April 15, 2025

PROPOSAL

Engineering and Related Services

Contract No. 4400031035

IDIQ CONTRACT FOR HYDRAULICS SECTION SUPPORT

Statewide

Project Manager
Sarah McEwen, PE, CFM
sarah.mcewen@neel-schaffer.com
601.948.3071

NEEL-SCHAFFER

Sections ***1-11***

Contract No. 4400031035

IDIQ CONTRACT FOR HYDRAULICS SECTION SUPPORT

DOTD FORM: 24-102

PROPOSAL TO PROVIDE CONSULTANT SERVICES

(Revised December 12, 2024)

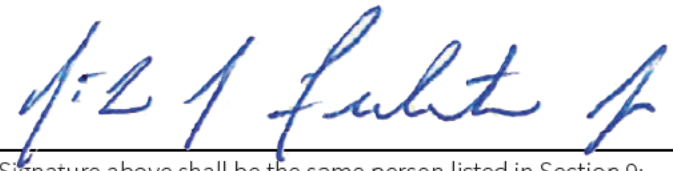
Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 23 can be removed but do not remove Section title and number.

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

1. **Contract Name** as shown in the advertisement	**IDIQ Contract for Hydraulics Section Support**
2. **Contract Number(s)** as shown in the advertisement	**4400031035**
3. **State Project Number(s)**, if shown in the advertisement	**N/A**
4. **Prime consultant name** (name must match exactly as registered with the Louisiana Secretary of State (SOS) where such registration is required by law; including punctuation; include screenshot from SOS at the end of Section 20)	**Neel-Schaffer, 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)	**EF.0001372**
6. **Prime consultant mailing address**	10000 Perkins Rowe, Suite G360 Baton Rouge, LA 70810
7. **Prime consultant physical address** (existing or to be established, if location is used as an evaluation criteria)	10000 Perkins Rowe, Suite G360 Baton Rouge, LA 70810
8. **Name, title, phone number, and email address of prime consultant's contract point of contact**	**Nick Ferlito, PE, PTOE** *Executive Vice President / Louisiana Area Manager* nick.ferlito@neel-schaffer.com 225.924.0235
9. **Name, title, phone number, and email address of the official with signing authority for this proposal**	**Nick Ferlito, PE, PTOE** *Executive Vice President / Louisiana Area Manager* nick.ferlito@neel-schaffer.com 225.924.0235

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.

    Pursuant to Act No. 581 of the 2024 Louisiana Legislature Regular Session, proposer further certifies that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association based solely on the entity's or association's status as a firearm entity or firearm trade association. In addition, proposer certifies it will not discriminate against a firearm entity or firearm trade association during the term of the contract based solely on the entity's or association's status as a firearm entity or firearm trade association.



Signature above shall be the same person listed in Section 9:

Date: **April 10, 2025**

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	FIRM PERCENT
La Terre Engineering LLC	2.5%

Sections ***12-15***

Contract No. 4400031035

IDIQ CONTRACT FOR HYDRAULICS SECTION SUPPORT

12. PAST PERFORMANCE EVALUATION DISCIPLINE TABLE:

Past Performance Evaluation Discipline(s)	% of Overall Contract	Neel-Schaffer