition Assessment, Hartsfield-Jackson, Atlanta International Airport (ATL), Atlanta, Georgia.** *Aviation Infrastructure Solutions.* Cost Estimator. Responsible for developing cost estimates based upon design submission criteria. Provided quantity takeoff, unit pricing, indirect cost factor development, conceptual construction schedule, execution analysis and cost report preparation, as well as submission. Also participated in client review and comment response resolution. Michael Baker captured high resolution imagery to perform nondestructive runway pavement inspections in a fraction of the time of traditional inspection teams. The project is being utilized as a test scenario to perform similar operations routinely to save time and budget over traditional means.

Firm employed by	Michael Baker International, Inc.		
Name	**Brad Frable**	*Years of relevant experience with this employer*	7
Title	Construction Manager	*Years of relevant experience with other employer(s)*	22
Degree(s) / Years / Specialization	B.S.C.E.T., 2000, Structural Design and Construction Engineering Technology, The Pennsylvania State University, Harrisburg Campus		
Active registration number / state / expiration date	n/a		
Year registered	n/a	*Discipline*	n/a
Contract role(s) / brief description of responsibilities	**Cost Analysis.** Mr. Frable will be responsible for benefit cost analysis of bridge structures.		

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 time specified in the applicable MPR(s).*
04/16 - 03/18	**District 6-0 Bundled Bridge Program, Montgomery and Bucks Counties, Pennsylvania.** *Pennsylvania Department of Transportation.* Construction Manager. Responsible for aiding with constructability and estimated costs. Michael Baker provided design and engineering services for repair and replacement of 10 structures under a D-6 Bundled Bridge Program. Routine inspections of these structures identified deficiencies that cannot be addressed through simple maintenance contracts. Therefore, all of the structures have been combined into one design project to be advertised under two separate construction contracts. Michael Baker provided project management; coordinated surveys; performed safety reviews; prepared type, size, and location (TS&L) plans, prepared waterway permit applications; and developed design field view submissions through plans, specifications, and estimates (PS&E) for each contract. Roadway tasks included final roadway, maintenance and protection of traffic, signing and pavement marking plans, erosion and sediment pollution control plans, and final structure plans. Final structures design included pay items, plan details, special provisions, and quantity and cost estimates.
07/17 - 09/17	**College Avenue Bridge Replacement Construction Management Services, Delaware County, Pennsylvania.** *Pennsylvania Department of Transportation.* Project Manager - Scheduling. As Project Manager/Scheduler, facilitated Project Control Meetings, reviewed the Contractor's Baseline CPM Schedule and Schedule Updates and facilitated issue resolution at the project level. Additionally, provided a Linear Schedule Analysis of the Contractor's CPM schedule that identified a sequencing revision that reduced the impact of a significant utility delay.
08/17 - 01/18	**Corridor H Quality Assurance Management (QAM) Services, Randolph and Tucker Counties, West Virginia.** *West Virginia Department of Transportation, Division of Highways.* Construction Manager. Responsible for aiding with constructability and estimated costs. Michael Baker provided quality assurance management (QAM) for construction of Sections 1, 2, and 3 of the Corridor H highway from Kerens to Parsons. During a long-term relationship with the client, Michael Baker served as the owner's representative to provide all the services needed from pre-award phase, through post-award and construction stages of their largest ever construction project being executed as design-build.
12/17 - Ongoing	**Scudder Falls Bridge Replacement, Final Design Services, Bucks County, Pennsylvania.** *Delaware River Joint Toll Bridge Commission.* Construction Manager. Developed engineers schedule for the Scudder Falls Bridge Project, within P6, based on TS&L documentation, for the Hamilton Office's 60% submission to the DRJTBC. Also developed the engineer's estimate of the project cost, using HCSS HeavyBid. HeavyBid was acquired after the project assignment. HeavyBid required initial setup, of base databases to have the program function appropriately. Setup all of the initial labor, equipment, activity books, and established the biditem template for the program. Setup training with vendor to train additional staff. Assisted Hamilton Staff with additional constructability questions and reviews, for staging purposes and feasibility. Michael Baker is providing final design and post-design services for the Scudder Falls Bridge Replacement project.
07/19 - Ongoing	**I-78 Bridge Replacement Construction Management and Construction Inspection Services, Berks County, Pennsylvania.** *Pennsylvania Department of Transportation, District 5-0.* Construction Manager. Responsible for providing construction management services, including schedule review, project coordination with PennDOT and the Prime Contractor, and administering project control meetings. Also involved in day to day field solutions and aiding inspection staff with direction. Provided PennDOT with monthly cost summary reports. Michael Baker is providing construction management (CM) and construction inspection (CI) for an interstate project in District 5-0 in Berks County, Pennsylvania. Michael Baker is providing CM and CI staffing for various tasks, including meeting facilitation, value engineering, community relations, daily inspection, quality assurance for maintenance and protection of traffic, and environmental permit compliance oversight.

Firm employed by	Michael Baker International, Inc.				
Name	**Mary Flynn, PE**		*Years of relevant experience with this employer*	8	
Title	Quality Manager		*Years of relevant experience with other employer(s)*	15	
Degree(s) / Years / Specialization			B.S. / 1997 / Civil Engineering & Surveying		
Active registration number / state / expiration date			0036931 / LA / 09/30/2020		
Year registered	2012	*Discipline*	Civil		
Active registration number / state / expiration date			67009 / OH / 12/31/2021		
Year registered	2002	*Discipline*	Civil		
Year registered	2016 2016 2012	*Discipline*	ATSSA Traffic Control Refresher / n/a / n/a ATSSA Traffic Control Flagger / n/a / n/a ATSSA Traffic Control Supervisor & Technician / n/a / n/a		
Contract role(s) / brief description of responsibilities			**Construction Manager.** Ms. Flynn will be responsible for management of the construction services.		

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 time specified in the applicable MPR(s).*
11/17 – 04/18	**H.011722.6 Glenwood Drive Rehabilitation, Ouachita Parish, Louisiana.** *City of West Monroe.* Resident Engineer. Responsible for contract administration, construction engineering, and supervision of inspection and materials sampling and testing for all phases of construction, including asphalt roadway, full-depth asphalt repair, and traffic control items. Responsible for partial and final estimates, change orders, 2059, red-line final drawings, and final closeout.
02/14 – 06/18	**H.010620: Design-Build Construction Inspection and Quality Assurance, Statewide, Louisiana.** *Louisiana Department of Transportation.* Five-year retainer contract including project initiation, design-build procurement services, contract administration and management, design and construction quality acceptance (owner verification), CE&I, partnering, public information support, document control, and dispute resolution. **Task Order 1:** Design Build Procurement Support Services. Project Manager A member of the procurement team responsible the re-development of Section 112 to align with the new DOTD Construction Quality Assurance Plan (CQAP), creation of Section 115 for design-build closeout process, and providing QC for additional contract sections. Task Order 2: Design Build CQAP and SharePoint Database Development. Project Manager. Responsible for assisting web developers in the development of the SharePoint Database system to track sampling and testing on the project. Primary activity is to provide developers with worksheets, security levels, DOTD material codes, and provide beta testing as program was developed to increase efficiency. **Task Order 3:** Design-Build Project, US90 (I-49 South) Albertson's Parkway to Ambassador Caffery in Lafayette Parish. Construction Quality Manager/Resident Engineer. Responsible for contract administration/project management, construction engineering, and managing quality inspection and materials sampling and testing for all phases of construction, including new structure construction, existing structure replacement/widening, full-depth asphalt roadway, embankment and base course. Responsible for statistically validating quality assurance test data and tracking of Michael Baker inspection and testing within the DOTD's SharePoint Database for design-build projects, reviewing and responding to RFI's and NCR's, reviewing plans and shop drawings, verifying test data for material acceptance, and project coordination meetings. Served as liaison between the design-builder, design reviewers, and DOTD Project Manager.
01/12 – 06/14	**H.003046: Interstate-10 Widening Design-Build Project, East Baton Rouge Parish, Louisiana.** *Louisiana Department of Transportation.* Assistant Construction QA Manager. Responsible for contract administration, construction engineering, review of shop drawings and as-built plans, and supervision of QA inspection and materials sampling and testing for all phases of construction, including structural concrete, PCC paving, embankment and base course. Project consist of the widening the mainline of I-10 from four lanes to six lanes, occurring to the inside (median side) of the existing pavement and includes interior widening of the I-10 Bridge of Wards Creek Diversion Canal, and replacement of the I-10 Bridge over the Kansas City Southern Railroad and LaCrete Lane.

01/10 – 09/11	**I-4/Crosstown Expressway Interchange, Tampa, FL.** Project Engineer. An elaborate interchange between the two parallel highways at a point where they are less than a mile apart. Project includes 35 bridges, 12 of which are segmental construction. Material and casting specialist in responsible charge of the construction of 2765 precast segmental bridge components; directly supervised a staff of one project administrator, two senior inspectors, and five inspectors to perform quality verification inspection and testing on eight casting beds; directly responsible for final estimates for weekly production, logging all samples into FL material documentation system, verifying all material have certifications and samples taken at required frequency, reviewing all segmental shop drawings including newly designed post-tensioning connectors, and ensuring the team conforms to all contract documents.
06/08 – 12/09	**Design-Build John James Audubon Bridge, St. Francisville to New Roads, LA in West Feliciana and Pointe Coupee Parishes.** *Louisiana Department of Transportation.* Assistant Quality Control Manager. The longest cable stayed bridge in North America plus 12 miles of 2-lane roadway approaches and five AASHTO Girder bridges. Responsible charge for the management 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). In addition, 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.
01/05 – 06/07	**Marquette Interchange, Milwaukee, Wisconsin.** *Wisconsin Department of Transporation.* Project Bridge Engineer. Responsible charge of an inspection staff of two, and assisted in the inspection of reconstruction of nine bridges from substructure to deck completion and the tunnel extension; reviewed all necessary changes to project and ensured construction methods for all aspects would achieve plan and specification intent; reviewed reports completed by support personnel, conferred with WisDOT on-site designers regarding any issues that were not covered by plan; responsible for all final estimates for weekly production, and created red-lined as-built plans for WisDOT records. Interchange reconstruction in downtown Milwaukee consisting of seven AASHTO girder bridges, two steel plate girder bridges, tunnel extension, secant pile retaining walls, sheet pile retaining walls, MSE walls, and complete interstate roadway replacement. Project is Urban Interstate.
03/03 - 12/05	**Victory Bridge, Perth Amboy, New Jersey.** *New Jersey Department of Transportation.* Casting Yard Engineer. Responsible charge of an inspection staff of three; monitored the precast geometry for horizontal and vertical match casting techniques; reviewed contractor proposals and provided technical assistance to NJDOT; was the single point of coordination between off-site pre-caster, off-site design office and project site; responsible for construction of segments from set up of casting cells to loading completed segments on a barge for intra-coastal delivery. Project consisted of a precast segmental bridge consisting of span-by-span, balanced cantilever, and variable depth segments. Pre-casting occurred in Cape Charles, VA.

Firm employed by	Michael Baker International, Inc.				
Name	**Mitchell Carr, PE**		*Years of relevant experience with this employer*	9	
Title	Bridge Engineering Manager		*Years of relevant experience with other employer(s)*	32	
Degree(s) / Years / Specialization			B.S. / 1979 / Civil Engineering, Mississippi State University		
Active registration number / state / expiration date			PE.0036619 / LA / 03/31/2022		
Year registered	2011	*Discipline*	Civil		
Active registration number / state / expiration date			8926 / MS / 12/31/2021		
Year registered	1983	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**Bridge Engineer.** Mr. Carr will be responsible for for the QA/QC of the bridge plans.		

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 time specified in the applicable MPR(s).*
09/05 – 04/08	**The Replacement of the U.S. 90 Bridges over Biloxi Bay, Biloxi Bay, Mississippi.** *Mississippi Department of Transportation.* Bridge Engineer. On August 29, 2005, Hurricane Katrina made landfall and devastated the Mississippi Gulf Coast. The 1.6 mile long U.S. 90 bridge over Biloxi Bay was destroyed. The bridge was replaced with high level post-tensioned precast prestressed concrete girder bridges under design build in a very short timeframes of 20.5 months for a costs $343 million. This was the first design-build project undertaken by MDOT. The project overcame tremendous challenges due to the complete destruction of the existing infrastructure on the Gulf Coast but were completely successful in creating large and beautiful bridges. Mr. Carr actively participated in the procurement process with a large effort of developing the RFP and technical documents in an expedited time frame. Later he participated in the design review and approval of Released for Construction plans and specifications, managed MDOT's structural input and oversight of the overall projects construction for owner aspects related to design, inspection, quality control, material acceptance, prestressed concrete and structural steel girder fabrication and repairs. ***AWARDS: AASHTO America's Transportation Award – Innovative Management for projects over $200 million. FHWA Award of Excellence 2008 – Project Management category. American Council of Engineering Companies (ACEC) – 2009 National Finalist Award. Construction Management Association of America - 2008 Construction Management Project Achievement Award. Design-Build Institute of America (DBIA) – 2008 Transportation Owner of the Year Award.***
09/05 – 04/08	**The Replacement of the U.S. 90 Bridges over St. Louis Bay, St. Louis Bay, Mississippi.** *Mississippi Department of Transportation.* Bridge Engineer. On August 29, 2005, Hurricane Katrina made landfall and devastated the Mississippi Gulf Coast. The 2.1 mile long U.S. 90 bridge over St. Louis Bay was destroyed. This bridge was also replaced with high level post-tensioned precast prestressed concrete girder bridge under design-build project in very short timeframes of 18 months for costs of $283. This project was simultaneous with the first design-build project undertaken by MDOT. The projects overcame the same tremendous challenges due to the complete destruction of the existing infrastructure on the Gulf Coast and was completely successful in creating another large and beautiful bridge. Mr. Carr actively participated in the procurement process with a large effort of developing the RFP and technical documents in a much expedited time frame. Later he participated in the design review and approval of Released for Construction plans and specifications, managed MDOT's structural input and oversight of the overall projects construction for owner aspects related to design, inspection, quality control, material acceptance, prestressed concrete and structural steel girder fabrication and repairs. ***AWARDS: GSPCA – Special 2007 Project Award of Excellence. AASHTO People's Choice Award. AASHTO America's Transportation Award – On-Time category for projects over $200 million. American Council of Engineering Companies (ACEC) of Mississippi – 2009 Grand Conceptor Award. American Council of Engineering Companies (ACEC) – 2009 National Honor Award. Construction Management Association of America - 2008 Construction Management Project Achievement Award. Design Build Institute of America (DBIA) – 2008 Transportation Owner of the Year Award.***

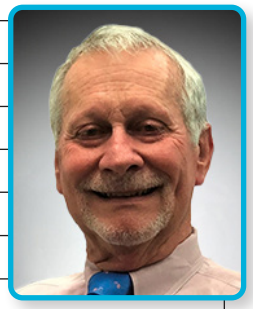
01/01 – 07/10	**The Replacement of the U.S. 82 Bridge over the Mississippi River near Greenville, Mississippi.** *Mississippi Department of Transportation.* Bridge Engineer. MDOT constructed a new cable stayed bridge to replace the old U.S. 82 truss bridge over the MS River near Greenville, Mississippi. The old bridge was built in 1940 with a 640'-840'-640' through-truss main span and had very narrow 24 ft. roadway with no shoulders. The old bridge was also struck by barges more often than any other bridge on the MS River. The new bridge is 13,753 ft long with 590'-1,378'-590' cable stayed main spans, a steel superstructure with precast deck panels and 600' tall piers on dredged caisson footings. The approach spans for the new bridge were comprised of prestressed concrete girders with a cast-in-place deck on drilled shaft footings. Construction of the new bridge took nearly 10 years. The new landmark bridge opened to traffic in July 2010 for a total cost of $270 million and is one of the most magnificent structures on the MS River. A separate project was also let for the demolition of the old bridge. Mr. Carr was involved in many aspects of this bridge including oversight of the consulting engineering firm's design, review of plans and specifications, coordination with regulatory agencies, US Coast Guard, U.S. Army Corps of Engineers, Levee boards, and managing MDOT's structural input and oversight of the overall project's construction related to design, inspection, quality control, material acceptance, prestressed concrete and structural steel girder fabrication and repairs. ***AWARD: American Council of Engineering Companies (ACEC) of Mississippi – 2011 Grand Conceptor Award.***
02/03 – 05/11	**Mississippi Department of Transportation State Bridge Engineer.** Eight years plus. In this position, Mr. Carr's responsibilities included oversight of structural and hydraulic design and plan preparation for bridges and other highway appurtenances, management of MDOT's bridge safety inspection program and bridge management system, coordination with law enforcement representatives in the evaluation of oversize- and overweight-vehicle permits, and provision of technical assistance to MDOT divisions and districts for construction, inspection, repair, and maintenance of structures. Mr. Carr's experience also includes the procurement process including development of special provisions for construction bid contracts, design specifications, technical documents for design-build RFPs, and scopes of work for various engineering services including multiple Design Build projects such as I-59 widening over Pearl River and the I-55 widening.
07/15 – 06/17	**I-20 Valley Street Bridge Repair. Hinds County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsible for checking contractor RFI's and other submittals including: shop drawings for prestressed beams, shop drawings for structural steel and form grades. Prepared contract plan revisions for as-built conditions.
07/12 – 05/17	**U.S. Highway 49 Improvements Between Florence and the Scales Area. Rankin County, Mississippi.** *Mississippi Department of Transportation.* Bridge Engineer. Provided technical management, constructability assessment, and quality assurance and quality control review of bridge plans and design processes.
05/12 – 12/14	**S.R. 471 from U.S. 80 to Grants Ferry Road. Rankin County, Mississippi.** *Mississippi Department of Transportation.* Bridge Engineer. Michael Baker provided engineering services for the relocation and widening of S.R. 471 from U.S, 80 in Brandon to Grant's Ferry Road. The relocation portion is about 1.5 miles long and the widening portion is about 1.5 miles long and goes from two lanes to five lanes. Michael Baker's services included the development of roadway and bridge construction plans for the roadway improvements.
01/19 – 10/19	**S.R. 63 over Escatawpa River Bridge Repair. Jackson County, Mississippi.** *Mississippi Department of Transportation.* Project Manager. Responsible for overall project oversight; establishing and administering QA/QC controls that ensured quality project deliverables; coordinating with the client related to project requirements; working with project team members to plan and develop bridge repair details, notes and specifications; and performing QA/QC and constructability review of repair plans.

Firm employed by	Michael Baker International, Inc.				
Name	**Cory Wilder, PE**		*Years of relevant experience with this employer*	26	
Title	Office Executive		*Years of relevant experience with other employer(s)*	4	
Degree(s) / Years / Specialization			M.S., 1999, Arctic Engineering, University of Alaska, Anchorage B.S., 1990, Civil Engineering, University of Alaska, Fairbanks		
Active registration number / state / expiration date			PE.0044376 / LA / 09/30/2022		
Year registered	2020	*Discipline*	Civil		
Active registration number / state / expiration date			AELC9509 / AK / 12/31/2021		
Year registered	1997	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities			**QA/QC Reviewer.** Mr. Wilder will be responsible for QA/QC of the roadway and bridge construction plans.		

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 time specified in the applicable MPR(s).*
05/11 - 04/18	**Parker Road Overpass Widening Design and Construction Phase Services, Houston, Texas.** *City of Houston.* Principal-in-Charge. The overpass is a seven-span, two-lane structure with 12-foot lanes and 6-foot shoulders. The bridge, which was constructed in 1985, is approximately 930 feet long and has 36 feet of clear roadway. The city plans to widen Parker Road to four lanes from the west approach to Airline Drive and from the east approach to U.S. 59, with sidewalks on both sides. The bridge will be widened by removing portions the 49-foot deck and replacing with a new 73-foot deck using two new Tx-54 I-girders on each side. In addition to the toll road, the bridge crosses the Union Pacific Railroad, a major Centerpoint power transmission line, and two local north-south streets that function effectively as frontage roads. The goal of the project is to enhance the capacity of the overpass to provide for a continuous flow of four-lane traffic.
03/16 - Ongoing	**Pecue Lane/I-10 Interchange.** *City of Baton Rouge / East Baton Rouge Parish.* Principal-in-Charge. Michael Baker is sub-consultant to the Prime Consultant, Shread – Kuyrkendall & Associates for design of twin bridges over I-10 constructed in conjunction with a Diverging Diamond Interchange. Scope of work includes design of girder span bridges including substructure and super structure. Michael Baker's responsibilities include the development of preliminary and final engineering plans for the construction of the bridge structures and retaining walls needed for the new I-10 interchange with multiple through and turn lanes on Pecue Lane, an entrance ramp and exit ramp on eastbound I-10, an entrance ramp and exit ramp on westbound I-10, replacing the current two lane overpass bridge, replacing the Pecue Lane/ Wards Creek Bridge, and other work within the limits of the project. An extension to Reiger Road with a new intersection with Pecue Lane is included.
06/20 - 09/21 (est.)	**Loop 494 over Caney Creek Bridge Replacement, New Caney, Texas.** *Texas Department of Transportation.* Principal-In-Charge. Responsible for project scope development and bridge alternative evaluation. Michael Baker provided design and engineering services for this high-priority project for the Texas Department of Transportation (TxDOT). For the project, it developed an alternative alignment and bridge layout for a proposed bridge to replace the 1,066-foot-long 29-foot-wide structurally and hydraulically deficient bridge crossing carrying Loop 494 over Caney Creek. For the project, Michael Baker provided roadway approach and bridge design alternatives as well as hydraulic and hydrology models.
9/97 – 12/05	**S.R. 260 Kohl's Ranch & Tonto Creek Bridge, Payson, Arizona.** *Arizona Department of Transportation.* Bridge Engineer. Responsibilities included structural analysis and design of a 700 foot, 4-span, cast-in-place, post tensioned box girder bridge. Also responsible for building a detailed finite element model of the superstructure and piers using GT/STRUDL, which included post-tensioning and was loaded according to AASHTO and ADOT criteria. Michael Baker prepared the final design and construction documents for a 3.5-mile section of S.R. 260. This section of roadway is part of an ultimate 21.5-mile improvement project located in northern Arizona. The project was in an environmentally sensitive setting, in rough terrain, on Tonto National Forest land.

12/03 – 10/04	**Cuevas (El Indio) Creek Bridge, Del Rio Sector, Lake Amistad and El Indio, Texas.** *U.S. Army Corps of Engineers, Fort Worth District.* Bridge Engineer. Responsibilities included bridge engineering, civil engineering, preparing a Storm Water Pollution Prevention Plan, cost estimating, quality control, construction engineering, and construction support. Michael Baker was responsible for the design and construction of foundations and sub-structure of the 240 linear foot Bailey Bridge at Cuevas Creek. Design responsibilities included design of spread footers with cast-in-place reinforced concrete piers, as well as cast-in-place bridge abutments to include concrete approach slabs and wing walls. Work performed included hydrology, hydraulic studies of Cuevas Creek, structural design, earthwork calculations, and falsework design.
11/21 – Ongoing	**US 371: KCS RR Overpass HBI, Webster Parish, Louisiana.** *Louisiana Department of Transportation and Development.* Principal. Responsibilities include the management of contracts and Quality Assurance/Quality Control. The project includes replacement of 3 bridges at two locations along US 371. First location is the replacement of a single bridge in the town of Sibley and the second location is replacement of two parallel bridges just north of the interchange with I-20.

Firm employed by	Arcadis				
Name	**Lloyd "Buddy" Porta, Jr., PE**		*Years of relevant experience with this employer*	10	
Title	Senior Bridge Engineer		*Years of relevant experience with other employer(s)*	37	
Degree(s) / Years / Specialization		B.S., 1973, Civil Engineering, Louisiana State University			
Active registration number / state / expiration date		PE.016425 / LA / 09/21/2023			
Year registered	1977	*Discipline*	Civil		
Contract role(s) / brief description of responsibilities		**QA/QC Reviewer.** Mr. Porta will serve as QA/QC reviewer.			



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 time specified in the applicable MPR(s).*
06/84 – 10/10	**Off-System Bridge Program, Statewide, LA.** *DOTD.* Program Manager. DOTD's First Program Manager for OSBRP. Replaced / rehabilitated existing bridges located on nonfederal routes in the cities and/or parishes in Louisiana. Provided the project and program management. Responsible for the selection of the qualifying sites, the distribution of the federal funds to the participating parishes, the selection of the design consultant, the coordination with the parishes and the consultants, the development of the scope of services and fee for each project, the technical review of the topographic surveys and construction plans and providing comments to the consultants and parishes, and the approval of all invoices.
10/16 – 02/18	**Off-System Highway Bridge Replacement Program, North Bayou Black Drive Bridge, Terrebonne Parish, LA.** *DOTD.* QA / QC Reviewer. Reviewed plans for the replacement of an off-system highway bridge. Detailed design effort included field surveying, right of way adjustments, crash barrier selection, hydraulic analysis, preliminary and final plan preparation and quantity estimation.
04/12 – 01/14	**US 11 Railroad Bridge Replacement and Corridor Improvements EA, Slidell, LA.** *DOTD.* QA / QC Reviewer. Responsible for DOTD guideline compliance for the replacement and widening of the US 11 roadway overpass of the Norfolk Southern Railroad. The project included evaluating partial and full-access intersection options and bridge alignment and type alternatives for the heavily skewed and long steel span bridge in this urban area of Slidell, Louisiana. Key issues included the bridge's imminent historic status, commercial parking impacts and adapting to the Norfolk Southern right-of-way and travel pattern changes following the construction.
09/12 – Ongoing	**US 165 Connector and Ouachita River Bridge - Environmental Impact Statement, Line and Grade and Toll Study, Monroe, LA.** *DOTD.* QA / QC Reviewer. Responsible for DOTD guideline compliance. Three alternatives were developed and evaluated along with various tolling scenarios. All alternatives traverse substantial tracts of wooded wetlands associated with Chauvin Swamp near the Russell Sage Wildlife Management Area.
07/15 – 05/19	**US 190B at Jefferson Ave. Roundabouts, Covington, LA.** *DOTD.* QA / QC Reviewer. Supported the construction of a new roundabout in Covington as a quality assurance/quality control reviewer. Plans reviewed included the construction of sidewalk for use by pedestrians.
01/14 – Ongoing	**Pete's Highway EA and Alternatives, Livingston Parish, LA.** *DOTD.* QA / QC Reviewer. Responsible for DOTD guideline compliance for the high-priority project completing an EA and traffic engineering services related to improving congestion and operations along Range Avenue in the vicinity of I-12. Alternatives include two split diamond interchange options with roundabout, partial clover leafs, and c-d road components at both Range Avenue and the next existing, eastern overpass at Pete's Highway (LA 16) and a diverging diamond interchange alternative at Range Avenue.
04/12 – 01/14	**LA 434 Corridor Stage 1 Environmental Assessment, Lacombe, LA.** *New Orleans Regional Planning Commission.* QA / QC Reviewer. Responsible for DOTD guideline compliance. EA for the widening and improvements of LA 434 between LA 36 and the anticipated new junction with LA 3241 near LaCombe, Louisiana in St. Tammany Parish. The project involved stream permit application coordination.
10/90 – 10/10	**Urban System Program, Statewide, LA.** *DOTD.* Program Manager. Responsible for the selection of the consultants, coordinating with the Metropolitan Planning Officials (MPOs) and the cities/parishes officials, coordinating with the DOTD Planning Section, developing the scope of services and fee for the projects, reviewing the construction plans and providing comments to the consultants and cities / parishes, and approving all invoices. Mr. Porta was responsible for developing the Urban Systems Program Seminar, which provided information on the processes and procedures used in the program. He served as project manager for signal projects in St. Bernard, Orleans, St. Tammany, and Ouachita Parishes

09/01 – 05/06	**Transportation Infrastructure Model for Economic Development (TIMED) Program, Statewide, LA.** *DOTD.* DOTD TIMED Program Manager. Worked and coordinated on a daily basis with the TIMED Program Manager (LTM) to develop training, procedures, policies, and guidelines for the program. This $5 billion program was developed to multilane over 500 miles of state highways as well as construct three new bridges; two of these bridges across the Mississippi River. The program manager was required to monitor the progress of the program and had full invoice approval of the consultant's monthly invoice. This position was a member of the TIMED Program Executive Committee and reported directly to the Secretary of the DOTD. This program was mandated in the Louisiana Constitution. There were 16 projects that were recognized throughout the state. Bonds were sold to finance and, therefore, accelerate the program.
05/06 – 07/10	**Road Design Engineer Administrator, Statewide, LA.** *DOTD.* Responsible for transitioning the focus of his section from project management back to roadway design as desired by the Chief Engineer. To support this mandate, brought in training from the FHWA Resource Center in Atlanta, GA to assist the development of a young group of designers. Coordinated the training provided through the Louisiana Transportation Training Education Center. Developed a Legal Seminar with the assistance of the Attorney General's Office to address the lack of experience in Road Design and other DOTD sections in depositions and representing the Department in court. This seminar was presented in several cities in Louisiana to DOTD employees. Responsible for the development of design criteria for Offset Left Turn Lanes and design guidelines for the replacement of bridges on state routes.

SECTION

17

Michael Baker Bridge Replacement over SCL Railroad & CSX Railroad

17. Firm Experience:

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Road
Project Name	**US 371: KCS RR Overpasses HBI**	*Firm responsibility (prime or sub?)*	Prime
Project Number	H.012030	*Owner's Name*	Louisiana Department of Transportation and Development
Project Location	Sibley & Minden, Louisiana; Webster Parish, Louisiana	*Owner's Project Manager*	Hai Vu
Owner's address, phone, email	1201 Capitol Access Road Baton Rouge, Louisiana 70802, 225-379-1033, HAI.VU@LA.GOV		
Services commenced by this firm (mm/yy)	11/21	*Total consultant contract cost ($1,000's)*	$694
Services completed by this firm (mm/yy)	Ongoing	*Cost of consultant services provided by this firm ($1,000's)*	$630

Michael Baker was selected by DOTD to provide bridge, structural, and transportation services for the replacement of three bridges along US 371 at two locations in Sibley, LA and Minden, LA. All bridges span KCS Railroad at two locations along their rail line. The existing bridge at Sibley, LA was built in 1934 and is currently a three span, steel girder bridge for a total length of 120' resting on concrete substructure. Bridge has sidewalks on both sides of the bridge and ties to existing sidewalks along the route. US 371 is a minor urban arterial with roughly 9% truck traffic along the route. Michael Baker design team is tasked with determining the most efficient and cost-effective bridge to replace the existing structure. A bridge structure report is required to determine if the new bridge will either be concrete or steel girder type. The new structure and road improvements will meet the latest DOTD design guidelines. One of the challenges at this location is the grade difference between the bridge and existing properties with the railroad underneath. Coordination with KCS railroad will help determine the final location of the bridge foundations in relationship with the rail line.

The two bridges at Minden, LA serve as part of the I-20 interchange at US 371. The bridges were built at different times around 1930 and both bridges are three span, steel girder bridges. One bridge is normal skew to the roadway while the other bridge was built on a skew aligning with the rail line. Like the Sibley site, US 371 is considered a minor urban arterial with roughly 9% truck traffic. Similar to the Sibley bridge, the design team will prepare a bridge structure report determining the most efficient and cost-effective bridges while minimizing impact to the local traffic. Being located at an interchange, additional challenges for these bridge replacements is the maintenance of traffic, phase construction, and shifting of traffic. At this location, one bridge will be removed and replaced while reducing travel to one-lane on the other bridge to keep roadway open to existing traffic. Design team is tasked with determining if the new bridge will be concrete or steel girder type while maintaining minimal adjustment to the existing roadway grade to reduce the amount of roadway necessary to tie to existing roadway.

Team Members Involved with Project: Daniel Thornhill, PE; Cory Wilder, PE; Brandon Pitre, PE, RSP1

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Road
Project Name	**I-80 Blackrock Design Services**	*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	Utah Department of Transportation
Project Location	Salt Lake County, UT	*Owner's Project Manager*	John Montoya
Owner's address, phone, email	4501 South 2700 West, Salt Lake City, UT, 801-965-4000, johnmontoya@utah.gov		
Services commenced by this firm (mm/yy)	06/17	*Total consultant contract cost ($1,000's)*	$ 3,072
Services completed by this firm (mm/yy)	12/21	*Cost of consultant services provided by this firm ($1,000's)*	$ 3,072

Michael Baker provided roadway, structures, maintenance of traffic, and utility design for a bridge and roadway replacement at two locations: I-80 over the **Union Pacific Railroad (UPRR)** at Blackrock and S.R. 172 over I-80. I-80 Blackrock is the first project to include all disciplines in the Model Based Design Construction (MBDC) delivery initiative and has successfully shown that all disciplines can work together in the same 3D environment while still submitting model-centric documents for review and construction. Using the Construction Manager/General Contractor process, all team members collaborated to build the future UDOT design process and improve the quality and precision in which design documents are submitted for construction. For the MBDC project deliverable, a full advertising package in accordance with the UDOT design process was required.

Utility and third-party coordination required coordination with RMP, Centracom, Utah State Division of Parks and Recreation, Kennecott Utah Copper/Rio Tinto, and UPRR. Although no utility relocation work was done on this project, extensive coordination was required to protect in-place a 48-inch Kennecott Utah Copper/Rio Tinto water line (in a 72-inch casing) that crossed I-80 within the project limits. This water line is a critical facility for Kennecott Utah Copper/Rio Tinto that supplies water to Rio Tinto smelter operations. Impacts to this water line would require the smelter to shut down and undergo a significant loss of revenue.

Additional third-party coordination included obtaining approval from UPRR for the design and construction of two new I-80 bridges across the UPRR rail line. Numerous meetings were held to keep UPRR personnel apprised of project process and design constraints.

Michael Baker prepared MBDC utility files and worked with UDOT to establish a MBDC utility process and work flow during the project.

The replacement spans for this project consisted of two single-span, bent type abutment steel plate girder bridges that were approximately 256 and 235 feet in length. Replacement required complex detailing and a 60-degree skew due to site conditions, existing bridge foundations, and railroad geometry requirements. Structural design included the two bridges, retaining walls, load rating, and extensive coordination with various stakeholders.

New storm-drain and erosion control measures were designed with regular drainage and utility coordination meetings to mitigate schedule impacts.

Team Members Involved with Project: n/a

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Road
Project Name	**SC 555 Bridge Replacement**	*Firm responsibility (prime or sub?)*	Sub
Project Number	n/a	*Owner's Name*	South Carolina Department of Transportation
Project Location	Richland County, SC	*Owner's Project Manager*	Tevia Brown
Owner's address, phone, email	955 Park Street Columbia, SC 29201, 803-737-3148, BrownTD@scdot.org		
Services commenced by this firm (mm/yy)	07/17	*Total consultant contract cost ($1,000's)*	$ 788
Services completed by this firm (mm/yy)	07/21	*Cost of consultant services provided by this firm ($1,000's)*	$ 788

Michael Baker was a sub-consultant to provide roadway structure design, hydrology and hydraulic design, utility coordination, railroad coordination, right-of-way services, pipe inspection, and construction phase services for the SC 555 bridge replacement in Richland County.

The proposed SC 555 Bridge will be stage constructed or constructed on a modified alignment while maintaining existing traffic. The new bridge will accommodate four twelve-foot travel lanes and appropriate medians and shoulders. The proposed bridge is expected to be 250 feet in length and the embankment is expected to extend 1000 feet west and 1500 feet east along Farro Road from the centerline of the proposed bridge.

Special emphasis was required for railroad coordination. Railroad coordination was required because the SC 555 structure over the SCL Railroad has an adjacent Norfolk Southern Corporation (NS) through-plate girder structure going over the SCL Railroad, which is now owned and operated by CSX Transportation (CSXT). The CSXT corridor under both structures was narrow and on a large skew with the crossings. Due to the proximity of the NS structure to the existing SC 555 structure and the anticipated construction limits for the replacement highway structure, coordination with both railroads was required. The Michael Baker team has been able to secure right of entry permits for each railroad and will continue to coordinate with each railroad company throughout the lifespan of the project.

Key hydraulic design and roadway structures issues involve large existing embankments that have led to severe erosion problems near the railroad cut.

In addition, utility coordination for this project required relocation of a 4-inch gas main that will be rerouted from the bridge structure to either avoid the railroad crossing or bored underneath. The upfront coordination with utilities is expected to reduce overall project cost.

Team Members Involved with Project: n/a

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Road
Project Name	**Bridge Rehabilitation Over I-90 CSX Railroad and Lake Avenue**	*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	Ohio Department of Transportation
Project Location	Elyria & Elyria Township, OH	*Owner's Project Manager*	Andrew C. Heininger
Owner's address, phone, email	906 North Clark Street Ashland, OH 44805, 419-207-7058, Andrew.Heininger@dot.ohio.gov		
Services commenced by this firm (mm/yy)	07/03	*Total consultant contract cost ($1,000's)*	$ 719
Services completed by this firm (mm/yy)	08/04	*Cost of consultant services provided by this firm ($1,000's)*	$ 719

This project consisted of field investigations, preliminary design studies, and final plan preparation for the phased removal and rehabilitation/replacement of two structurally deficient mainline interstate structures on IR-90, in Lorain County, Ohio for ODOT District 3. Project development required the preparation of various design studies, including vertical clearance, under-bridge lighting and structure rehabilitation/replacement alternatives to establish the final Scope of Services for project.

Each structure (LOR-90-1244L/R IR-90 over Lake Avenue and LOR-90-1256L/R over CSX Railroad) was subjected to a cursory field inspection and complete load rating to determine its suitability for rehabilitation. Results of the field investigation and existing structure rating were presented in a Preliminary Design Report. This report listed Feasible and Recommended Rehabilitation Alternatives and presented Conceptual Cost Estimates for each Rehabilitation Alternative.

A Vertical Clearance Study was performed to evaluate the project impacts resulting from increasing the vertical clearance under each bridge. The study evaluated the overall increase in construction scope and costs to improve the existing vertical clearance to the minimum allowable or preferred values. Preliminary profile alternatives were developed for each clearance option. Conceptual Cost Estimates were developed for each profile alternative. This report was used in conjunction with the Preliminary Design Reports to select the Final Design Alternative.

A Lighting Study was performed to evaluate the need for the addition of supplemental under-bridge lighting at the Lake Avenue Bridge. Pedestrian use and volume was evaluated and pertinent lighting requirements were assessed to determine if the addition of a lighting system was warranted. The effects of structure widening were considered in this evaluation. The study determined that a lighting system was not warranted. Consequently, Part 3 of the contract was not authorized.

It was determined that the existing LOR-90-1244L/R (IR-90 over Lake Avenue) bridge could be rehabilitated and widened to the proposed transverse section. The existing structure consists of a non-composite concrete deck supported by a three-span continuous rolled beam superstructure (48-foot / 69-foot / 48-foot span lengths). Reinforced concrete stub abutments founded on piles and reinforced concrete cap and column piers founded on piles support the superstructure. The existing deck slab was replaced with a full width, fully composite HPC deck slab. The existing superstructure was widened through the addition of three new steel wide-flange stringers on the median side. The existing abutments were removed and replaced with full width integral abutments. The existing piers were widened through the addition of a median column with a cap extension to support the additional stringers. The existing pier cap was strengthened through the addition of a composite fiber wrap. The rehabilitated structure has sufficient capacity to carry an HS25 design vehicle.

It was determined that the existing LOR-90-1256L/R (IR-90 over CSX Railroad) bridge required complete removal and replacement. The existing structure consists of a non-composite concrete deck supported by a three-span continuous rolled beam superstructure (44-foot / 55-foot / 44-foot span lengths). Reinforced concrete stub abutments founded on spread footings and reinforced concrete hammerhead piers founded on spread footings support the superstructure. The existing deck slab was replaced with a full width, fully composite HPC deck slab. A new steel beam superstructure was designed. The existing abutments were removed and replaced with full width integral abutments. The existing piers were removed and replaced with cap and column piers. The replacement piers were located to minimize interference with the existing piers during construction. Individual drilled shafts anchored in the underlying bedrock support each pier column. Monolithic crash walls were designed for each pier. The replacement structure has sufficient capacity to carry an HS25 design vehicle.

Phased Maintenance of Traffic plans were developed to allow removal and rehabilitation or replacement of the existing structures while maintaining two lanes of traffic in each direction. New embankment construction was necessary to allow temporary pavement construction and permanent shoulder widening consistent with the MOT scheme. Overhead and ground-mounted signage was modified or replaced as necessary.

Ancillary improvements were made to the approach roadway as necessary to enact the improvements within the constraints of the proposed MOT plan. Full width, permanent pavement, and shoulder replacement was proposed between the two structures. Pavement and shoulder improvements outside the bridge limits were limited to transition tapers required to satisfy MOT requirements. New guardrail and pavement markings were installed.

Team Members Involved with Project: n/a

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**S.R. 7 Bridge Replacement**	*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	South Carolina Department of Transportation
Project Location	Charleston, SC	*Owner's Project Manager*	Jae Mattox
Owner's address, phone, email	955 Park Street, Columbia, SC, 803-737-1805, Mattoxjh@scdot.org		
Services commenced by this firm (mm/yy)	05/01	*Total consultant contract cost ($1,000's)*	$ 329
Services completed by this firm (mm/yy)	12/16	*Cost of consultant services provided by this firm ($1,000's)*	$ 329

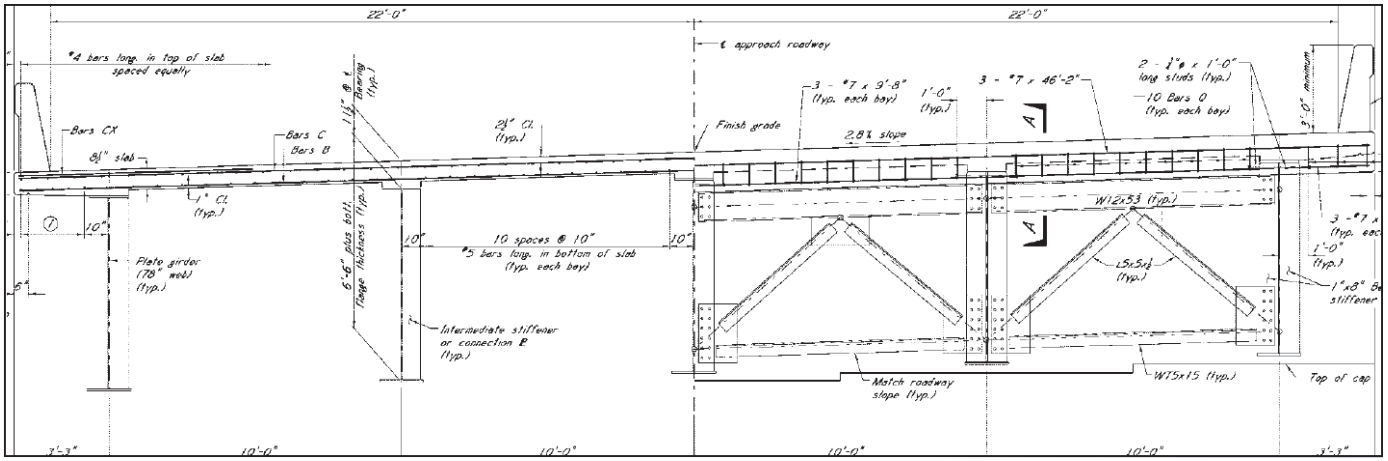
Michael Baker provided structural design, seismic design, and structural construction support for the preliminary and final bridge plans for the stage-construction replacement of an 860-foot steel plate girder bridge along S.C. 7, Cosgrove Avenue.

The bridge consists of structural steel plate girders with span lengths ranging from 124 feet to 170 feet over the existing rail yard. The bridge is supported by cast-in-place multi-column bents founded on oversized drilled shafts. The bridge was designed to span Van Smith Avenue, three existing railroad tracks and S-39 Meeting Street. It was constructed using a staged construction approach in order to provide continued use for traffic during construction.

Located in the high seismicity zone of Charleston, the bridge was designed in accordance with the displacement based 2008 SCDOT Seismic Design Specifications and required both a pushover and multi-mode spectral analysis. Several seismic challenges were addressed during this design, including staged construction, highly liquefiable soils, approach roadway MSE walls, and extensive ground modifications. Michael Baker prepared preliminary and final bridge plans. Plans included title sheet, bridge plan and profile, proposed boring locations, roadway and bridge typical sections, types of superstructure and substructure, and pertinent road plan and profile sheets. Final plans considered constructibility of the bridge superstructure and substructures, maintenance of traffic, access for construction equipment, placement of reinforcing steel, clearances required for the use of equipment, and foundation considerations.

Team Members Involved with Project: Kenneth Collins, PE

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**S.R. 9 Bridge Replacements**	*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	Mississippi Department of Transportation
Project Location	Calhoun County, MS	*Owner's Project Manager*	Justin Walker
Owner's address, phone, email	401 North West Street Jackson, MS 39201, 601-359-7200, jmwalker@mdot.ms.gov		
Services commenced by this firm (mm/yy)	09/19	*Total consultant contract cost ($1,000's)*	$ 527
Services completed by this firm (mm/yy)	03/21	*Cost of consultant services provided by this firm ($1,000's)*	$ 527



Michael Baker provided engineering and design services for final bridge construction plans for four bridge replacements: Bridge No. 35.5 over Shutispear Creek, Bridge No. 40.7 over Yalobusha River Relief, Bridge No. 40.9 over Yalobusha River, and Bridge No. 41.2 over Yalobusha River Relief on S.R. 9.

Bridge No. 35.5 is a skewed span bridge on the existing S.R. 9 alignment. Bridges No. 40.7, No. 40.9, and No. 41.2 are on a new relocated S.R. 9 alignment northwest of the existing alignment. Each bridge utilized high-performance wide-flange prestressed concrete beams in the form of Florida-I girders, with the longest span being a 140-foot Florida-I 63-inch girder span. The intermediate bents of each bridge were designed as pile bent caps supported on single steel pipe piles and the end bents caps were supported by double steel H-piles. Bridge No. 35.5 was also one of the first skewed Florida-I girder bridges designed for the client. In addition to Florida-I girders, Bridge No. 40.9 over the Yalobusha River also included a 490-foot curved continuous welded steel plate girder span supported on three five-foot-diameter drilled shaft bents.

Team Members Involved with Project: Kenneth Collins, PE; Jeffrey McRae, PE

Firm Name	Michael Baker International, Inc.			*Past Performance Evaluation Discipline(s)**	Bridge, Road
Project Name	**De Roche Creek Bridge Replacement – Lateral Bridge Slide**			*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	Arkansas Department of Transportation		
Project Location	Clark and Hot Spring Counties, near Arkadelphia, AR	*Owner's Project Manager*	Mike Fugett, PE		
Owner's address, phone, email	10324 Interstate 30, Little Rock, Arkansas 72209 | 501-569-2301 | Mike.Fugett@ardot.gov				
Services commenced by this firm (mm/yy)	12/17			*Total consultant contract cost ($1,000's)*	$11,000
Services completed by this firm (mm/yy)	01/20			*Cost of consultant services provided by this firm ($1,000's)*	$785

Michael Baker is providing roadway and bridge design services for the replacement of two parallel main lane bridges on Interstate 30 over De Roche Creek in Clark and Hot Spring Counties, near Arkadelphia, AR. The bridge design and plans include the accelerated bridge construction (ABC) technique commonly known as a "lateral slide" for both bridges to facilitate maintenance of traffic and reduce periods of lane closures. This is the very first lateral slide bridge replacement project in the State of Arkansas. By using this ABC method, the expected short-term closure window is only three days per bridge, significantly reducing the traffic interruption.

Michael Baker is performing the bridge replacement design and providing guidance to ARDOT engineers on the implementation of the lateral slide to the state's emerging ABC program. As the initial task under this contract, Michael Baker conducted a Bridge Construction Staging Study to compare various lateral slide replacement options. After comparing the safety, traffic impact, cost and other factors, Michael Baker recommended an approach which uses two separate lateral slides to replace both bridges. In this approach, two new bridges will be constructed on temporary falsework to the north and south of the existing parallel bridges, while crews construct a permanent substructure for the proposed bridges underneath the existing bridges. Once completed, two separate bridge-slide operations will be performed to move each of the new bridges, each 170' in length, into their permanent positions. This option limits traffic disruption to two short-term periods—roughly three days each—during which traffic will be reduced to a single lane in each direction.

The project scope generally consists of roadway and bridge design calculations, geometric layout, and construction plans for replacement of the bridges and approach roadway, to include hydraulic and geotechnical studies. The bridge design and plans entail steel plate girder superstructures, as well as substructure consisting of concrete straddle bents on drilled shaft foundations, built underneath the existing bridges while under live traffic prior to the lateral slide.

Michael Baker prepared a maintenance of traffic (MOT) plan and traffic management plan (TMP), and also determined the required additional Right of Way for the entire project. The project also involves coordination with ARDOT's Public Information Division to advertise the critical construction information to the public and trucking industry, as well as on-site construction assistance the 3-day lateral slide periods.

Team Members Involved with Project: n/a

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Road
Project Name	**S.R. 471 from U.S. 80 to Grants Ferry Road**	*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	Mississippi Department of Transportation
Project Location	Rankin County, MS	*Owner's Project Manager*	Richard Pittman
Owner's address, phone, email	401 North West Street Jackson, MS 39201, 601-359-7257, rpittman@mdot.ms.gov		
Services commenced by this firm (mm/yy)	05/12	*Total consultant contract cost ($1,000's)*	$ 1,366
Services completed by this firm (mm/yy)	12/14	*Cost of consultant services provided by this firm ($1,000's)*	$ 1,366

Michael Baker provided engineering services for the relocation and widening of S.R. 471 from U.S, 80 in Brandon to Grant's Ferry Road. The relocation portion is about 1.5 miles long and the widening portion is about 1.5 miles long and goes from two lanes to five lanes. Michael Baker's services included the development of roadway and bridge construction plans for the roadway improvements.

The roadway plans included plan-profile sheets, earthwork quantities, pavement typical sections and details, traffic control, and other specified plan details and plan quantities necessary for the construction of the project.

The bridge plans included two new bridges. The first bridge is a replacement of the S.R. 471 bridge over I-20 with a new five-lane bridge to be constructed in phases. The bridge will have a superstructure of AASHTO prestressed girders on multiple diamond shaped columns and a pile footing substructure. Also included were demolition plans for the first bridge, which is a continuous concrete box girder.

The second bridge is 1,500 feet long and spans the Kansas City Southern Railroad and Value Road. The bridge has complex geometry, with two horizontal curves and a tangent section in full superelevation and transitions that include reversing the superelevation near one end of the bridge.

The superstructure of the new second bridge will be a combination of prestressed girder spans and a two-span, continuous, welded steel-plate girder unit. The substructure for the second bridge will have multiple round columns more than 50 feet tall on concrete drilled shafts. Contract plans for the second bridge include erection plans for the steel spans and plans for a construction ramp on the railroad embankment, which will partially remain in place to stabilize geotechnical slide problems in the railroad embankment.

Michael Baker performed all bridge design in accordance with AASHTO load and resistance factor design specifications.

Team Members Involved with Project: Mitchell Carr, PE; Kenneth Collins, PE; Jeffrey McRae, PE

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Environmental
Project Name	**New Orleans Rail Gateway Environmental Impact Statement**	*Firm responsibility (prime or sub?)*	Prime
Project Number	H.005168	*Owner's Name*	Louisiana Department of Transportation and Development
Project Location	Jefferson and Orleans Parishes, LA	*Owner's Project Manager*	Dean J. Goodell
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, Louisiana 70804		
Services commenced by this firm (mm/yy)	05/11	*Total consultant contract cost ($1,000's)*	$ 6,638
Services completed by this firm (mm/yy)	05/23 (est)	*Cost of consultant services provided by this firm ($1,000's)*	$ 6,638

The New Orleans Rail Gateway is the fourth-largest freight and passenger rail gateway in the United States and is served by six Class I freight railroads, with passenger services provided by Amtrak and local operators, combining for approximately two million rail cars annually. The Louisiana Department of Transportation (DOTD) needed to develop a plan to address concerns related to growth in the rail industry and intermodal rail transportation, including rail and roadway congestion, transit delays, and overall safety issues.

The challenge was to identify strategies to improve the existing and future flow of rail traffic through the New Orleans Rail Gateway while reducing vehicle congestion at crossings and improving emergency evacuation procedures, the reliability of marine traffic passing through the Industrial Canal, and overall environmental quality.

Understanding these priorities, Michael Baker prepared an environmental impact statement (EIS), according to DOTD's standard operating procedure for advancing projects through the National Environmental Policy Act (NEPA) process, to formulate a thorough project purpose and need, develop detailed alternatives, and identify and evaluate potential impacts and opportunities. Michael Baker provided project management, existing studies review, environmental resources investigations, geographic information system (GIS) mapping, rail and roadway travel demand modeling, alternatives analyses, rail and roadway conceptual design, cost estimates, stakeholder and agency coordination, and extensive public outreach.

Project Management

Michael Baker maintained records; prepared reports; and coordinated with the client, Federal Railroad Administration (FRA), the Association of American Railroads (AAR), and the regional planning commission. Michael Baker implemented administrative, cost control, and quality assurance and quality control procedures; submitted monthly progress reports and invoices; and developed and implemented a project work plan, quality management plan, schedule, and health and safety plan. Michael Baker also performed quality assurance reviews of major project deliverables to ensure compliance with all applicable design standards and federal, state, and local regulations.

Phase I—Project Scoping and Purpose and Need Statement Development

Michael Baker determined the scope of the project issues to be addressed in the EIS and identified significant issues. Michael Baker reviewed previous studies, developed mapping, and prepared a solicitation of views to inform potential stakeholders of the project and solicit early comment. Michael Baker organized and facilitated two scoping meetings with agency representatives and local officials and two public scoping meetings to present project goals, alternatives, scope and study approaches, issues identified in responses to the statement of views, and plans for stakeholder coordination. Michael Baker then prepared a purpose and need statement to establish the basis for evaluating alternatives and distributed it to stakeholders following approval by the client and the FRA.

This project involved heavy coordination between the Michael Baker team and 6 of the 7 railroad companies.

Phase II—Alternatives Studies and Public Outreach

The objectives for the second phase were to develop a GIS database of source information and conceptual alternatives satisfying the purpose and need, evaluate potential environmental impacts, and recommend a preferred alternative.

Michael Baker also performed engineering studies, including travel demand forecasts for passenger rail and intercity freight, a railroad operations and rail and roadway alternatives analysis, and an evaluation of critical infrastructure protection. Michael Baker then facilitated agency and local officials meetings and public meetings to present the results of the preliminary alternatives analysis and generate comments from stakeholders and the public. Following the comment period, Michael Baker refined and expanded the alternatives, identified the preferred alternative, and prepared an action plan.

Phase III—Environmental Documentation

Based on the data collected and stakeholder and public comments received during the alternatives analysis phase, Michael Baker prepared a draft EIS presenting the alternatives and discussing potential impacts. Michael Baker distributed the draft EIS to stakeholders and updated the materials from the alternatives outreach meetings to prepare for the required public hearings. Michael Baker then facilitated two public hearings: one in each of the affected parishes.

Results

Michael Baker's EIS provided a feasible conceptual alternative and strategy to meet DOTD's goal of improving rail traffic flow, reducing congestion at crossings, improving emergency evacuation procedures and overall safety, and improving the reliability of marine traffic while limiting adverse impacts to natural and man-made environments.

Team Members Involved with Project: Chris Gesign; TJ Holliday; Daniel Thornhill, PE; Brandon Pitre, PE, RSP1

Firm Name	Michael Baker International, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**Pecue Lane/I-10 Interchange**	*Firm responsibility (prime or sub?)*	Sub
Project Number	S.P. 700-17-0221 CP 09-CS-US-0041	*Owner's Name*	City of Baton Rouge | East Baton Rouge Parish Department of Public Works | Engineering Division
Project Location	Baton Rouge, LA	*Owner's Project Manager*	Fred Raiford
Owner's address, phone, email	222 Saint Louis St., Baton Rouge, LA 70802, 225-389-3158, fraiford@br.gov		
Services commenced by this firm (mm/yy)	03/16	*Total consultant contract cost ($1,000's)*	$1,628
Services completed by this firm (mm/yy)	Ongoing	*Cost of consultant services provided by this firm ($1,000's)*	$915

Michael Baker is sub-consultant to the Prime Consultant, Shread – Kuyrkendall & Associates for design of twin bridges over Interstate 10 constructed in conjunction with a Diverging Diamond Interchange. Scope of work includes design of girder span bridges including substructure and super structure. Michael Baker's responsibilities include the development of preliminary and final engineering plans for the construction of the bridge structures and retaining walls needed for the new I-10 interchange with multiple through and turn lanes on Pecue Lane, an entrance ramp and exit ramp on eastbound I-10, an entrance ramp and exit ramp on westbound I-10, replacing the current two lane overpass bridge, replacing the Pecue Lane/Wards Creek Bridge, and other work within the limits of the project. An extension to Reiger Road with a new intersection with Pecue Lane is included. Pecue Lane is the first Diverging Diamond Interchange along Louisiana Interstate System.

Team Members Involved with Project: Daniel Thornhill, PE; Cory Wilder, PE; Brandon Pitre, PE, RSP1

Firm Name	Arcadis U.S., Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Environmental
Project Name	**North Bayou Black Drive Bridge**	*Firm responsibility (prime or sub?)*	Prime
Project Number	H.011533.5	*Owner's Name*	Louisiana Department of Transportation and Development
Project Location	Terrebonne Parish, LA	*Owner's Project Manager*	Gary Pentek
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, Louisiana 70804		
Services commenced by this firm (mm/yy)	10/15	*Total consultant contract cost ($1,000's)*	$ 71
Services completed by this firm (mm/yy)	04/18	*Cost of consultant services provided by this firm ($1,000's)*	$ 71

Firm's Role: Project Management, Site Visit, Right-of-way Determination, Preliminary Plans Preparation, Plan-in-hand Review, Hydraulic Analysis, Guardrail Modification, Bridge Design, Final Plans Preparation, Cost Estimation

Arcadis provided all engineering and related services required for developing plans for the replacement of a two-lane bridge in Terrebonne Parish under the auspices of DOTD's Off System Bridge Rehabilitation and Replacement Program.

Project Information: With a posted speed limit of 45 mph, the bridge runs parallel to Bayou Black and crosses Hanson Canal right at the juncture of the two tributaries. Arcadis performed a topographic survey utilizing the services of the subconsultant firm Gotech Inc. Based on the survey, a drainage map was developed for Hanson Canal at the site of the bridge. A detailed hydraulic analysis was performed to formulate the best possible alternatives for the bridge replacement, which was an 80-foot long, concrete slab span bridge.

Wetland Delineation / Environmental Evaluation: A wetland delineation study following USACE and DOTD guidelines was performed, and Solicitation of View (SOV) packets were sent to all regulatory and stakeholder parties with sketches of the proposed bridge replacement. A final Wetland Finding Report using the latest FHWA criteria was submitted with SOV packet and their responses along with an Environmental Checklist.

Bridge Design Plans: Arcadis prepared preliminary plans of the proposed bridge that included plan and profile sheets, typical roadway sections and quantities, general bridge plan, road closure and relevant signing plan and channel cross-sections. Arcadis took part in a Plan-in-Hand review at the bridge site, which included review teams from both the Parish and the DOTD. Arcadis was tasked to prepare Final Plans, special specifications, and estimates. Arcadis also performed detailed QA/QC on the final submittal and addressed all comments received from the DOTD.

Team Members Involved with Project: Buddy Porta

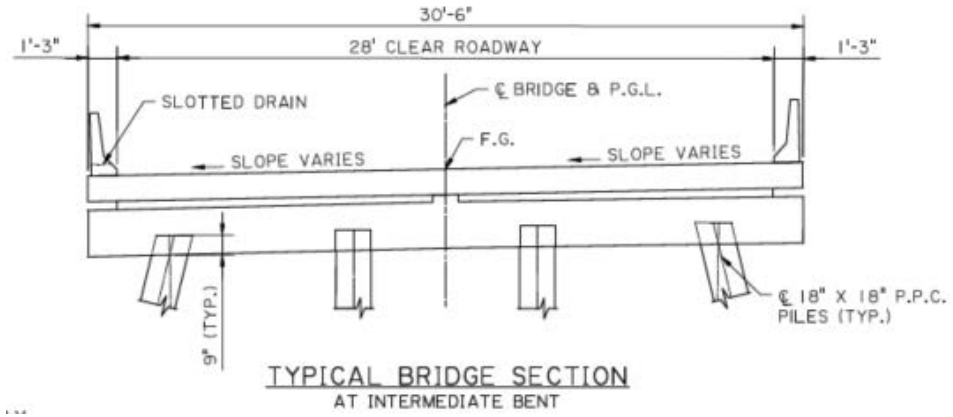
Firm Name	Arcadis U.S., Inc.			*Past Performance Evaluation Discipline(s)**	Bridge, Road, Environmental
Project Name	**Alphonse-Forbes Bridge over Sandy Bayou**			*Firm responsibility (prime or sub?)*	Prime
Project Number	City-Parish Project No. 18-Br-Pt-0017		*Owner's Name*	City of Baton Rouge/Parish of East Baton Rouge	
Project Location	East Baton Rouge Parish, LA		*Owner's Project Manager*	Tom Stephens	
Owner's address, phone, email	P.O. Box 1471, Baton Rouge, Louisiana 70821, 225 389 3186, TStephens@brla.gov				
Services commenced by this firm (mm/yy)	10/19			*Total consultant contract cost ($1,000's)*	$ 285
Services completed by this firm (mm/yy)	11/20			*Cost of consultant services provided by this firm ($1,000's)*	$ 285

Firm's Role: Topographic survey, hydraulic analysis and report, preliminary and final plans preparation, bridge design, geotechnical investigation and report, environmental permits, construction cost estimate

Preliminary Design Plans and Report: Arcadis provided all environmental and engineering services for the replacement of this existing two-lane bridge in East Baton Rouge Parish under the guidance of DOTD's Off System Bridge Rehabilitation and Replacement Program. Within three months of the contract notice to proceed, Arcadis provided a final preliminary design report to the City of Baton Rouge/Parish of East Baton Rouge, complete with a detailed Hydrologic Engineering Center's River Analysis System (HEC-RAS) analysis, preliminary bridge and road design, and a bridge hydraulics report.

Final Design Plans and Cost Estimate: Arcadis then prepared final bridge and roadway design plans and a construction cost estimate. The replacement bridge is located in a tangent section of roadway between two super-elevated curves. Site conditions required close coordination between the roadway and bridge teams to design a safe, constructable facility that fit within the existing right-of-way while meeting hydraulic opening requirements. The repacement bridge is a 180-foot long, 9-span flat slab structure supported on pile bents. The roadway typical section on the bridge is 2 @ 11-foot lanes with 3-foot shoulders. Arcadis also prepared the needed environmental permits and coordinated with USACE for review and approval.

Team Members Involved with Project: Kristen Kasmire, Osama Shahawy, Buddy Porta



TYPICAL BRIDGE SECTION
AT INTERMEDIATE BENT

Firm Name	Arcadis U.S., Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**Sprucevale Road over Little Beaver Creek**	*Firm responsibility (prime or sub?)*	Prime
Project Number	TOHCOL01	*Owner's Name*	Columbiana County Engineer
Project Location	Columbiana County, Ohio	*Owner's Project Manager*	Troy Graft
Owner's address, phone, email	235 South Main St., Lisbon, OH 44432		
Services commenced by this firm (mm/yy)	08/11	*Total consultant contract cost ($1,000's)*	$ 227.6
Services completed by this firm (mm/yy)	12/19	*Cost of consultant services provided by this firm ($1,000's)*	$ 227.6

Firm's Role: Bridge design

Arcadis performed the design and developed plans for the replacement of the Road Bridge over the Little Beaver Creek. The purpose of this project was to replace the existing bridge and to correct the deficient horizontal roadway alignment approaching the bridge. The existing bridge was a two-span steel truss supported on stone abutments and a concrete pier. The new bridge is 181 feet long, two-span prestressed concrete I-beam structure. The beams are supported on semi-integral concrete abutments and a concrete multi-column pier. The foundations consist of driven piles for the rear abutment and drilled shafts for the pier and forward abutment. The main span of 132 feet allows for the no piers within the ordinary high water to comply with environmental requirements of the Wild and Scenic River designation of Little Beaver Creek. Significant roadway realignment was necessary to correct the deficient horizontal alignment. The new bridge is located approximately 50 feet downstream of the existing structure. There was approximately 1,700 feet of roadway reconstruction and widening which included 650 feet, 16-degree curve that ends on the bridge.

Team Members Involved with Project: Robert Beasley

Firm Name	Arcadis U.S., Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Roadway
Project Name	**US 90/WBV 73, Western Tie-In Crossing Lake Cataouatche Area**	*Firm responsibility (prime or sub?)*	Prime
Project Number	700-45-0118	*Owner's Name*	USACE - New Orleans District/Louisiana Department of Transportation and Development (DOTD)
Project Location	Jefferson & St. Charles Parishes, Louisiana	*Owner's Project Manager*	Christopher Dunn/Artur D'Andrea
Owner's address, phone, email	PO BOX 60267, New Orleans, Louisiana 70160 1201 Capitol Access Road, BR, Louisiana 70802, 504.862.1799/225.379.1319, christopher.l.dunn@usace.army.mil/arthur.dandrea@la.gov		
Services commenced by this firm (mm/yy)	02/09	*Total consultant contract cost ($1,000's)*	$ 2,000
Services completed by this firm (mm/yy)	12/09	*Cost of consultant services provided by this firm ($1,000's)*	$ 380

Firm's Role: AASHTO LRFD bridge design, USACE agency coordination, public involvement.

Project Location: The work is located in Jefferson Parish and St. Charles Parish between the River Birch Landfill in Jefferson Parish near South Kenner Road on the east, the Davis Pond Diversion Project's Main East Channel Levee in St. Charles Parish on the west, the southern boundaries of the towns of Ama and South Kenner on the north, and the Davis Pond Diversion Project's East Guide Levee and the Salvador State Wildlife Management Area on the south. It is part of the Lake Cataouatche Area, Hurricane Protection Project, Western Tie-In.

Prominent project features included:

- New four-lane highway bridge providing a crossing for US 90 over the proposed T-wall that serves as 100-year flood risk reduction measure to the Lake Cataouatche Area of the Westbank and vicinity. Proposed top of wall elevation is EL 15.5 NAVD88.
- 2,540-footlong bridge incorporates PPC AASHTO Type III girder with concrete deck superstructure, reinforced concrete bridge abutments, multi-column bents, and approach slabs.
- Bridge accommodates four lanes of traffic, two lanes each east and west. Four 12'-0" wide travel lanes, two 6'-0" wide inside shoulders, and two 10'-0" wide outside shoulders – a total of 80'-0" of clear roadway width.
- Bridge design follows AASHTO LRFD specification including latest design criteria for coastal regions.
- Final bridge alignment is coincident with the existing highway alignment and is contained within the existing highway ROW.
- Bridge project also includes the design and final plans for the roadway approaches and a temporary four-lane detour road (Type "D" classification per DOTD standards) north of the proposed US 90 bridge within the existing ROW.

Team Members Involved with Project: David Fulks, Robert Beasley

Firm Name	Arcadis U.S., Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Road, Traffic, Environment
Project Name	**Chef Menteur Bridge and Approaches, Route US 90**	*Firm responsibility (prime or sub?)*	Prime
Project Number	H.000263.2	*Owner's Name*	Louisiana Department of Transportation and Development
Project Location	Orleans Parish, LA	*Owner's Project Manager*	Nikki Leon / Irina Sorset
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802, 225 242 4514, nikki.leon@la.gov (irina.sorset@la.gov)		
Services commenced by this firm (mm/yy)	08/11	*Total consultant contract cost ($1,000's)*	$ 1,118
Services completed by this firm (mm/yy)	11/14	*Cost of consultant services provided by this firm ($1,000's)*	$ 879

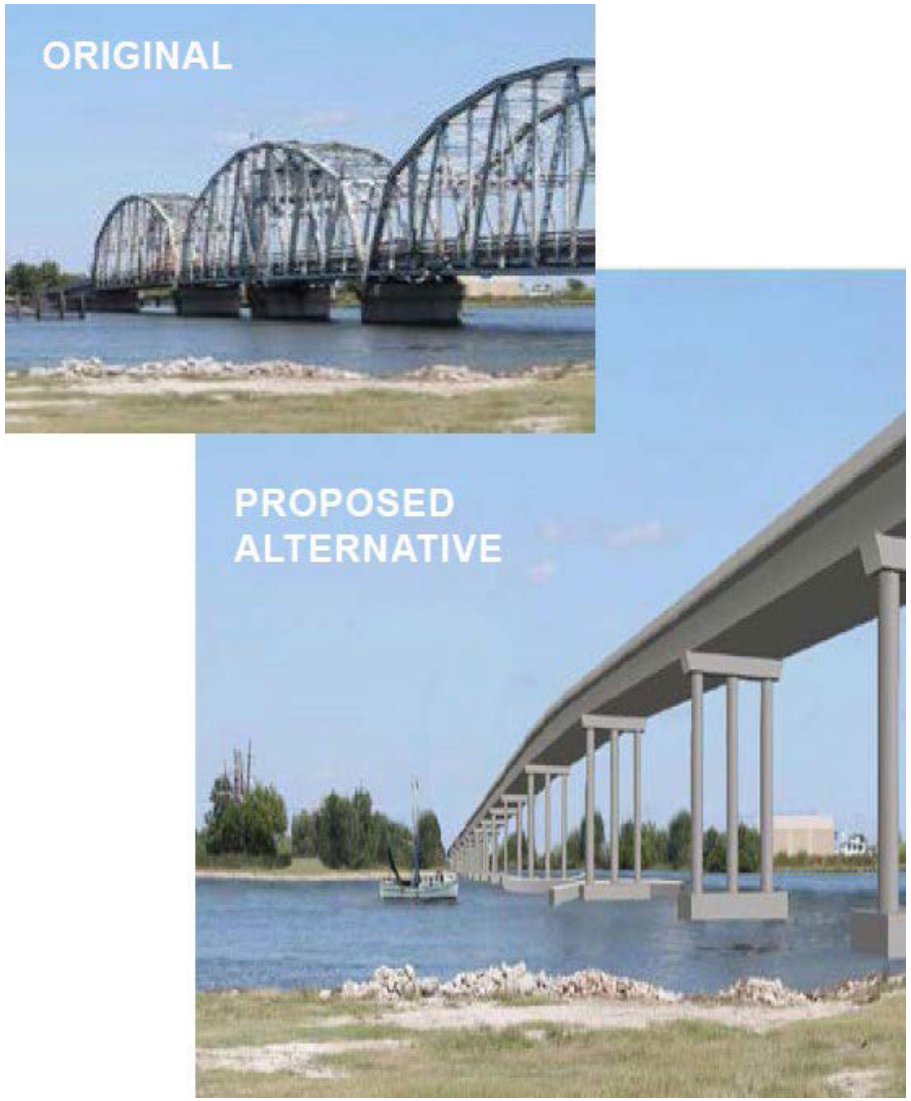
Firm's Role: Bridge and roadway design, roundabout evaluation, complete streets analysis, bridge type / lifecycle cost assessment; typical sections, bridge and road line and grade, horizontal and vertical design services, local access connections, roadway approach design, alternatives development, visual imagery, USCG navigable waterway permit assessment, preliminary construction cost estimate based on DOTD pay items and unit cost prices.

Arcadis was contracted by DOTD to complete preliminary design layouts to replace the existing US 90 swing- span bridge over Chef Menteur Pass in Orleans Parish as part of an environmental assessment. Both movable- and fixed-span designs were considered along with three preliminary alignments. DOTD Design Guidelines and EDSMs along with the DOTD Road Design and Bridge Design Manuals were utilized.

Key Challenges: The challenges were to minimize impacts to abutting Venetian Isles subdivision, while also avoiding or minimizing effects to the Fort Macomb structure and state parkland, terrestrial and submerged archaeological sites, and the Bayou Sauvage National Wildlife Refuge. From an engineering perspective, the project site posed notable challenges. The Chef Pass experiences swift tidal flow and has resulted in substantial scour and higher potential for vessel collisions.

Project Approach: The approach identified the schedule's critical path, including a post-Katrina vessel height study update, a remote sensing of Chef Pass to identify submerged cultural resources and to ascertain bathometric data, and early coordination and approval of the design criteria to adequately address the mixed-use in the vicinity of the bridge. In accordance with the DOTD Complete Streets Policy, this project queried and incorporated comments from New Orleans bicycle representatives, who recognize US 90 as the only bicycle route between New Orleans and the state line. Arcadis followed good access management principles to address local mobility needs. Private access connections (driveways) were minimized by providing interconnectivity and shared driveways among residential, commercial, and park properties. With nearly 10 stakeholder and agency meetings over the first two months of the contract, the team was aggressive with early outreach and continuous coordination with both agencies and the public.

Team Members Involved with Project: Akhil Chauhan, David Fulks



Firm Name	Arcadis U.S., Inc.	*Past Performance Evaluation Discipline(s)**	Bridge, Road, Traffic, Environment
Project Name	**US 11 Railroad Bridge Replacement and Corridor Improvements**	*Firm responsibility (prime or sub?)*	Prime
Project Number	H.000688.2	*Owner's Name*	Louisiana Department of Transportation and Development
Project Location	St. Tammany Parish, Louisiana	*Owner's Project Manager*	Nicholas Olivier
Owner's address, phone, email	1201 Capitol Access Road Baton Rouge, Louisiana 70802, 225 379 1133, nicholas.olivier@la.gov		
Services commenced by this firm (mm/yy)	08/11	*Total consultant contract cost ($1,000's)*	$ 768
Services completed by this firm (mm/yy)	Ongoing	*Cost of consultant services provided by this firm ($1,000's)*	$ 716

Firm's Role: Roadway & bridge geometric design, railroad geometric design & clearance checks, 3D terrain modeling, line & grade document development, construction cost estimate, independent technical & quality reviews.

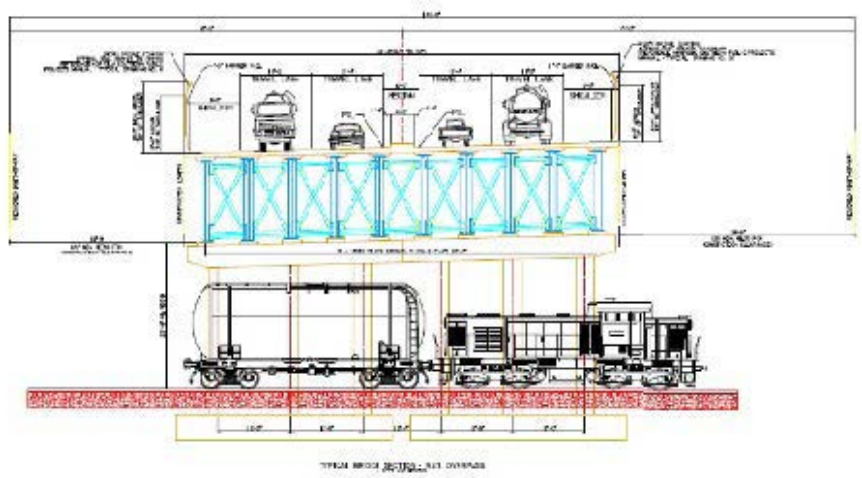
DOTD contracted Arcadis and its sub-consultants to conduct bridge and roadway design, traffic engineering, and environmental services as part of an environmental assessment for the replacement of an historic railroad overpass and the upgrade of the existing undivided highway to a four-lane superstreet in Slidell, LA. Project goal was to promote mobility and safety along the corridor.

Bridge and Roadway Design: Arcadis performed all engineering services including roadway and bridge line and grade and geometric design; railroad track, ballast, and maintenance and road design to evaluate clearance requirements with future planned rail additions; 3D design modeling of existing terrain, railroad full-build condition, and bridge and roadway typical sections and geometric layouts for improvements to accurately determine earthwork, construction limits, and required right-of-way.

Traffic Study: Five existing intersections were reconfigured as either RCUT intersections or as median U-turn (MUT) intersections to eliminate side street left turns. The corridor was designed for WB-67 vehicles requiring several loons and truck aprons be provided at U-turns. Vertical geometrics were designed for the main corridor as well as all side streets and a 3D design model was developed to verify that construction limits were accurate, and that low ground clearance at railroad crossings was avoided.

Context Sensitive Design: The design includes compliant ramps and crosswalks to incorporate the existing sidewalks and accommodate pedestrian traffic. Sufficient space was included within the roadway border for the future installation, by the City of Slidell, of a multi-use path to accommodate bicyclists. Finally, access to existing businesses was carefully balanced with DOTD Access Management Policy.

Team Members Involved with Project: David Fulks, Akhil Chauhan, Buddy Porta



Firm Name	Arcadis U.S., Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**Crain Avenue Bridge Relocation**	*Firm responsibility (prime or sub?)*	Prime
Project Number	AKKEN990B1	*Owner's Name*	City of Kent
Project Location	Kent, OH	*Owner's Project Manager*	Jim Bowling
Owner's address, phone, email	930 Overholt Road, Kent, OH 44240, 330-678-8106, Bowlingj@kent-ohio.org		
Services commenced by this firm (mm/yy)	03/09	*Total consultant contract cost ($1,000's)*	$ 1,745
Services completed by this firm (mm/yy)	05/12	*Cost of consultant services provided by this firm ($1,000's)*	$ 1,617

Firm's Role: Widening and realignment of roadway, replacement and relocation of roadway bridge, new pedestrian bridge, relocation of utilities, multiple road and railroad retaining walls, pedestrian/bike facilities, street lighting, LED bike path lighting, three new traffic signals, and streetscaping

This project consisted of the widening and realignment of 2,800 feet of roadway in a congested area of downtown Kent on Crain Avenue, North Mantua Street, North Water Street, Lake Street, and Fairchild Ave. The project also included the replacement and relocation of a 250-foot bridge over the Cuyahoga River and CSX railroad tracks, the relocation of utilities, a utility/bike bridge, multiple retaining walls, pedestrian/bike facilities, street lighting, LED bike path lighting, three new traffic signals and streetscaping. The proposed relocated Crain Avenue Bridge (now identified as the Fairchild Avenue Bridge) and the utility/bike bridge both span two active CSXT mainline tracks and the Cuyahoga River. Extensive coordination was required with ODOT, CSXT and WL&E railroads to approve vertical clearances and profile grades. Each required a design exception that was approved. The new bridge carrying Fairchild Avenue is a three span, variable depth web plate girder with concrete deck superstructure on semi-integral, wall abutments and cap and column piers. A span arrangement of 135.5', 60' and 55.25' was required to minimize the superstructure depth over CSXT and span over the Cuyahoga River. The Pier 2 foundations consisted of large diameter drilled shafts. The remaining substructure foundations were supported on spread footings on rock. Aesthetic treatments included arched pier caps, stone inlaid pier columns and decorative steel railing. To reduce the span length over the Cuyahoga River, Arcadis designed a tunnel behind the abutment of the Fairchild Avenue Bridge to allow bike path users to safely cross Fairchild Avenue. The tunnel is constructed of a three-sided, precast concrete arch-topped culvert supported on pedestals with spread footings on rock. The entrance and exit to the tunnel used cast-in-place concrete to form an architectural entrance.

Team Members Involved with Project: Robert Beasley

Firm Name	Arcadis U.S., Inc.			*Past Performance Evaluation Discipline(s)**	Road, Bridge, Traffic, Geotechnical, Survey, Environmental
Project Name	**Replacement of SR 164 Bridge over Yellow Creek JEF-164-5.63**			*Firm responsibility (prime or sub?)*	Prime
Project Number	TOHODT07.PE01		*Owner's Name*	Ohio Department of Transportation	
Project Location	District 11, Jefferson County, OH		*Owner's Project Manager*	Timothy Stillion	
Owner's address, phone, email	2201 Reiser Ave. SE, New Philadelphia, OH 44663				
Services commenced by this firm (mm/yy)	01/14		*Total consultant contract cost ($1,000's)*	$ 196	
Services completed by this firm (mm/yy)	Ongoing		*Cost of consultant services provided by this firm ($1,000's)*	$ 166	

Firm's Role: Bridge and roadway design plans, hydraulic analysis, construction phasing and sequencing plans, railroad and agency coordination, environmental, and traffic control plans.

Project Information: This project consisted of the replacement of a deficient two-span box beam bridge over Yellow Creek and improvement of the substandard roadway approach geometry, which meets a design speed of only 20 mph. Three alternative roadway alignments were developed and evaluated to determine the preferred alignment alternative. The approximate 0.25-mile roadway realignment and reconstruction includes a new single span rolled steel beam bridge on full-height wall abutments on spread footings, adjacent to the existing Ohio Rail Railroad bridge.

Design Process / Approach: Approach work included new pavement, drainage, signing and pavement markings, and water main relocation; the reconstruction/relocation of the Ohio-Rail Corporation at-grade railroad crossing located just north of the bridge; and the relocation of power, telephone and gas facilities. The design also includes field survey, preparation of right-of-way plans and legal descriptions for the proposed right-of-way takes, a HEC-RAS hydraulic analysis of Yellow Creek, and the preparation of a Categorical Exclusion Level 2 Environmental Document. The project required extensive railroad coordination due to the location of the tracks to the proposed bridge and the intersection of SR 164 with TR 263. Arcadis utilized our Quality Matter's process to effectively manage QA/QC of all bridge and roadway design components.

Team Members Involved with Project: Robert Beasley

Firm Name	Civil Design & Construction, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**Rural Bridge Initiative**	*Firm responsibility (prime or sub?)*	Sub
Project Number	H.013955, H. 013956, etc.	*Owner's Name*	DOTD
Project Location	Various Parishes, LA	*Owner's Project Manager*	Sub to BKI
Owner's address, phone, email	Unknown		
Services commenced by this firm (mm/yy)	07/20	*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)*	$ 338

Project Description: The intent of this project was all necessary engineering and related services required for developing plans for the replacement of 35 bridges on the State Highway System and/or local roadways, LA. CD&C provided survey for 6 of these sites. Those include H.013955, H.013956, H.013957, H.013958, H.013959, & H.013989. CD&C used Mobile LiDAR and traditional means and methods to survey the sites in accordance with DOTD Location and Survey Manual.

CD&C's Role: CD&C performed a topography within the existing right of way on each of the six sites our firm was tasked. CD&C also located all utilities within the designated areas of the bridge site and cross-sectioned each channel up and downstream of the bridge. Utilities were marked by LA One Call. 3D Terrestrial Scanning was used in conjunction with traditional surveying means and methods to collect data for the project.

Team Members Involved with Project: Ralph Burgess, PLS, Chris Ballard, PLS

Firm Name	Civil Design & Construction, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**LA 58: Petit Caillou Bridge Rehabilitation / Sarah Bridge**	*Firm responsibility (prime or sub?)*	Sub
Project Number	H.010006.5-3	*Owner's Name*	DOTD
Project Location	Terrebonne Parish, LA	*Owner's Project Manager*	Thomas Gattle (Huval & Assoc)
Owner's address, phone, email	922 W. Point Des Mouton Rd., Lafayette, LA 705007 / 337-234-3798 / tgattle@tgattle@huvalassoc.com		
Services commenced by this firm (mm/yy)	04/17	*Total consultant contract cost ($1,000's)*	$ n/a
Services completed by this firm (mm/yy)	07/17	*Cost of consultant services provided by this firm ($1,000's)*	$ 31

Project Description: The purpose of this project is to provide a structural, architectural, mechanical, and electrical rehabilitation of the movable bridge and approaches that shall allow it to remain in service for an additional 50 years with routine maintenance along with various other repairs and updates to the site. CD&C was tasked with performing the topographic survey and DTM for this movable bridge structure and site.

CD&C's Role: CD&C performed a topography survey along LA 58 from Little Caillou Road to Bayside Drive within the existing right of way. Also, CD&C located all utilities within the designated areas of the bridge site and cross-sectioned this large bayou up and downstream of the bridge. Utilities were marked by LA One Call. 3D Terrestrial Scanning was used in conjunction with single beam hydrographic surveying in addition to traditional means and methods to collect data for the project. To obtain all critical information for design the bridge had to be scanned at both raised and lowered positions.

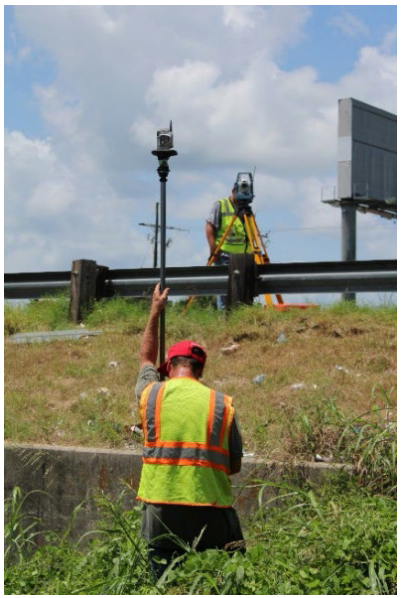
Team Members Involved with Project: Ralph Burgess, PLS, Chris Ballard, PLS

Firm Name	Civil Design & Construction, Inc.			*Past Performance Evaluation Discipline(s)**	Bridge, Roadway
Project Name	**I-10: LA 415 to Essen Lane on I-10 and I-12**			*Firm responsibility (prime or sub?)*	Sub
Project Number	H.004100		*Owner's Name*	DOTD	
Project Location	West and East Baton Rouge, LA		*Owner's Project Manager*	Nicholas Olivier	
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)	01/18			*Total consultant contract cost ($1,000's)*	$ n/a
Services completed by this firm (mm/yy)	Ongoing			*Cost of consultant services provided by this firm ($1,000's)*	$ 296

Project Description: This project is located in West Baton Rouge and East Baton Rouge Parishes in the cities of Port Allen and Baton Rouge, LA. A complete Topographic survey including all utilities (ASCE 38-02, QL "B") with depths and all drainage is required, along with Finish floor elevations of all buildings that fall within the survey limits. The survey begins 1,500 feet West of the western most entrance/exit ramps of the LA 415 and I-10 Interchange. From the I-10, I-12 split the survey shall proceed in southerly and easterly directions along the existing main alignment of I-10 for approximately 1.5 miles & I-12 for approximately 1.5 miles to end the route limits.

CD&C's Role: 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. This work included using 3D Scanning for the bridge at I-10 bridge @ LA 415 as well as scanning every 500' for control verification and incorporation of the Mobile Lidar for the I-10 pavement.

Team Members Involved with Project: Ralph Burgess, PLS, Chris Ballard, PLS



Firm Name	Civil Design & Construction, Inc.			*Past Performance Evaluation Discipline(s)**	Bridge, Roadway
Project Name	**I-10:TX State Line East of Coone Gully**			*Firm responsibility (prime or sub?)*	Sub
Project Number	H.003184.5		*Owner's Name*	DOTD	
Project Location	Calcasieu Parish		*Owner's Project Manager*	Stanley Ard	
Owner's address, phone, email	1201 Capital Access Rd., Baton Rouge, LA70802/225-379-1232/Stanley.ard@la.gov				
Services commenced by this firm (mm/yy)	10/15		*Total consultant contract cost ($1,000's)*	$ n/a	
Services completed by this firm (mm/yy)	12/18		*Cost of consultant services provided by this firm ($1,000's)*	$ 443	

Project Description: This was a 6-lane widening project on I-10 in Calcasieu Parish. The project limits extended from the foot of the Sabine River Bridge (approximately 0.5 miles east of the state line) to a point approximately 2000 feet east of the beginning of the existing 6-lane section (located East of Coone Gully). The survey width of the project was from apparent right of way to apparent right of way and 500 feet past the gore along each of the on and exit ramps. • In 2018, CD&C was supplemented to extend the original limits of this survey approximately 1500' and to pick up several other areas of additional topographic updates.

CD&C's Role: CD&C performed a complete topographic survey in accordance with the Location and Survey Manual and all current accepted Location and Survey Automation Procedures for this project. A topographic survey was already completed at all bridge sites located within the limits. The survey included all utilities with depths and information, all drainage structures, and all survey DTM and improvement features that fell inside the survey limits. Due to traffic concerns 3D Terrestrial Scanning was utilized for the location of roadways and traditional means and methods were used to complete the topographic survey on this project. The final submittal of the survey was a combination of the supplied data from DOTD for the bridges with the current survey that was completed for this project.

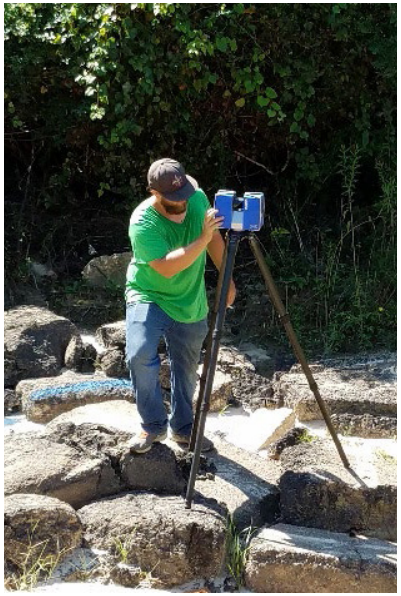
Team Members Involved with Project: Ralph Burgess, PLS, Chris Ballard, PLS

Firm Name	Civil Design & Construction, Inc.	*Past Performance Evaluation Discipline(s)**	Bridge
Project Name	**LA 443: Tangipahoa River Emergency Bridge Replacement**	*Firm responsibility (prime or sub?)*	Sub
Project Number	H.02728.5	*Owner's Name*	DOTD
Project Location	Tangipahoa Parish, LA	*Owner's Project Manager*	Thomas Gattle (Huval & Assoc.)
Owner's address, phone, email	922 W. Point Des Mouton Rd., Lafayette, LA 705007 / 337-234-3798 / tgattle@huvalassoc.com		
Services commenced by this firm (mm/yy)	10/16	*Total consultant contract cost ($1,000's)*	$ n/a
Services completed by this firm (mm/yy)	11/16	*Cost of consultant services provided by this firm ($1,000's)*	$ 81

Project Description: This Project was for the Emergency replacement of the bridge on LA 443 over the Tangipahoa River due to the Historic Floods in August of 2016. The project is located Northeast of Hammond, Tangipahoa Parish, Louisiana, 4 miles Northeast of the intersection of La 1064 and La 443. The survey total length was approximately 1500'. The width of the survey and DTM was extended to a total of 170 feet (90 feet North of the existing centerline of La 443 and 80 feet South of the existing centerline of La 443).

CD&C's Role: 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 cross-sectional 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 three weeks.

Team Members Involved with Project: Ralph Burgess, PLS, Chris Ballard, PLS



Firm Name	T. Baker Smith, LLC	*Past Performance Evaluation Discipline(s)**	SUE
Project Name	**LA 3127 Extension: LA 70 to LA 1**	*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	Ascension Parish Government
Project Location	Ascension Parish, LA	*Owner's Project Manager*	Michael Enlow
Owner's address, phone, email	42077 Churchpoint Rd., Gonzales, LA 70737, 225.450.1326, menlow@apgov.us		
Services commenced by this firm (mm/yy)	02/18	*Total consultant contract cost ($1,000's)*	$ 2,185
Services completed by this firm (mm/yy)	Ongoing	*Cost of consultant services provided by this firm ($1,000's)*	$ 2,185

TBS served as the prime consultant for this project and is responsible for route selection, environmental, roadway and bridge design and Right of Way mapping. The environmental document prepared by TBS included wetland delineation, Phase I ESA, identification of Cultural/Historical properties - Section 106, Threatened and Endangered species, route feasibility and cost comparisons and the identification of critical utilities in conflict with the project routes.

Upon completion of the route selection, TBS performed topographic surveys of the nearly five-mile virgin terrain alignment including Subsurface Utility engineering (SUE) QL B-A in accordance with CI/ASCE 38-02 for all utilities affected by the project alignment. Level A test holes were conducted on 21 underground pipelines which either crossed the route or were within the Right of Way of the roadway. The Subsurface Utility Engineering (SUE) services were performed in strict accordance with CI/ASCE 38-02 guidelines for all utilities within 200' of either side of the roadway alignment. The SUE services extended for a distance of 1,500' beyond the roadway termini in each direction. QL D-B services were provided for all utilities within the 400' wide area of interest and QL A services were provided for any utility with a diameter greater than 4" which crossed the roadway centerline. Subsurface utilities designated as part of the SUE services included water mains, sewer force mains, sewer effluent lines, pipelines carrying various products and ranging from 6" to 30" in diameter, buried electrical services, buried telephone, buried fiber optic telephone, fiber optic television, television, and gas mains. In areas where records research showed no evidence of utilities, TBS swept this virgin terrain using various instruments including pipe locators and Ground Penetrating Radar (GPR) to detect any unrecorded utilities.

Overall, TBS designated nearly 80,000 linear feet of subsurface utilities and performed Level A minimally invasive excavations utilizing TBS vacuum truck at 48 locations including water mains, gas mains, sewer force mains and pipelines. TBS performed the surveying of all Level B and Level A SUE work and prepared deliverables in accordance with CI/ASCE 38-02 guidelines.

TBS provided: Route selection; Environmental, roadway, and bridge design; Right of Way mapping; Subsurface Utility Engineering (Quality Level D-A services); Designated nearly 80,000 linear feet of subsurface utilities

Team Members Involved with Project: TJ Stokes, PE

Firm Name	T. Baker Smith, LLC	*Past Performance Evaluation Discipline(s)**	SUE
Project Name	**LA 20 Widening**	*Firm responsibility (prime or sub?)*	Prime
Project Number	n/a	*Owner's Name*	DOTD/St. James Parish
Project Location	St. James and Lafourche Parishes, LA	*Owner's Project Manager*	Corey Landry
Owner's address, phone, email	P.O. Box 94245, Baton Rouge, LA 70804, 225.379.1889, corey.landry@la.gov		
Services commenced by this firm (mm/yy)	07/17	*Total consultant contract cost ($1,000's)*	$ 718
Services completed by this firm (mm/yy)	Ongoing	*Cost of consultant services provided by this firm ($1,000's)*	$ 718

St. James Parish, in cooperation with the DOTD is preparing the design for the widening of LA 20 from LA 307 to S. Vacherie in Lafourche and St. James Parishes, LA. The existing roadway is a narrow, two lane Rural Arterial roadway with little to no shoulders and a borrow canal immediately adjacent to the West side of the roadway. The project involves widening of the existing LA 20 asymmetrically to the East side and shifting of the centerline in an effort to add shoulders to the 3.5-mile route. This safety project will bring the roadway up to current Rural Arterial standards and provide increased recovery area for errant vehicles. This project is being designed in conjunction with S.P. H.009481 – Bayou Chevreuil/LA 20 Bridge replacement, which TBS performed the topographic survey for DOTD in 2014. T. Baker Smith, LLC (TBS) is the prime consultant for this project. During the initial planning stages, TBS was contracted to perform Subsurface Utility Engineering (SUE) Quality Level D-A services, Line and Grade analysis as well as Mobile and Aerial LIDAR surveying of the LA 20 widening project as well as a 2-mile bypass route through agricultural lands. TBS also prepared conceptual plans and a Stage 0 feasibility study for the project. Once the project was approved to move forward in the safety program, TBS began surveying and design. The project's SUE services along LA 20 began with a width of 200' near LA 307 and proceeded northward approximately 3.3 miles along LA 20.

TBS performed Quality Level D-A services including records research, location of above ground features, QL B designation and QL A services for major features crossing the LA 20 alignment in accordance with CI/ASCE 38-02. This segment's subsurface utilities included fiber optic, telephone, electric, water, gas and a 24" natural gas pipeline. This segment included approximately 7,000 linear feet of utility designation and two QL-A test holes performed via vacuum excavation. Survey of the utility features utilized DOTD coding, processed via InRoads Survey and certified by CadConform. The topographic surveying services consisted of established a vertical and horizontal survey control network, control sketches, existing drainage maps and a varying width.DTM from 100 feet to 220 feet wide, beginning near LA 307 and ending in South Vacherie, just west of LA 643. Included in this portion of the project was a 100' slab span bridge site. TBS collected all survey data in accordance with DOTD Location and Survey standards and processed all data using Microstation/ InRoads and certified by CadConform. Property surveys began mid-2018.

TBS provided: Mobile and Aerial LIDAR survey; Subsurface Utility Engineering (Quality Level D-A); Topographic survey

Team Members Involved with Project: TJ Stokes, PE

Firm Name	T. Baker Smith, LLC	*Past Performance Evaluation Discipline(s)**	SUE
Project Name	**Plank Road Relocation - Runway 13/31 Safety Area/RPZ Improvements**	*Firm responsibility (prime or sub?)*	Sub
Project Number	n/a	*Owner's Name*	City of Baton Rouge - Parish of East Baton Rouge
Project Location	East Baton Rouge Parish, LA	*Owner's Project Manager*	Tim Murray
Owner's address, phone, email	9430 Jackie Cochran Dr., Baton Rouge, LA 70807, 225.358.4240, tmurray@brgov.com		
Services commenced by this firm (mm/yy)	02/18	*Total consultant contract cost ($1,000's)*	$ n/a
Services completed by this firm (mm/yy)	12/22 (est.)	*Cost of consultant services provided by this firm ($1,000's)*	$ 380

The Runway 13/31 Safety Area/RPZ Improvements project is commonly referred to as the Plank Rd. (LA 67) relocation project. This project will relocate a 4-lane divided LA 67 (Plank Rd.) and widen Hooper Rd from near Betty Smothers Dr. to the intersection of Plank Rd. and Harding Blvd.

TBS provided:

- Subsurface Utility Engineering (Quality Level B and Quality Level A)
- SUE investigation area included 10,000+ linear feet of roadway and 68 acres of area
- Level B designation for nearly 94,000 linear feet of subsurface utilities
- Topographic Survey (for SUE services)
- Utility Coordination Services

Team Members Involved with Project: TJ Stokes, PE

Firm Name	T. Baker Smith, LLC	*Past Performance Evaluation Discipline(s)**	SUE
Project Name	**Plank Road Relocation - Runway 13/31 Safety Area/RPZ Improvements**	*Firm responsibility (prime or sub?)*	Sub
Project Number	n/a	*Owner's Name*	Ascension Parish Government
Project Location	Ascension Parish, LA	*Owner's Project Manager*	Michael Enlow
Owner's address, phone, email	42077 Churchpoint Rd., Gonzales, LA 70737, 225.450.1326, menlow@apgov.us		
Services commenced by this firm (mm/yy)	10/17	*Total consultant contract cost ($1,000's)*	$ n/a
Services completed by this firm (mm/yy)	01/18	*Cost of consultant services provided by this firm ($1,000's)*	$ 120

As part of Ascension Parish's Move Ascension Transportation Program, T. Baker Smith, LLC was selected by Buchart-Horn to provide topographic surveying, property surveys, Right of Way maps and Subsurface Utility Engineering services for the design of a roundabout at Parish Road 929 and Parker Rd. in Prairieville, LA. The length of survey and SUE services extended along all four legs of the proposed roundabout.

TBS provided:

- Topographic surveys
- Property surveys
- Right of Way mapping
- Subsurface Utility Engineering (Quality Levels D-A)
- Designated nearly 37,000 linear feet of subsurface utilities

Team Members Involved with Project: TJ Stokes, PE

Firm Name	T. Baker Smith, LLC	*Past Performance Evaluation Discipline(s)**	SUE
Project Name	**MA-17-02, Roddy Road (US 61 to LA 935)**	*Firm responsibility (prime or sub?)*	Sub
Project Number	n/a	*Owner's Name*	Ascension Parish Government
Project Location	Ascension Parish, LA	*Owner's Project Manager*	Michael Enlow
Owner's address, phone, email	42077 Churchpoint Rd., Gonzales, LA 70737, 225.450.1326, menlow@apgov.us		
Services commenced by this firm (mm/yy)	09/17	*Total consultant contract cost ($1,000's)*	$ n/a
Services completed by this firm (mm/yy)	04/18	*Cost of consultant services provided by this firm ($1,000's)*	$ 220

As part of Ascension Parish's Move Ascension Transportation Program, T. Baker Smith, LLC was selected by Shread-Kuyrkendall to provide Subsurface Utility Engineering services for the Roddy Road Safety Widening Project (US 61 to LA 935) as a supplement to their topographic survey data. The project included approximately 1.8 miles of roadway widening from the existing 10' travel lanes and minimal shoulders to 12' travel lanes with 4' shoulders and associated roadside ditch improvements. The project also includes the installation of left turn lanes on three approaches at LA 429 and left turn lanes along all approaches at LA 935. The existing Roddy Road Bridges over New River and Bayou Narcisse are scheduled to be replaced.

TBS provided:

- Property surveys
- Right of Way mapping
- Subsurface Utility Engineering (Quality Levels D-A)
- Designated over 64,000 linear feet (12+ miles) of subsurface utilities

Team Members Involved with Project: TJ Stokes, PE

SECTION

18

US 190 U-Turn Access Road at UPRR Overpass

18. Approach and Methodology:

Michael Baker International, Inc. (Michael Baker) brings years of successful DOTD experience and has assembled a proven team with design projects following the DOTD Project Delivery Manual, Roadway Design Manual, and the Bridge Design Manual.

For the Louisiana Department of Transportation & Developments (DOTDs) US 190: UPRR Overpasses Near Opelousas, our team includes Arcadis U.S., Inc. (Arcadis), Civil Design & Construction, Inc. (CD&C), and T. Baker Smith, LLC (TBS).

The advertisement had a 0% DBE goal for this project; however, Michael Baker is always looking for ways to team with our state's DBE firms. This is another way we go above and beyond what is required. CD&C is a DBE firm and is anticipated to provide services for at least 6% of the project.

BRIDGE DESIGN TEAMS

The US 190 UPRR Overpasses Near Opelousas will address the need to replace four bridges at two locations. Location #1 replaces the parallel bridges along US 190 UPRR track and location #2 replaces parallel bridges along US 190 at Little Bayou Teche just east of Opelousas. ***Michael Baker has assembled two bridge design teams to develop construction plans***. Bridge Team 1 will consist of Michael Baker personnel for both the bridge and roadway design. Bridge Team 2 will comprise of both Arcadis and Michael Baker personnel for the Little Bayou Teche location. Arcadis personnel will be responsible for design of the bridges and roadway while Michael Baker personnel will perform the bridge hydraulics. Design team personnel are defined on the Organization Chart in Section 13.

SCOPING MEETING FOR CONTRACT

After selection, Michael Baker will request a meeting with the DOTD Project Manager (PM) and other required DOTD staff for a scoping meeting. This meeting will clearly define any additional project scope not covered in the original advertisement. The final scope will be used as the basis to develop the project manhours and fee proposal.

Defining the project scope early helps to make sure any added items are included with the final contract. Solid, defined scope leads to project efficiency from Stage 1 (Environmental) to Stage 3 (Design) through Stage 5 (Construction support) phases of the project.

KICKOFF MEETING FOR CONTRACT

After execution of the contract and Notice to Proceed is issued, Michael Baker will request a kickoff meeting through the DOTD PM. At this meeting, the Michael Baker PM will request the following existing data, if it is available, including:

- Bridge inspection reports
- Stage 0
- Previous Stage 1 documents
- Traffic studies, data, and expected detours

The kickoff meeting will be used to (1) establish bridge and roadway design criteria, (2) determine the frequency for design coordination progress meetings, (3) coordinate an on-site meeting with the DOTD to determine if there are resources that need to be avoided, and (4) review any questions that may have arisen after reviewing existing documents.

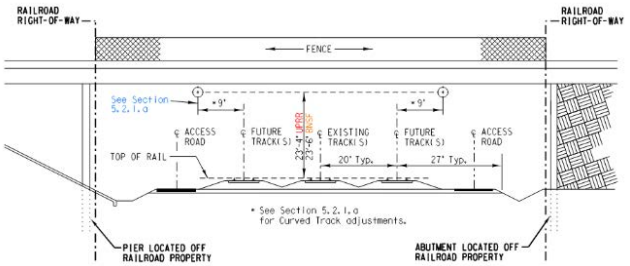
One of the challenges with the US 190 Bridge Replacement project is making sure the correct bridge structure is chosen for the crossing of UPRR tracks. Michael Baker has completed previous projects similar in nature along UPRR infrastructure. With this prior knowledge, our team will make sure coordination between UPRR and the DOTD Bridge section is at the forefront of the project and is initiated immediately after the kickoff meeting.

A Critical Path Method schedule with baseline will be submitted to DOTD PM after the kickoff meeting. Before finalizing the schedule, Michael Baker will have a railroad coordination meeting to address review times by both the DOTD and UPRR for every submittal as well as potential design alternatives that could reduce construction time and disruption to the traveling public.

BRIDGE DESIGN TEAM 1

UPRR OVERPASS AND RAILROAD COORDINATION

Based on UPRR Guidelines for Railroad Grade Separations, our design intent is to maintain the right-of-way free of permanent obstructions such as bridge piers. As per the advertisement, the DOTD has already performed the survey for this bridge location. The Michael Baker team will review the survey to verify that top of rail has been surveyed 1,000' left and right from US 190 CL. Top of Rail will be used to determine the low chords of the new bridges to the required vertical clearance of 23'-4" (UPRR) + 6" (DOTD Bridge Manual) = 23'-10". Additionally, the design team will use existing rail ROW from the provided survey to determine the rail bridge span length. Bridge caps and foundations will be constructed outside the existing rail ROW. As part of determining the bridge rail length, additional consideration should be for potential of future expansion. For freight rail, future tracks will be set 20' offset from existing track CL. (See sketch for example of bridge span).



Example of Overpass from UPRR Design Guidelines

Michael Baker personnel collaborate with UPRR on projects around the country.

EXISTING U-TURN ACCESS ROAD

Unique feature of the UPRR overpass is the existing U-turn Access Road that connects Eastbound/Westbound US 190. The access road services the Sheriff Tax & Civil Department, various retail, small wood mill and residential property. The existing U-turn vertical clearance under the bridge is 13'-4". Besides the vertical clearance for the railroad, the new proposed bridge must meet a vertical clearance of 16.5' over the access road. Typically, a higher vertical clearance means raising the profile of the bridge structure but in this case since replacing both bridges, we see lowering the profile of the U-turn movement as an option. Reviewing 2019 Google street view, it is evident existing U-turn access road radius may be substandard as a truck with trailer is crossing over centerline striping and encroaching on oncoming traffic. A possible mitigation would be to close the U-turn with two dead-ends. Left turns are not currently allowed where the access road intersects with both East/West bound directions; however, there are enough median openings along US 190 for U-turn movements. Coordination with District 03 Traffic Operations Engineer would be key to determine if this would be a viable option. See Maintenance of Traffic for additional details.

Image of Existing UPRR Overpass with U-turn Access Road

UPRR BRIDGE TYPES

Michael Baker design team will consider either concrete or steel girder bridges or a combination of both girder types with concrete bent caps on driven piles or drilled shaft columns. Girder material type will be determined based on the span length with deference to owner and railroad preferences. This may raise the grade of US 190 as determined by top of rail elevation, required rail vertical clearance, bridge girder height plus bridge deck thickness.

Additionally, Michael Baker will work with both DOTD and UPRR to determine if any types of accelerated bridge construction (ABC) may help expedite the construction schedule while minimizing impacts on travelling public and railroad operations. Coordination will be necessary for staging locations and right-of-way needs. Currently there is space available Northwest and Southwest quadrant of the project site to initially construct the bridge for an ultimate slide-in. This option will be determined based on the ultimate bridge span length.

BRIDGE DESIGN TEAM 2

LITTLE BAYOU TECHE TOPOGRAPHIC SURVEY/SUE SERVICES

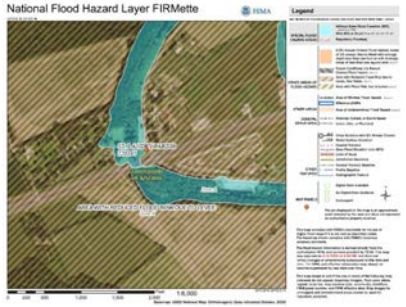
Topographic Survey: CD&C will perform survey services and adhere to all modern survey theory, practice, and procedures, and follow the latest version of the DOTD Location and Survey Manual including typical surveying methods as applied by DOTD. This includes all accepted horizontal and vertical control standards as stated in the manual. The DOTD feature table code list and symbols shall be utilized and met with those included in the latest edition of the survey feature code guidebook produced by the DOTD Location and Survey Section and Automation. 3D terrestrial scanning may be utilized in conjunction with traditional means and methods to capture topography as applicable for each site and will adhere to all DOTD Standards as related to terrestrial and mobile scanning. CD&C will produce deliverables that adhere to the electronic standard set forth by the DOTD.

ROW Mapping: CD&C will initially use St. Landry Accessors Office GIS portal to compile a list of neighboring property owners in order to retrieve abstracts needed to assist with the determination of existing ROW. CD&C will use property descriptions and available maps to create existing ROW base maps. Base maps will be submitted to the DOTD for approval. Once approved, Bridge Design Team 2 will develop limits of construction that will be used to develop final taking lines and provided to CD&C to develop final ROW maps that will be used for acquisition. CD&C will follow current standards of practice as outlined in the laws and rules of the Louisiana Professional Engineering and Land Surveying Board and shall be certified to a class D survey as dictated by those laws and rules.

Parcel Map from St. Landry Accessor's GIS Portal

SUE Services: TBS is heading up SUE services for this project and will use the latest practice methods and equipment to determine the location of underground utilities prior to the design phase. Identifying and/or eliminating potential utility conflicts can decrease the impact to the overall project construction cost and timetable. Considering the type of construction required for this project, especially the need for pilings and underground structural work, the knowledge and confidence in underground utility locations will be valuable. TBS has highly experienced staff that regularly uses industry-leading subsurface utility locating equipment, such as pipe and cable locators, ground penetrating radar, and air-assisted vacuum excavation to determine horizontal location, size, type, and depth of utilities. ***With the current shortage of supplies and resources, construction prices have greatly increased and this trend appears it will continue for the coming years. Any construction delays due to utility conflicts can greatly impede project schedule along with potential increases to overall project budget due to change orders. TBS is ready and able to get to work to remedy any SUE challenges that may be present.***

BRIDGE HYDRAULICS



The bridge hydraulics analysis/design will be performed by the Michael Baker drainage team. The hydraulics design team will follow the DOTD's Hydraulic Manual for determining peak discharges of various frequencies, sizing the required bridge hydraulic opening area, setting the bridge low chord to provide freeboard and maintain the no-rise condition, and estimating bridge scour.

Hydrology

The design team will utilize the latest aerials and LiDAR information to delineate the overall drainage basin upstream of US 190 and to determine the design storm frequency for this corridor. Since the size of the drainage basin is much larger than 2000 acres, peak discharges will be calculated using the Unites States Geological Survey (USGS) method. The ArcGIS hydro tool will be utilized to estimate the other parameters of the USGS method and slope of the main channel. Chapter 3 of the DOTD Hydraulics Manual will provide guidance along with HYDR1130 portion of the DOTD HYDRWIN drainage software for determining the peak discharges of 2, 5, 10, 25, 50, 100, and 500-year storms.

Hydraulics

A HEC-RAS model of Little Bayou Teche Drainage Basin will be developed for the existing and improved bridge crossing utilizing the peak flows developed for multiple storm events. Since Little Bayou Teche is within FEMA Zone A without floodways, the ultimate bridge hydraulic opening area, shape, and length will be determined through HEC-RAS to ensure the difference in water surface elevation (backwater) is one foot or less per Chapter 11 of DOTD Hydraulic Manual. The bridge low chord elevation will be set to meet the minimum freeboard requirement of DOTD: one foot for design WSE and clear for 100-year WSE.

Scour

Bridge scour analysis and countermeasure design will follow Chapter 11 of DOTD Hydraulics Manual. The scour design will be conducted on the lesser of 500-year storm and the bridge overtopping event. The bridge pier scour is the sum of contraction scour and local scour which are to be evaluated using FHWA HEC-18 equations. The bridge abutment scour is not calculated per DOTD requirements and instead we will design some type of revetment or riprap to prevent abutment scour from happening. During design, efforts will be made to minimize bridge scour, such as placing piers outside the main channel or aligning pies to the direction of flow. Appropriate countermeasures will be designed per FHWA HEC-23 and DOTD Hydraulics Manual requirements including riprap protection and Guide Banks.

A preliminary hydraulics report will be developed and submitted to DOTD's Hydraulic Section for review and concurrence. The report and calculations will be revised based on comments and a final, stamped and sealed report will be submitted for record to the DOTD PM.

MAINTENANCE OF TRAFFIC

Maintenance of traffic (MOT) is a crucial component for this project for two main reasons: 1) US 190 is part of the Louisiana Hurricane Route system, and 2) US 190 is a major detour route for I-10 during major interstate closures. The Michael Baker team will review current traffic

counts and coordinate with the District 03 Traffic Operations Engineer in regard to type of road closures will be acceptable during construction. Similar traffic control measures can be utilized at both locations but from initial investigations there are two viable options.

Option 1 (maintain existing four traffic lanes) includes:

- Install temporary traffic control measures
- Build temporary bridge 40' offset to and in parallel with EB bridge
- Shift EB traffic to temporary bridge
- Shift WB traffic to existing EB bridge via median crossover
- Close/remove existing WB bridge
- Construct new WB bridge
- Shift WB traffic to new WB bridge
- Remove/construct new WB bridge
- Shift EB traffic to new EB bridge
- Remove temporary bridge, finish grading, and remove temporary traffic control measures

Option 2 (temporary reduction to two lane traffic) includes:

- Install temporary traffic control measures
- Reduce WB and EB traffic down to one lane
- Shift WB traffic to one of EB lanes via median crossover
- Make EB bridge bi-directional traffic flow
- Close/remove existing WB bridge
- Construct new WB bridge
- Shift WB and EB traffic to new WB bridge
- Close/remove existing EB bridge
- Construct new EB bridge
- Open new WB and EB to pre-construction traffic
- Remove all temporary median crossings
- Re-establish medians, finish final construction, remove temporary traffic control measure

TRAFFIC MANAGEMENT PLAN

DOTD requires most of their construction projects to have the design teams develop a Traffic Management Plan (TMP). The advertisement mentions it is anticipated that this project would fall under a Level 2 TMP. After initial investigation, a Level 2 TMP is appropriate for Little Bayou Teche. UPRR Overpass is located adjacent to the I-49 Interchange. Further investigation at this site may be necessary to rule out a Level 3 or 4 TMP. This would be discussed at the scoping meeting as Level 3/4 TMPs would require additional efforts by the design team and would be accounted for in the manhour estimate.

PRELIMINARY CONSTRUCTION PLANS

The Michael Baker team has worked on many projects that are similar in nature to the US 190 bridge replacements. As discussed in the above section for railroad coordination, we have extensive working relationships with the different railroad companies across the nation, especially with the UPRR. ***Combining our national railroad experience along with our Louisiana team members gives us an advantage of providing the DOTD with a complete/comprehensive team that can provide an expedited and efficient delivery. Having a team with this type of intimate knowledge of our client's needs allow us to hit the ground running with design.***

Our team will follow the latest DOTD requirements for development of construction plans at the required milestone submittals for both Preliminary Plans and Final Plans. The anticipated milestone submittals are listed on the below:

PRELIMINARY PLAN MILESTONES

- 30% Preliminary Plans
- 60% Preliminary Plans
- 90% Preliminary Plans (Plan-In-Hand)
- 100% Preliminary Plans

FINAL PLAN MILESTONES

- 30% Final Plans
- 60% Final Plans
- 90% Final Plans
- 98% Final Plans (Advance Check Prints)
- 100% Final Plans

The design team will utilize the following guidelines/manuals for design of the new brides and any roadway improvements. The team is not limited to these manuals but they are shown to denote what, at the minimum, will be utilized.

- Latest approved AASHTO Greenbook
- DOTD EDSMs
- Minimum Design Guidelines
- Roadway Design Manual
- Complete Streets Initiative
- DOTD and AASHTO Bridge Design Manuals
- Bridge Design Technical Memorandums (BDTM)
- Hydraulics Manual
- DOTD CAD standard submittals

DOTD will provide survey for the UPRR location at the NTP, the Little Bayou Teche bridge design will initially be on a different schedule from the UPRR site. The Michael Baker team recognizes this and thus created the 2-bridge design team approach. This approach will be presented to the DOTD PM for acceptance. To expedite design for Little Bayou Teche, Bridge Design Team 2 will use LiDAR for design until topographic and SUE surveys are complete and an existing ground DTM is provided to the team.

30% PRELIMINARY PLANS

As one of the first steps in the Preliminary Design Phase, Michael Baker will submit to the DOTD PM, for approval by DOTD Bridge Design Section, our team's anticipated design software for the bridge design that includes bridge deck analysis, superstructure, and substructure. Our team will submit our previous experiences with the software and other state and local municipality agencies on the outcome of the design approach with such software.

Once the software design approach is approved, the design team will use the requested existing data, provided topographic survey (UPRR site), and railroad requirements, as part of the decision process for the bridge type and will carry forward into the development of construction plans. This will allow Michael Baker to work with the DOTD to determine the most economical structures at both bridge locations. Before moving into the 60% Preliminary Plan submittal, the design team will submit a bridge determination report by describing the type of structure (steel-plated or prestress-concrete girder), normal or skewed alignment, and anticipated construction methods, including ABC, along with an executive summary.

60% PRELIMINARY PLANS

During the 60% Preliminary Plans development, Michael Baker design teams will finalize the projected and adopted centerlines along US 190 for both bridge replacement locations. Michael Baker design teams will finalize general bridge plans which will show the horizontal configuration of the bridges (normal or skewed to railroad tracks and Little Bayou Teche) along with the vertical profiles featuring the top of rail, design water surfaces, and required height clearance to the low chord of the proposed bridges.

90% AND 100% PRELIMINARY PLANS

To finish the Preliminary Plans phase of the project (both Plan-In-Hand (90% Preliminary Plans) and 100% Preliminary Plans), the Michael Baker design team will develop the following:

- initial sequence of construction
- preliminary ROW taking lines, if necessary
- TMP

A Plan-In-Hand (PIH) meeting will be held at the District 03 office and in the field to determine if any additional changes to the plans may be necessary before finalizing 100% Preliminary Plans and submitting for approval from DOTD. ROW taking lines, if necessary, will be finalized as part of this process.

100% Preliminary Plans will be approved once the DOTD PM has verified that all comments

from the PIH meeting have been updated and addressed. Our team will begin the preparation of any required permits that may be required by UPRR or for environmental clearance.

FINAL PLANS

The DOTD PM will issue a NTP for Final Plans once 100% Preliminary Plans have been approved. As part of the Final Plans phase of the project, our team will begin working on completing the development of construction plans and preparing them for the Stage 4: Project Letting/Bidding Process. Michael Baker will begin with the 100% Preliminary Plans as the basis of carrying the project to its final completion.

30% AND 60% FINAL PLANS

During the 30% and 60% Final Plans submittal, the design team will finalize all typical sections to avoid major adjustments to final ROW taking lines. Both bridge design teams will develop the detailed bridge construction plans for the bridge superstructure (deck and girders) and bridge substructure (abutments, internal bents, piles/columns, and drilled shafts/spread footings). Our team will coordinate with DOTD to verify all material sections that are shown, especially alternative pavements and bases, are acceptable to the District 03 Construction Engineer. Hydraulics design report will be completed along with the development of Summary of Drainage Structures sheets. Michael Baker will develop the initial summary of quantities "Box" sheets.

90%, 98%, AND 100% FINAL PLANS

After 60% review, our design teams will begin working on the Advance Check Prints (ACP – 90% Final Plans). Summary box sheets will be updated along with revisions based on 60% Final Plans comments, finalized bridge plans, bridge load rating report, final QA/QC checklist, and Constructability Review Form. A Final Design meeting will be held to cover any additional comments from this submittal that will be revised in the 98% Final Plans. At that time, we will prepare all final construction cost estimates and any special provisions. Once 90% and 98% review comments have been resolved, our design team will stamp and sign all construction plan sheets and submit the final pay item list to DOTD to create the Summary of Quantities Sheets to be included in the final set of plans. Once Final Plans have been approved, the project is now ready to move into Stage 4 - Project Letting.

QA/QC

Michael Baker has provided our design teams an internal bridge QA/QC manual. This manual will be the basis of our team's quality control and quality assurance for each submittal; however, we will supplement this manual with all required DOTD checklists for the different milestones. Our team will also perform independent technical design reviews at all submittal milestones by team members who are not directly associated with the progression of the project. These reviewers will check the construction plans for accuracy and compare them to the bridge design calculations and analyses. Our team will coordinate these reviews with our company document control specialist personnel for record keeping of correspondence between the Michael Baker PM and the DOTD PM, including DOTD review comments, Michael Baker design team's response to comments, design calculations, and analyses.

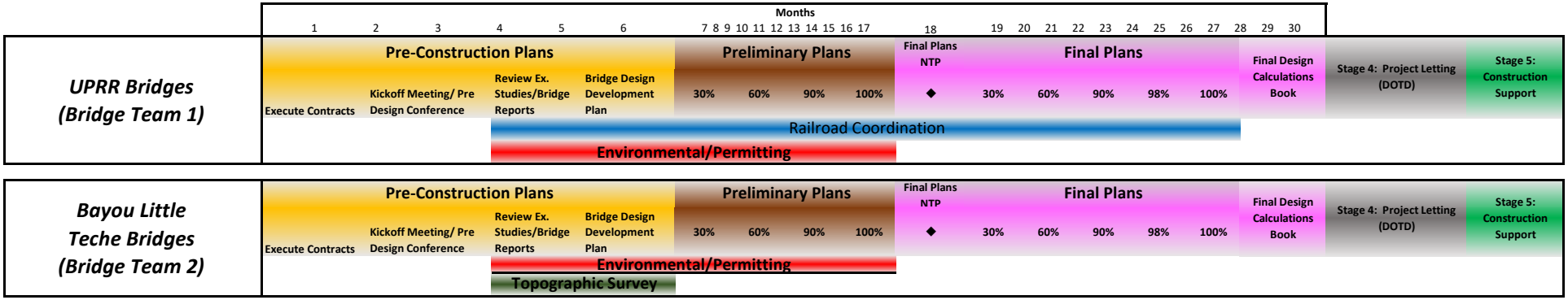
STAGE 5: CONSTRUCTION

Once a contractor is awarded the project, the Michael Baker construction support lead and through Michael Baker PM will assist the DOTD PM in coordination of receiving and documenting Requests For Information (RFIs) and Shop Drawings from the CE&I Field Engineer. Once RFIs and Shop Drawings are logged, the Michael Baker construction support lead will submit the RFI and/or Shop Drawing to the Michael Baker PM to be distributed to our design team for review and approval in regard to conformance to the construction plans, 2016 DOTD Standard Specifications, and DOTD Bridge Manual. Michael Baker will assist in any RFIs if the contractor needs additional clarification of the intent of the construction plans before they are able to proceed. Responses to RFIs and Shop Drawings will be done in a timely manner as to not incur any additional delays for the contractor which can lead to requests for change orders for additional compensation.

WORK ZONE TRAINING REQUIREMENTS (WZTR)

As an ongoing commitment to work zone safety, it is required by DOTD that consultants providing services have personnel that deal with traffic control and flagging be certified as Flaggers, Traffic Control Technicians (TCT), Traffic Control Supervisor (TCS) and/or combination of all three. Michael Baker, Arcadis, CD&C and TBS key personnel have received this training. As designers, Michael Baker and Arcadis have personnel that have been trained in all three WZTR. CD&C and TBS is providing survey and SUE services which require a mixture of the WZTR for their staff.

SCHEDULE: A Critical Path Method schedule will be created by the Michael Baker PM for each expected project milestone and project location. Scheduling will be done in either Microsoft Project or Oracle Primavera. A PDF version of the schedule will be submitted to the DOTD PM for approval. Once agreed upon, the schedule baseline will be set for tracking progress of the project. Shown below is a scaled down sample of the schedule that will be used for the project.



SECTION

19

Bayou Little Tech (Facing North)

19. Workload:

Firm(s)	*Past Performance Evaluation Discipline(s)*	*State Project Number*	*Project Name and Location*	*Remaining Unpaid Balance* **
Michael Baker International, Inc.	Environmental	S.P. No. H.005168 F.A.P. No. DE-9208 (500)	NORG-Jefferson Highway EA, New Orleans, Louisiana Supplemental Agreement	$811,412
Michael Baker International, Inc.	Environmental, Road, Bridge	S.P. No. H.005168	NORG – Avondale PEL Study, New Orleans, Louisiana Supplemental Agreement	$971,901
Michael Baker International, Inc.	CE&I/OV	Contract No. 4400015166 S.P. No. H.007288.6 (CE&I) F.A.P. No. H007288	Montgomery St. (LA 34 – I-20), City of West Monroe, Ouachita Parish	$58
Michael Baker International, Inc.	CE&I/OV	Contract No. 4400014845 Task Order No. H.012018.6 S.P. No. H.012018.6 F.A.P. No. H012018	Adaptive Traffic Signal and Implementation, Lafayette Parish	$428,219
Michael Baker International, Inc.	CE&I/OV	Contract No. 440001485 Task Order No. H.0003184.6 S.P. No. H.003184.6	IDIQ Contract for Construction Engineering and Inspection Services with majority of work in District 07, I-10: Texas State Line - E. of Coone Gully, Calcasieu Parish	$863,105
Michael Baker International, Inc.	CE&I/OV	Contract No. 4400013851 Task Order No. H.013271.6 S.P. No. H0.013271.6 F.A.P. No. H.013271	IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I), Statewide Tangipahoa PH Local Road Safety Upgrade, Tangipahoa Parish	$105,695
Michael Baker International, Inc.	CE&I/OV	Contract No. 4400013851 Task Order No. H.013271.6-2 S.P. NO. H.013271.6-2 F.A.P. No. H013271	IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I) Tangipahoa PH Local Road Safety Upgrade, Tangipahoa Parish	$41,794
Michael Baker International, Inc.	CE&I/OV	Contract No. 4400013851 Task Order No. H.013271.6-3 S.P. NO. H.013271.6-3 F.A.P. No. H013271	IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I) Tangipahoa PH Local Road Safety Upgrade, Tangipahoa Parish	$11,929

Michael Baker International, Inc.	CE&I/OV	Contract No. 4400013841 Task Order No. H.012473.6 S.P. No. H.012473.6 F.A.P. No. H012473	IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I), Statewide Marconi Dr. Shared-Use Path	$22,232
Michael Baker International, Inc.	CE&I/OV	Contract No.4400013851 Task Order No. H.009308.6S.P. No. H.009308.6F.A.P. No. H009308	IDIQ Contract for Construction Engineering and Inspection Services for Safety Projects (CE&I), Statewide New Orleans DPW SRTS Sidewalk Project	$242,450
Michael Baker International, Inc.	CE&I/OV	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	$197,289
Michael Baker International, Inc.	CE&I/OV	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	$175,791
Michael Baker International, Inc.	ITS	Contract No. 4400011253 S.P. No. H.011500.6	Retainer Contract for Intelligent Transportation Systems (ITS), Lake Charles ITS Phase 3	$15,942
Michael Baker International, Inc.	Other	Contract No. 4400019130 Task Order No. 1	IDIQ Contract for Statewide Aviation Program Update – Phase II Statewide	$74,136
Michael Baker International, Inc.	Other	Contract No. 4400017092 Task Order No. 2	Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 6	$1,430,860
Michael Baker International, Inc.	Other	Contract No. 4400017092 Task Order No. 3	Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 6	$2,201,285
Michael Baker International, Inc.	Other	Contract No. 4400017090 Task Order No. 2	Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 4	$1,209,876
Michael Baker International, Inc.	Road, Bridge	Contract No. 4400021519 S.P. No. H.012030.5 F.A.P. No. H012030	US 371: KCS RR Overpasses HBI	$630,967
Arcadis U.S., Inc.	Environmental	H.000688.2	US 11 Norfolk Southern Railroad	$2,413

Arcadis U.S., Inc.	Environmental	H.002397.2	LA 16 (Pete's Hwy) Interstate 12 Inter-change Route	$20,109
Arcadis U.S., Inc.	Environmental, Traffic, Road	H.011328.2	I-49 South (Ricohoc to Berwick)	$1,404,693
Arcadis U.S., Inc.	ITS	H.013868.5	ITS Program Management and Operations (2021)	$314,746
Arcadis U.S., Inc.	ITS	H.013868.6 (A)	ITS Routine Maintenance Engineering and Inspection (ME&I) (2021)	$199,249
Arcadis U.S., Inc.	ITS	H.013868.6 (B)	ITS Responsive/Emergency Maintenance Engineering and Inspection (ME&I) (2021)	$61,745
Arcadis U.S., Inc.	CE&I/OV	H.011220.6-1	I-10 CBD2 Carrollton-Lafitte Ave and Supplement No. 1	$124,554
Arcadis U.S., Inc.	CE&I/OV	H.012876.6	US 90Z (I-10 Magnolia Street) Supple-ment No. 1	$42,418
Arcadis U.S., Inc.	CE&I/OV	H.013710.6	I-10: US 61 to Laplace ITS Deployment	$546,289
Arcadis U.S., Inc.	Environmental	H.009932	US 80 Widening: Vancil Road to Well Road Environmental Assessment	$5,343
Arcadis U.S., Inc.	Traffic	H.003370	I-220/I-20 Interchange IMP & BAFP Access Design Build	$15,000
Arcadis U.S., Inc.	Traffic, Bridge, ITS	H.004100.5	I-10: LA 415 to Essen Lane on I-10 and I-12	$2,777,357
Arcadis U.S., Inc.	Traffic	H.005121	LA 1/LA 415 Connector	$111,349
Arcadis U.S., Inc.	Traffic	H.972419.1	SHSP Update and Regional SHSP Marketing/Advertising Support	$70,013
Arcadis U.S., Inc.	Road	H.012901.6, H.010634.6	US 90Z (Bodenger Blvd. – Stumpf Blvd.)	$339,654
Arcadis U.S., Inc.	Traffic	H.012018.6	Adaptive Traffic Signal Design and Implementation	$12,608
Arcadis U.S., Inc.	Traffic	H.014305.1	US 61: Cardinal Drive to Bert Street	$25,330
Civil Design & Construction, Inc.	Surveying	4400017597	Rural Bridge Replacement Initiative (Districts 03, 07, 61, & 62)	$21,000
Civil Design & Construction, Inc.	Surveying	4400013850	IDIQ for Design of Safety Projects (Downtown Greenway LA Connector -BR)	$27,000
Civil Design & Construction, Inc.	Surveying	4400011199	IDIQ contract for ADA Design Projects (Sidewalk Improvements to comply with ADA requirements – St. Tammany Parish)	$18,000
Civil Design & Construction, Inc.	Surveying	4400011225	IDIQ for Bridge Preservation (Southern University Ravine)	$58,000
T. Baker Smith, LLC	CE&I/OV	H.004113	LA 3241: LA 435 to LA 40/41	$102,556
T. Baker Smith, LLC	CE&I/OV	H.011152	I-12: US 190 to LA 59	$70,805
T. Baker Smith, LLC	Road, Bridge	H.001344	US 190: LA 437 - US 190 BUS (PH1)	$17,393
T. Baker Smith, LLC	Road	H.012812	US 190 at Northshore and Camp Villere	$100,401
T. Baker Smith, LLC	Road, Bridge	H.013942	LA 9: Middle Fork Bayou and Creek Bridges	$7,018
T. Baker Smith, LLC	Road, Bridge, Environmental	H.013979	LA 518, Local: Bridges Near Athens	$30,234

T. Baker Smith, LLC	Road, Bridge, Survey Environmental,	H.013988	LA 534: Bridges (LA 2 to Haynesville)	$76,188
T. Baker Smith, LLC	Road, Bridge	H.013987	LA 521: Bridges Near Dykesville	$1,549
T. Baker Smith, LLC	Road, Bridge, Survey, Environmental	H.013986	LA 155: Bridges Near Coushatta	$55,854
T. Baker Smith, LLC	Road, Bridge, Environmental	H.013995	LA 507, LA 514, Local: Bayou and CR BRS	$135,980
T. Baker Smith, LLC	Road, Bridge, Environmental	H.013990	LA 132: Bridges Near Mangham	$70,535
T. Baker Smith, LLC	Road, Bridge, Environmental	H.013992	LA 151: Creek and Relief Bridges	$35,790
T. Baker Smith, LLC	Road, Bridge	H.013199	Country Estates Dr. Over St. Louis Bayou	$1,549
T. Baker Smith, LLC	Road, Bridge	H.013080	Pine Bluff Rd. & Tack Allen Road Bridges	$1,278
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014271	LA 537: Bridges Near Plain Dealing	$197,860
T. Baker Smith, LLC	Road, Bridge, Survey, Environmental	H.014218	LA 2A: Thorny Branch & Indian Creek Brs	$204,775
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014219	LA 507: Creek Bridges Near Simsboro	$214,133
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014222	LA 516: Poland Branch Bridge	$68,000
T. Baker Smith, LLC	Road, Bridge, Survey, Environmental	H.014225	LA 528: Clark Bayou Bridge	$97,287
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014228	LA 159: Bridges Near Shongaloo	$246,121
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014231	LA 153: Topy Creek Relief & Drain Brs	$303,847
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014233	LA 160: Cypress Bayou and Relief Bridges	$118,269
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014236	LA 3008: Bridges Near Cotton Valley	$472,244
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014238	LA 818: Barnet Springs & Creek Bridges	$188,685

T. Baker Smith, LLC	Road, Bridge, Survey, Environmental	H.014239	LA 589: Lyon Bayou Bridge	$140,133
T. Baker Smith, LLC	Road, Bridge, Environmental	H.014264	LA 556: Bridges Near Choudrant	$455,090
T. Baker Smith, LLC	Other	H.003931	Calcasieu River Bridge	$530,440
T. Baker Smith, LLC	Other	H.014670	LA 1270: LA 77 to End of Control Section	$19,840
T. Baker Smith, LLC	Other	H.014747.5	Southern University Ravine Protection	$25,602

SECTION

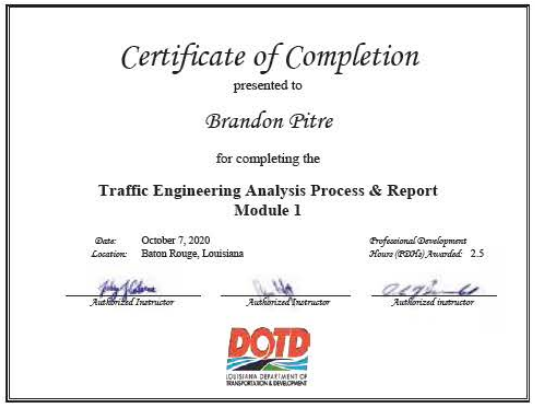
20

US 190 at Bayou Little Teche (Eastbound)

20. Certifications / Licenses:

Michael Baker International, Inc.

Brandon Pitre, PE, RSP1 - Project Manager, Roadway Design



Certificate of Completion

presented to

Brandon Pitre

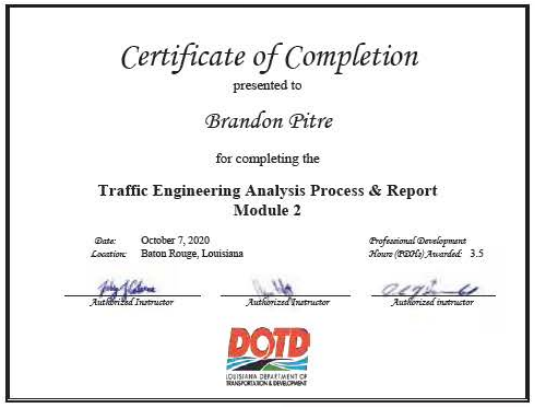
for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: October 7, 2020
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 2.5

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD



Certificate of Completion

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Brandon Pitre

for completing the

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Module 2

Date: October 7, 2020
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3.5

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD

Certificate of Completion

presented to

Brandon Pitre

for completing the

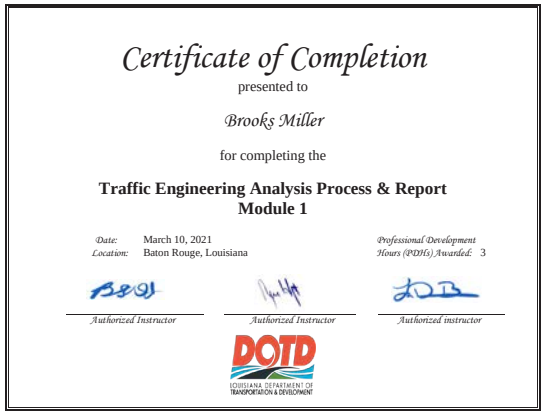
Traffic Engineering Analysis Process & Report
Module 3

Date: October 8, 2020
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3.5

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD

Brooks Miller, Jr., PE, PTOE- Roadway Engineer



Certificate of Completion

presented to

Brooks Miller

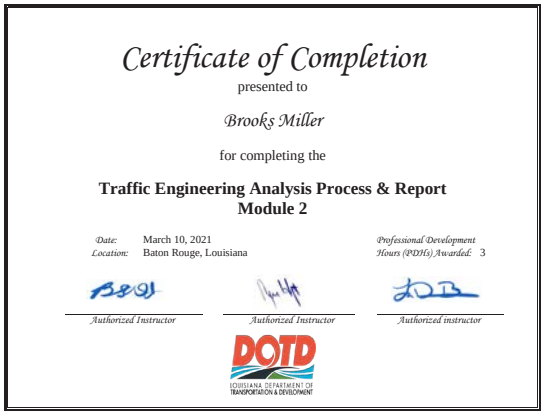
for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: March 10, 2021
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD



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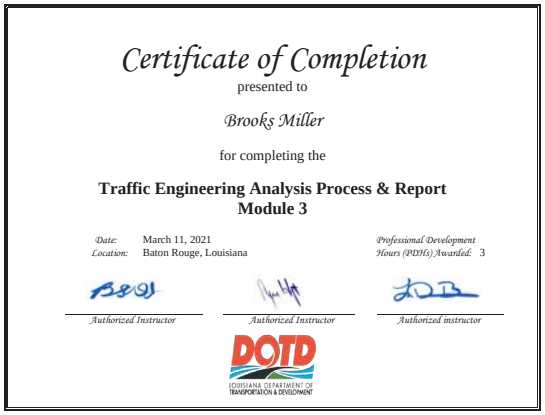
Module 2

Date: March 10, 2021
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD



Certificate of Completion

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Brooks Miller

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Traffic Engineering Analysis Process & Report
Module 3

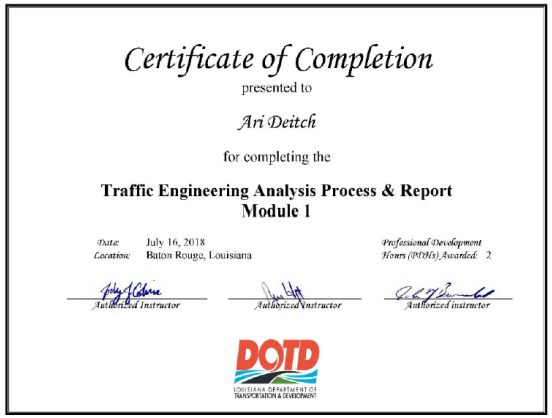
Date: March 11, 2021
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD

Arcadis U.S., Inc.

Ari Deitch, PE, PTOE, PTP, RSP1 - Traffic Engineer


Certificate of Completion
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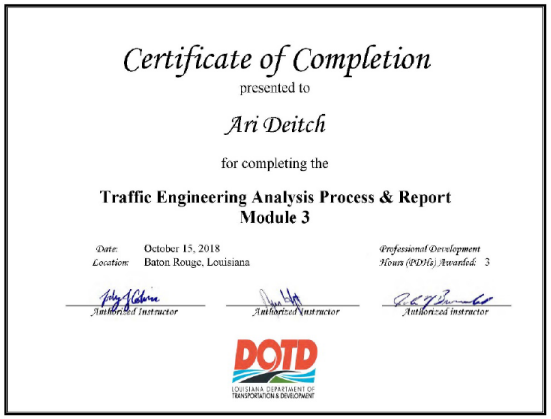
Ari Deitch
for completing the
Traffic Engineering Analysis Process & Report
Module 1
Date: July 16, 2018
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 2
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT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Authorized Instructor
Authorized Instructor
DOTD
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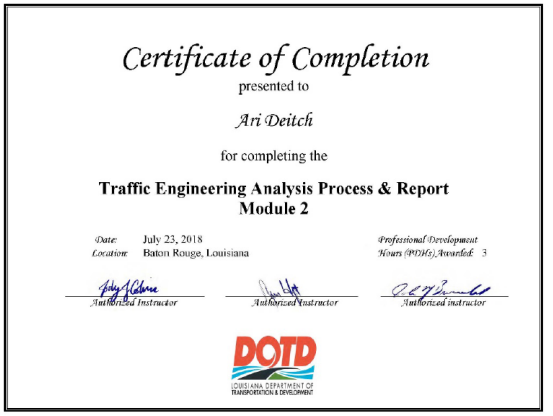
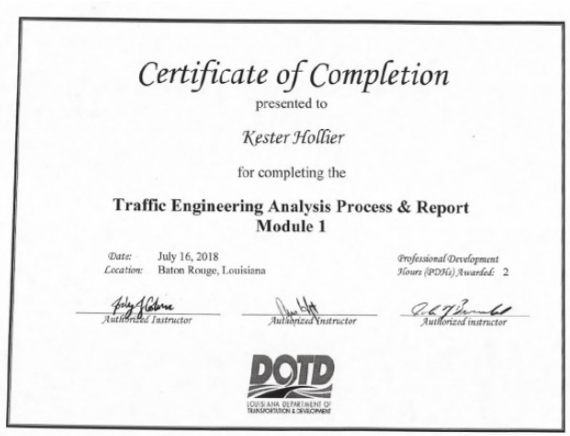

Certificate of Completion
presented to
Ari Deitch
for completing the
Traffic Engineering Analysis Process & Report
Module 2
Date: July 23, 2018
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Kester Hollier, PE, PTOE - Traffic Engineer


Certificate of Completion
presented to
Kester Hollier
for completing the
Traffic Engineering Analysis Process & Report
Module 1
Date: July 16, 2018
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 2
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT


Certificate of Completion
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Kester Hollier
for completing the
Traffic Engineering Analysis Process & Report
Module 2
Date: July 23, 2018
Location: Baton Rouge, Louisiana
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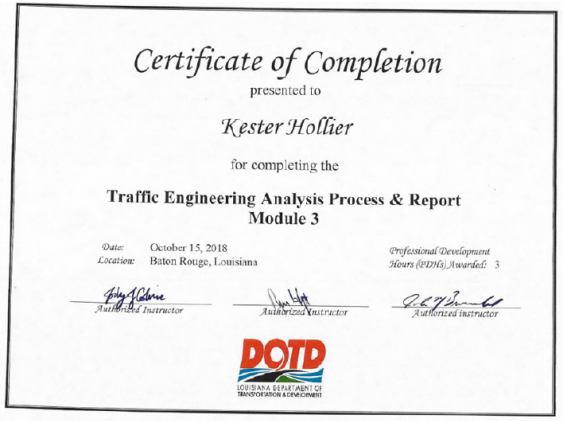
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT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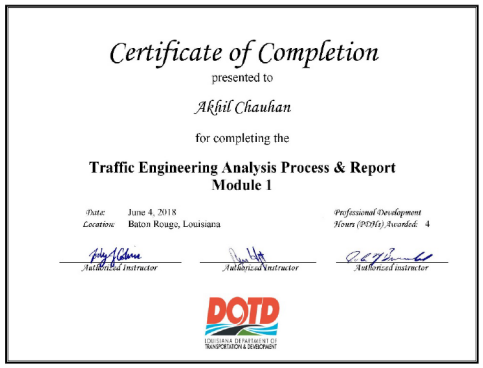
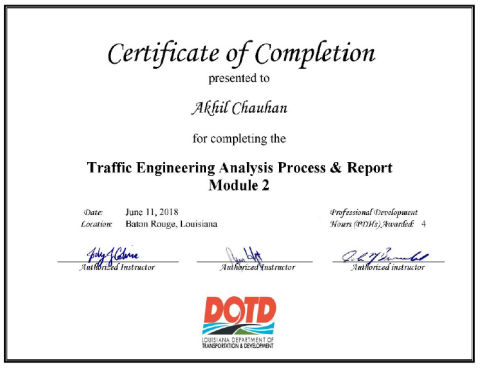
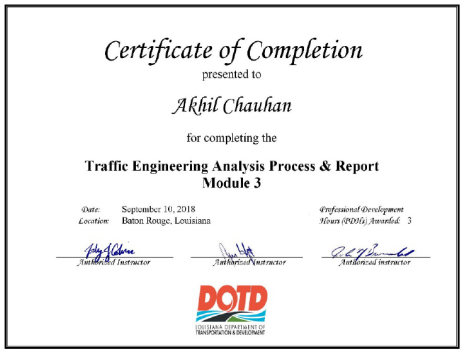
Date: October 15, 2018
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Akhil Chauhan, PE, PTOE, PMP, PTP - Traffic Engineer

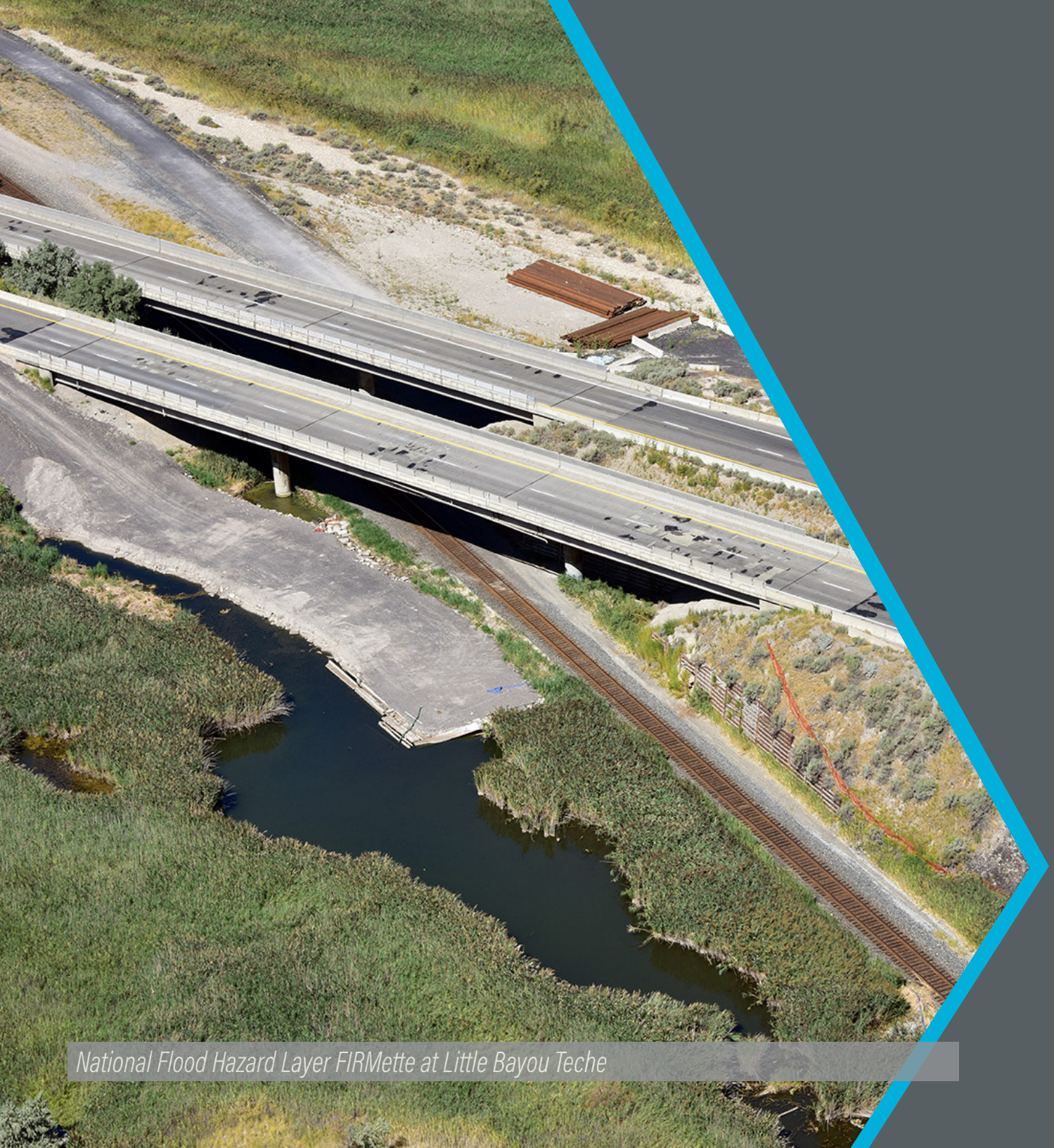

Certificate of Completion
presented to
Akhil Chauhan
for completing the
Traffic Engineering Analysis Process & Report
Module 1
Date: June 4, 2018
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 4
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT


Certificate of Completion
presented to
Akhil Chauhan
for completing the
Traffic Engineering Analysis Process & Report
Module 2
Date: June 11, 2018
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 4
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT


Certificate of Completion
presented to
Akhil Chauhan
for completing the
Traffic Engineering Analysis Process & Report
Module 3
Date: September 10, 2018
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3
Authorized Instructor
Authorized Instructor
Authorized Instructor
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

SECTION

21



National Flood Hazard Layer FIRMette at Little Bayou Teche

Michael Baker
INTERNATIONAL

BRIDGE DESIGN QA/QC PLAN

US 190: UPRR OVERPASS NEAR OPELOUSAS

REVISIONS

DATE	REVISION

APPROVALS:

_____ _____
Mary E Flynn, PE — Date
Office Quality Manager

_____ _____
Daniel Thornhill, PE — Date
Principal

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SECTION I - PROJECT QUALITY PLAN

1.0 Introduction

The following quality plan was prepared for the US 190: UPRR Overpass Near Opelousas. The individual members of the Michael Baker International Team shall collectively adopt and implement this Design QC/QA Plan for the project. All team members will maintain an up-to-date copy of the Design QC/QA Plan as documented by a certification of receipt.

The Michael Baker Team recognizes and acknowledges that they are responsible for the quality of construction documents and constructability of the project. The Design QC/QA Plan presented incorporates the overall control of establishing review procedures and provides for an independent Quality Control/Quality Assurance review team within the Michael Baker Team. The quality policy herein is relevant to Michael Baker's organizational goals and the expectations and needs of Louisiana Department of Transportation and Development (LA DOTD). Our commitment and objectives to quality shall be exhibited throughout the life of the design process as well as in construction support.

1.1 Scope of the Project Bridge Design QC/QA Plan

The Design QC/QA Plan is the overall methodology to ensure the deliverable of a quality set of construction documents. It is intended to establish a systematic approach to prepare, review and document the design development process and to assure that quality control has been effectively implemented.

All designers, technicians and reviewers recognize that quality is the result of several processes. It requires many individuals performing many appropriate activities at the right time during the plan development process. Quality Control does not solely consist of a review after a product is completed. It is an approach and a realization that quality is something that occurs throughout the design process. Quality requires performing all activities in conformance with valid requirements, no matter how large or small their overall contribution to the design process. Not only are accuracy in design activities and calculations required, but good CAD techniques, attention to detail and ensuring the plans are correct are essential to quality and the LA DOTD.

As an agent of LA DOTD, the Michael Baker Team is tasked with the primary responsibility for preparation of construction documents. The Michael Baker Team will ensure quality and adhere to established design policies, procedures, standards and guidelines in the preparation and review of all design products for compliance and good engineering practice as directed by this Design QC/QA Plan.

1.2 Objectives of the Project Bridge Design QC/QA Plan

- **Quality Control.** Procedures of checking the accuracy and consistency of the calculations and the drawings, detecting and correcting design omissions and errors before the design plans are finalized, and verifying the specifications for the load-carrying members are adequate for the service and operation loads.
- **Quality Assurance.** Procedures of reviewing the work to ensure the quality control procedures are in place and effective in preventing mistakes, and consistency in the development of bridge design plans and specifications.
- **Roles and Responsibilities.** To define the roles of the various project participants and their respective responsibilities.

- **Documentation.** To provide a well-documented "trail" of the design process. A properly documented project file should be a by-product of the quality control process. A well-documented project file will be able to substantiate the LA DOTD's position should any legal, social or procedural issues arise regarding the project.
- **Feedback.** To provide informational feedback from reviews to the designers. The designer's improved expertise and general increase in knowledge from feedback should result in product improvement at early stages even before a project review is started. The Quality Control process thus serves as a parallel training program.

1.3 Quality Organization - Key Personnel

The following key personnel will contribute significantly to the overall quality of the project and their roles and responsibilities are defined here:

a) **Principal-In-Charge** – The Principal-In-Charge has the responsibility to determine the overall direction of The Michael Baker Team and its relationship to the quality efforts. The Principal-In-Charge will ensure that the quality policy is documented and understood by all team members and shall further ensure implementation of the quality policy. The Principal-In-Charge assigned for the US 190: UPRR Overpass Near Opelousas is **Daniel Thornhill, PE.**

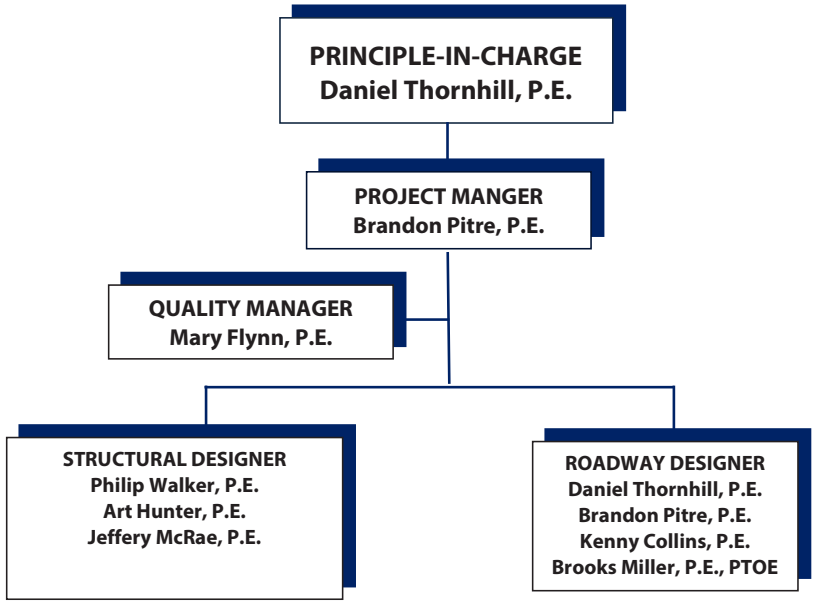
b) **Project Manager (PM)** – The PM is the **team leader**, licensed by the State of Louisiana as a Professional Engineer, responsible for the planning, staffing qualified designers and detailers, coordination and controlling of a project from inception to completion, meeting the project's requirements and ensuring that each project is completed on time, within budget, within scope, and in conjunction with the Quality Manager, meets required quality standards. The Project Manager ensures that all phase Quality Control reviews have occurred and have been completed, that all comments have been satisfactorily addressed, and that all forms and checklists have been completed by the appropriate personnel. The PM is ultimately responsible for each project's adherence to the quality control plan. The Project Manager for the US 190: UPRR Overpass Near Opelousas is **Brandon Pitre, PE.**

c) **Quality Manager** – The Quality Manager Reports directly to the Principal-In-Charge and will be a person who is independent from the production of the design. The Quality Manager is the person responsible for the Quality Assurance of all work produced. The Quality Manager will assess and evaluate the completeness and effectiveness of design quality control activities. Once Quality Assurance has verified a complete package, she will provide recommendation to the Project Manager and certification to the LADOTD that the design quality control activities comply with the contract requirements and the Design QC/QA Plan. The Quality Manager assigned to the Baton Rouge Office is **Mary Flynn, PE**

d) **Designers** – The Designers are the engineers responsible for their respective discipline or design efforts. The Designers must sign and seal design reports, design plans, working drawings and the project specifications for the assigned design activities. Designers are Louisiana licensed Professional Engineers, and have the necessary technical knowledge and experience required for this project. **The Designers assigned are Daniel Thornhill, PE; Brandon Pitre, PE; Philip Walker, PE; Art Hunter, PE; Jeffrey McRae, PE; Kenny Collins, PE; and Brooks Miller, PE, PTOE.**

LA DOTD – The LA DOTD will review and approve design criteria and TS&L, and selectively check dimensions and details as a cursory review of the plans for constructability, consistency, and clarity, but not as QC/QA of the Michael Baker Team's work. The LA DOTD is not responsible for the accuracy and completeness of design. It is the responsibility of Engineer of Record to ensure accuracy; adequacy; conformance to standards of practice; compliance with codes, standards and permits; cost effectiveness; quality; and fitness for purpose.

1.4 Quality Organizational Chart



SECTION II – DESIGN CRITERIA DEVELOPMENT

2.0 Design Input Requirements

During the course of the design, the design-input requirements relating to the scope of work and the applicable statutory and regulatory requirements related to the work to be/being performed shall be identified and documented and reviewed by the Project Manager for adequacy. Any incomplete, ambiguous, or conflicting requirements shall be resolved with the Project Manager (EOR) and LA DOTD.

The Project Manager will determine what information is needed to design the project and will determine if sufficient information has been provided to carry out the assignment. It is the Project Manager's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design information; sources and decisions made shall be documented and treated as a quality record.

Procedure: A team member noticing inconsistency with input requirements will notify the Project Manager. If the Project Manager is unable to resolve the inconsistency, a letter requesting clarification will be submitted to the LA DOTD for clarification. The clarification provided by LA DOTD will be recorded, documented and saved as a quality record, and a copy of the correspondence will be forwarded to the Quality Manager.

2.1 Design Criteria

Criteria specific for the US 190: UPRR Overpass Near Opelousas will be developed, reviewed and accepted by the Project Manager, and submitted to the LA DOTD for approval. A copy of the approved criteria will be provided to the Quality Manager. The Quality Manager will ensure the Michael Baker Team is working with the most updated criteria as they may change throughout the life of the project.

Bridge Design Criteria will include the following per LADOTD BDEM Chapter 3, Appendix A:

a. Cover Sheet, with project number, name, revision date, and Team Leader signature.
b. General design information including assumptions made and/or exemptions obtained
c. Governing design and construction specifications and other references (AASHTO, LADOTD Bridge Design Manual, ACI, AISC, etc.)
d. Hydraulic Design Criteria
e. Design Factors and Loads
f. Limit States
g. Bridge Barrier and Guardrail
h. Deck, Deck Drainage and Approach
i. Bearing
j. Joint Data
k. Superstructure Data
l. Substructure Data, including pile and drilled shafts
m. Geotechnical, Mechanical, and Electrical Design
n. Bridge Rating Criteria
o. Software

SECTION III – DEVELOPMENT OF DESIGN AND PLAN DETAILS

3.0 Design and Plan Preparation:

An Engineer of Record (EOR) will be assigned for the project. He/she is directly responsible for the supervision and/or preparation of plans, sealing drawings, special provision including non-standard items, and calculations. The EOR for the US 190: UPRR Overpass Near Opelousas will be the Project Manager (EOR), **Daniel Thornhill, PE**.

The following are the guidelines to be used for Calculations, Plans and Specifications.

3.1 Calculations

Calculations will be prepared as a guide and support for the design and will be provided during all phases of quality reviews but shall not be considered as elements of the Contract Documents. All calculation sheets will be organized and maintained in a standard calculation book format. The calculations will be consistent with the requirements of the design. In general, calculations will include the following:

- Design Criteria as detailed in Section IV.
- "Handwritten" Design Calculations will be made on standard calculation sheets; initialed by the designer; and, contain the date, job number, project title, and calculation title. All assumptions will be listed, verified and approved by the Project Manager (EOR). Where code dictates a requirement, the code, code date, section number and applicable table will be listed. When information is obtained from other calculations or disciplines, the source shall be properly referenced. Design iterations will be included as part of the final documentation. The final design will appear on the plans. During development of design calculations, proper sketches and details (when appropriate) will be presented in the design calculations for clarification purposes.
- Commercial Design Computer Software Calculations will be from the LA DOTD's approved list or approved for use by the Project Manager (EOR) and LA DOTD; training on usage and interpretation of results of software will be required for all inexperienced users. Generated output will be initialed by the designer; and contain the date, job number, project title, and calculation title. During development of design calculations, proper sketches and details (when appropriate) will be presented in the design calculations for clarification purposes.
- In-House Design Computer Programs will be approved for use by LA DOTD prior to use and may consist of spreadsheets, MathCAD worksheets, or other approved formats. Any in-house computer software used for design will be checked, or must have been previously checked, prior to use. All software checks will be documented and filed for future reference. The author will be responsible for updating the program and design manual (if required) to meet current code criteria. When the program is revised, the author will be responsible for informing the users. Results from in-house software will not be required as part of the deliverable.
- Design & Plan Preparation Computer Software will be a "total package" tool, in that a single software program is used throughout the design and detailing process to ultimately arrive at the final construction documents. Training on usage and interpretation of results of software is required for all inexperienced users. Where "industry standard" software is used, training should be readily available. Project Manager (EOR) should make the determination when training of individuals is needed. Planning, obtaining approval and scheduling of training sessions are responsibilities of the Project Manager (EOR).

3.2 Bridge Drawings

Drawings will show the structural member locations, sizes, reinforcing, and connections in sufficient scale and detail to enable the construction of the Bridge in a reasonable sequence. Elevations, sections, and details will be of appropriate scale, number, and extent to portray clearly the relationship of members to each other and their interconnection(s). Care will be taken to ascertain and determine that details noted "typical" are applicable to the US 190: UPRR Overpass Near Opelousas, for the condition being portrayed.

In general, final bridge drawings will include the following:

- General Notes and Bridge Index
- Summary of Bridge Quantities
- General Plan & Elevation
- Foundation/Pile Layout
- Abutment Details and Elevations
- Intermediate Bent Details and Elevations
- Transition Bent Details and Elevations
- Framing Plan
- Girder Details
- Approach Slab Details
- Standard Bridge Plans & Details

3.3 Specifications

The LADOTD Standard Specifications (2016 Edition) will be used for the construction as indicated in the construction plans. Where necessary, existing LA DOTD Non-Standard Specifications will be used. If a Non-Standard specification does not exist and is required, it will be developed and submitted to LA DOTD for their review and acceptance.

SECTION IV - QUALITY CONTROL

4.0 Scope of Quality Control Activities

As part of the Design QC/QA Plan, the Quality Control will include activities performed by The Michael Baker Team to assess design and ensure the quality of the end product. The Quality Control will include activities in establishing and communicating policies and procedures; auditing of design reviews and checks; verifying completeness and accuracy of design; and, establishing procedures for and monitoring of document control, and production process control and inspection.

The Project Manager (EOR) will communicate design quality procedures and policies to the design staff at the outset of the project and ongoing communication of Design QC/QA Plan goals and initiatives as the project continues. Communication and directives to the design staff will also include details of the quality control activities for proper checking, back checking and signing of design computations and construction documents by the Designers.

The Quality Control efforts will establish design requirements for design codes, design standards, production formatting and detailing requirements.

4.1 Objectives of the Quality Control Plan

- Implement, monitor, review and provide recommendations for improvement of the Quality Control throughout the project
- Discuss and schedule all Design Reviews by LA DOTD
- Review of the adequacy and completeness of design solutions and design documents
- Review of design solutions, including work by other designers and subconsultants, to ensure that the requirements of the contract documents and Project scope are satisfied
- Review for conformance and completeness at all Project Design phase submittals with the overall project scope and overall contract documents
- Certify that all design documents, including work by other designers and subconsultants, are in conformance with the Design QC/QA Plan and conforms to the contract requirements

- Document that all design services are performed under the direction of a Professional Engineer licensed in the contracted State
- Arrange and schedule reviews of all design documents and other plans such as shop drawings and fabrication drawings
- Conduct independent design checks of critical project components and review findings with design staff
- Provide design verification throughout the project as required by the LA DOTD
- Check design for accuracy of designer's calculations, pay items, quantities, special provisions, including non-standard items, and cost estimate
- Check detail for dimension and quantity calculations, design information, and CAD standards
- Preparation of Quality Assurance information package to the Quality Manager

4.2 Training Processes

The Michael Baker Team will establish and maintain documented procedures for identifying training needs and provide for the training of all personnel performing activities affecting quality control. Personnel performing specific assigned tasks shall be qualified based on appropriate education, training, and/or experience, as required. Appropriate records of training will be maintained by the Michael Baker Baton Rouge Office.

4.3 Procedures for Internal Quality Control Audits

The Quality Manager shall audit the Design QC/QA Plan implementation on a regular basis to see that the quality records, indexes, and quality review schedules are being performed in accordance with the Design QC/QA Plan. Also, the Quality Manager may ask the independent reviewers (checkers) to provide an independent design of certain elements of the project to independently verify the adequacy of the design. The independent design calculations will become a part of the quality record.

SECTION V – QC OF DESIGN AND PLAN DETAILS

5.0 Quality Control:

The quality control process established to ensure correctness for design and plan preparation will be divided into two categories:

1. ongoing through the process of design and plan preparation; and
2. periodic reviews at particular phase submittals of the project.

A Design Reviewer (Checker) reporting directly to the Project Manager (EOR) will conduct full technical reviews during the design, including design calculations, drawings, special provisions, including Non-Standard items, and cost estimate. When the Project Manager (EOR) identifies that the design and plans are ready for an independent review, he/she will create hard-copy printouts to be used for the calculation or plan review set. The calculations and/or plan review sets should identify the original designer and should be signed and dated by the Reviewer.

- The Project Manager (EOR) will provide hard-copy calculations and/or plan sets to the Design Reviewer (Checker). The Project Manager (EOR) will indicate the phase of review.

- The Checker should sign and date the calculations or plan sheets being reviewed.
- The Checker should indicate with a highlighter (or check mark for calculations and spreadsheets) each item reviewed on the sheet. Reviewer comments should be indicated in 'red' pen or pencil on the printout.
- Design Quality Review Checklists will be created for each phase of submittal reviews. These checklists are to be used as guidance during the design review. Any checklist items which are not applicable to the project or to the stage of the design review will be marked "N/A" for "not applicable." Completed checklists will include the reviewer's initials and date of review, and a PDF copy of the checklist will be kept as a part of the quality record.
- The review comments will also be documented and listed in a separate document or quality record.
- Once the review is complete, the marked-up sheets, checklists, and listed comments should be returned to the Project Manager (EOR).
- The Project Manager (EOR) will review the comments for compliance with the contract and Design QC/QA Plan requirements.
- The Project Manager (EOR) will provide the review comments to the Designer. If needed, the Project Manager (EOR) may choose to hold a Design Review Conference to communicate the comments to the Designer.
- The Designer should thoroughly review and address the comments, indicating on the sheet his agreement and incorporation of the comment with a highlighter (of different color than that used by the Checker).
- If there is disagreement on how a particular item should be addressed, then the Project Manager (EOR) will make the final decision, and notes should be made on the markup sheet on how the comment is to be resolved.
- The Project Manager (EOR) will initial each response to verify that each comment has been addressed.
- Once the review is complete, all check sets and calculations will be scanned as a PDF and kept electronically in the project files for future reference and saved as a part of the Quality Assurance package.

5.1 Quality Control Procedures:

Design and plan checking procedures will be conducted in Michael Baker's traditional manner. Quality procedures will include plan components and total package reviews.

Plan Component Review – Designs, plans and specifications will be checked for appropriateness, code compliance, completeness, design verification, and accuracy.

1. All Calculations shall include the name of the MAKER (design engineer or engineer intern) and the CHECKER (independent design engineer). Calculations shall be checked for appropriateness, code compliance, completeness, and accuracy. All design calculations will either be performed by or checked by an engineer licensed to practice in the State of Louisiana.
    a. "Handwritten" Design and Quantity Calculations shall be performed on a photocopy of the original. After checking and backchecking/comment resolution is completed, the original is to be corrected by the MAKER.

b. Commercial Design Computer Software shall be checked to verify all input required for the design, as well as, support calculations required for input. Checking shall be performed on the original; with, "handwritten" support calculations checked accordingly. After checking and backchecking/comment resolution is completed, the input will be revised by the MAKER and a new output generated. The new output will be reviewed for correctness and initialed and dated by the CHECKER.

c. In-house Design and Quantity Programs shall be checked in the same manner as Commercial Design Computer Software.

d. A three-color system will be used for checking, backchecking/comment resolution and final checking and review. Each color will be used exclusively by the person whose initials are signed with that color.

- CHECKER – first checking - Red
- MAKER – first backchecking/comment resolution - Blue
- CHECKER – final checking & review - Green

2. All Plans will be checked at completion. When a plan sheet has been completed to the satisfaction of those involved in its preparation, a half-size CHECKING PRINT shall be made of that sheet for the checker. All plans shall include the name of the MAKER and the CHECKER. Plans shall be checked for appropriate presentation, geometric conformance and accuracy, compliance with design calculations, and proper notes and references.

a. Appropriate presentation will include checking for conformance to customary layout, sections, details, and scales.

b. Geometric conformance will include checking for compatibility and fit with the overall project and adjacent components of the project. Accuracy checking shall include all horizontal and vertical dimensions and elevations for arithmetic correctness. Accuracy shall include checking against project calculations and spreadsheets, as well as independent computations.

c. Compliance with design calculations will include checking of plans to assure that dimensional and quantitative design requirements are correctly shown.

d. Proper notes and references will include checking of plans to ensure that code and design requirements are sufficiently indicated; and, cross referencing to other plan sheets and specifications are provided.

e. A four-color system is used, each color being used exclusively by the person whose initials are signed with that color. (Except for corrections made which may be signed off in red.)

- CHECKER – Red. Every number and figure must be checked in red (if correct) or circled in red with the correction shown to the side (if wrong).
- MAKER – Blue. Every number and figure circled and corrected by the CHECKER must be reviewed by the MAKER and checked off in blue or discussed with the CHECKER if disagreement occurs. At that point, any changes agreed upon by the CHECKER and MAKER will be shown in blue.

- CORRECTIONS MADE – Yellow. Every number and figure circled and corrected shall be yellowed by the person making the revisions to signify completion of each correction.
- CORRECTIONS CHECKED – Green. Every number and figure circled and corrected shall be checked off in green by the CHECKER to signify that the correction has been made properly.
- Upon completion of this process, the CHECKING PRINT is considered a finished document.
- Any additional corrections to the drawing shall require a new Checking Print, and the process shall be repeated. (Note: Previous Checking Prints shall not be discarded.)

SECTION VI – QUALITY ASSURANCE

6.0 Scope of the Quality Assurance Plan

The Quality Assurance Plan sets forth those actions, procedures, and methods employed at the management and senior technical levels to observe and ensure that prudent quality procedures are in place and are being implemented so that the desired result of a quality product is achieved.

This Quality Assurance Plan establishes a Quality System Team that will be distinct and separate from the design and production staff which includes a Quality Manager and independent reviewers. The Quality Manager will ensure that the Design QC/QA Plan is understood, implemented, and maintained at all levels of the Michael Baker Team.

6.1 Objectives of the Quality Assurance Plan

- Develop and prepare the Design QC/QA Plan, for review and concurrence by LA DOTD
- Publish, communicate and educate the Michael Baker Team on the approved Design QC/QA Plan for the project
- Review status and effectiveness of the Design QC/QA Plan - including Overall Quality Assurance and Construction Quality Control criteria throughout the life of the project
- Implement and oversee the overall quality program
- Develop procedures to allow the constructor to have input into the design in order to provide Design QC/QA Plans and construction methods
- Develop procedures on how document changes are initiated, reviewed, approved, implemented and recorded
- Define the liaison and interface between the quality assurance team and the design arms of project team
- Ensure that the QC process is complete, and the design calculations, drawings, special provisions, and cost estimate are in accordance with LA DOTD Design practices, policies, and procedures
- Provide reviews focused on constructability, areas of critical structural importance, areas that are new to the design practice, and other areas that the Quality Manager deem necessary.

- Update the Design QC/QA Plan and its procedures during the progress of the project
- Review, check and audit the Design QC/QA Plan to ensure compliance and functionality
- Cooperate and assist LA DOTD's designated representatives for QA

Ensuring that the Design QC/QA Plan is properly administered will start with proper staffing. The Quality Manager will be responsible for tracking, updating and communicating the Design QC/QA Plan status. A Design QC/QA Plan list of milestones, certifications, reports, and critical and non-critical elements will be refreshed as needed for the US 190: UPRR Overpass Near Opelousas Team and LA DOTD. The Quality Manager for the project will also track communication between the Michael Baker Team, LA DOTD and other organizations involved in the Design QC/QA Plan.

6.2 Procedures for Management Review

The Michael Baker Team's executive management will review the quality system at defined intervals sufficient to ensure its continuing suitability and effectiveness in satisfying the requirements of this standard and the designers stated quality policy and objectives. Management reviews will be at least at annual intervals.

6.3 Training Processes

The Michael Baker Team will establish and maintain documented procedures for identifying training needs and provide for the training of all personnel performing activities affecting quality assurance. Personnel performing specific assigned tasks shall be qualified based on appropriate education, training, and/or experience, as required. Appropriate records of training will be maintained by the Michael Baker Baton Rouge Office.

6.4 Procedures for Internal/External Quality Assurance Audits

The Quality Manager can audit the Design QC/QA Plan implementation at any time to see if the quality records, indexes, and quality review schedules are being performed in accordance with the Design QC/QA Plan. Also, the Quality Manager may perform independent design or calculation checks of certain elements of the project to verify the accuracy of checks. The independent checks may become a part of the quality record if necessary.

SECTION VII – QA REVIEW OF PLAN PACKAGE

7.0 Plan Package Review

A total package review shall be conducted by the Project Manager (EOR) for overall completeness and constructability prior to handing over to the Quality Manager for Quality Assurance review.

- Review shall include an assessment of completeness of the plan set in communicating design requirements, limitations of construction, required sequencing and critical instructions.
- Constructability review will be conducted to determine whether the project is buildable as designed and detailed using standard construction practices and materials; plan clarity has been achieved; and, plan details will result in a maintainable project.
- A complete set of half-size REVIEW PLANS, and other disciplines as needed for reference, shall be provided by the Project Manager (EOR) to the Quality Manager.

a) A four-color system is used, each color being used exclusively by the person whose initials are signed with that color. (Except for corrections made which may be signed off in red.)

   a) REVIEWER – Red. Quality Manager or his representative shall provide comments in red.

   b) DESIGNER – Blue. Comments by the REVIEWER will be reviewed by the DESIGNER and checked off in blue or discussed with the Project Manager (EOR) if disagreement occurs. At that point, any changes agreed upon by the REVIEWER and DESIGNER will be shown in blue.

   c) CORRECTIONS MADE – Yellow. Comments shall be incorporated into the plans and yellowed by the person making the revisions to signify completion of each comment.

   d) CORRECTIONS CHECKED – Green. Every number and figure circled and corrected shall be checked off in green by the Project Manager (EOR) to signify that the correction has been made properly.

   e) Upon completion of this process the REVIEW PLANS are considered a finished document.

- Design QC/QA Plan Checklists completed during the QC review will be verified for completeness and effectiveness for each QA phase submittal. These checklists indicate typical items that should be included in the submittal and can serve as a guide to the QA Review. If checklists are found to be incomplete or ineffective, the Quality Manager will address with the Michael Baker Team and make edits to the QC/QA Plan and checklists if necessary.

7.1 LA DOTD Reviews

The Project Manager (EOR) will submit to the LA DOTD each Phase Review after sufficient quality verification has been performed by the Quality Team for each phase submittal. Design Documents to be reviewed will be provided to LA DOTD for review.

The Project Manager (EOR) will provide LA DOTD's comments to the Designers for incorporation and/or further explanation. The Designer will respond to each comment and return the updated plans to the Project Manager (EOR). The Quality Manager will initial each comment to ensure that all comments have been addressed. If significant changes have been made to the plans since the previous independent review or if additional calculations are provided, the Quality Manager will conduct a second independent review of the phase submittal following the Procedures for Phase Reviews given above.

Once all reviews are complete and comments addressed, the Project Manager (EOR) will then forward a certification that the reviews have been completed to the LA DOTD. The Quality Manager will report any non-conformities/non-compliance. LA DOTD will then conduct another review with involvement of stakeholders at the discretion of LA DOTD. When all comments have been addressed to LA DOTD's satisfaction, the Project Manager (EOR) will finalize the phase submittal plans for construction.

7.2 Certification of Design Reviews

All design phase submittals shall be thoroughly reviewed by the Project Manager (EOR) as outlined in this Design QC/QA Plan. Further, the Quality Manager shall assure and certify that the Design QC/QA Plan has been adhered to before any submission to LA DOTD.

SECTION VIII – PROJECT DOCUMENT CONTROL

The **Project Document Control** will be used to house all quality records for the project. Quality records will be maintained to demonstrate conformance to the project requirements and to ensure that the Design QC/QA Plan has been implemented and followed.

Document Control Procedures for identification, collection, indexing, access, filing, storage, maintenance, and disposition of the quality records are as follows:

- Quality records will be identified with the stage of review. Quality records include the review plan set, specification or design calculation that is being submitted tabulating the review comments. Any calculations or other documentation of checking will also be included in the quality records. The quality records will be preserved as submitted by preparing a .pdf copy of the design review documentation including the marked-up plan set. These records will be saved to the project files.
- The Quality Manager is responsible for collecting all Phase Review comments from the design review team and LA DOTD. The Quality Manager is responsible for collecting these comments and ensuring incorporation to the construction plans or a resolution derived.
- The Quality Manager will index reviews received. This index will note the Phase Review, the designer's name, the independent checker's name and date of review, the date of submission to LA DOTD for review, and the date the certified review was sent on to the Quality Control Manager.
- The Quality Manager will determine who will have access to the quality records in the Project Document Control.
- All quality records will be filed as described in the Project Document Control. A back-up system will also be maintained to ensure that this documentation is not lost.
- The duration of the storage of the quality records is 4 years.
- The Quality Manager or staff directly under his/her supervision will be responsible for the maintenance of the quality records in the Project Document Control.
- The Quality Manager or staff directly under his/her supervision will be responsible for the disposition, distribution and notification of quality records to the Michael Baker Team.

SECTION

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US 190 at Bayou Little Teche (Westbound)

22. Sub-consultant information:

Firm Name (as registered with Louisiana's Secretary of State)	Address	Point of Contact and email address	Phone Number
Arcadis U.S., Inc.	10352 Plaza Americana Drive Baton Rouge, Louisiana 70816	Akhil Chauhan akhil.chauhan@arcadis.com	225-368-6563
Civil Design & Construction, Inc.	3251 Southern Pacific Road Port Allen, Louisiana 70767	Karla Weston kweston@cdcbr.com	225-765-1802
T. Baker Smith, LLC	170 New Camellia Boulevard, Suite 100 Covington, Louisiana 70433	TJ Stokes tj.stokes@tbsmith.com	985-302-0730

SECTION

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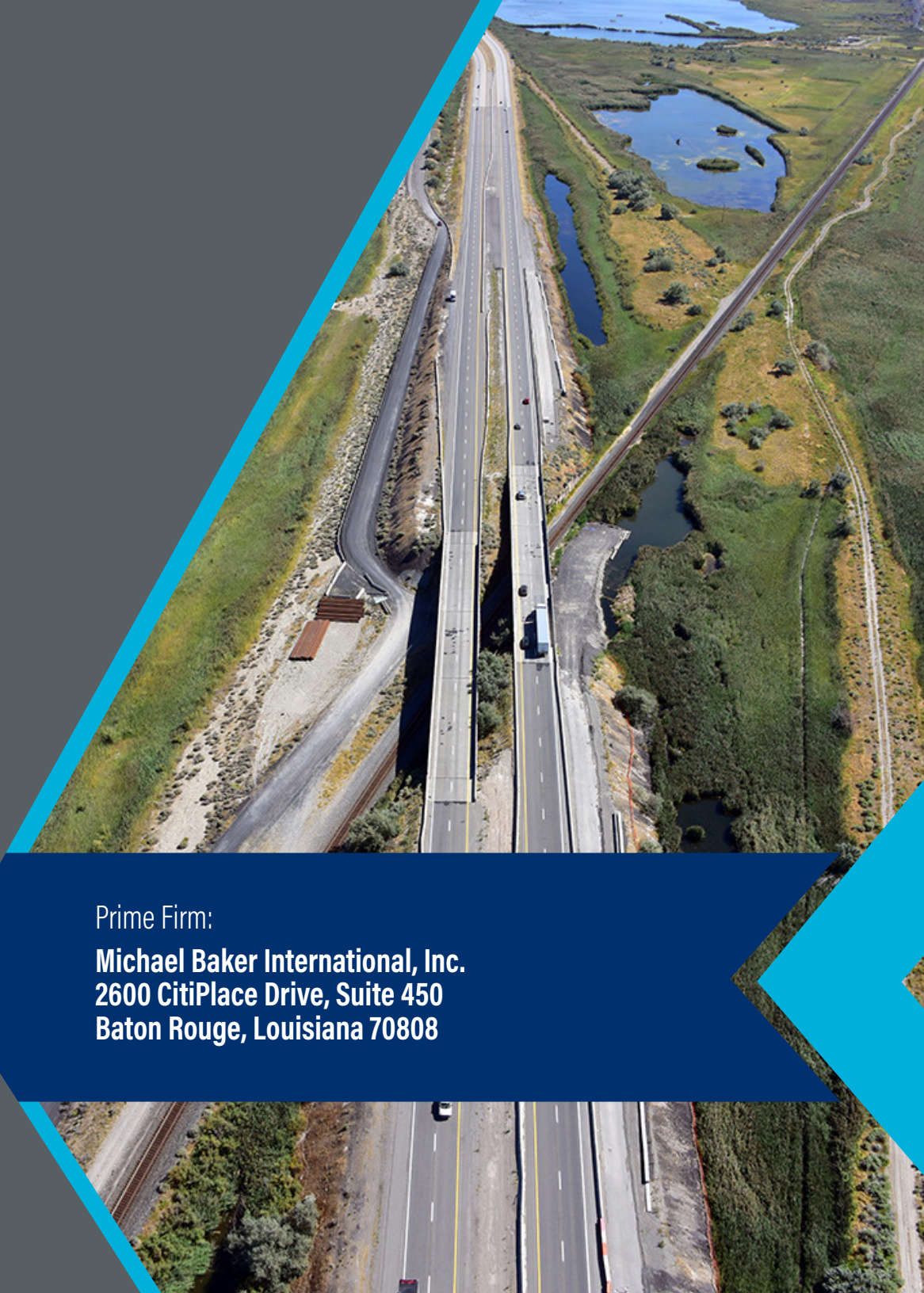
23. Location:

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.

Michael Baker
INTERNATIONAL



Prime Firm:

Michael Baker International, Inc.
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Baton Rouge, Louisiana 70808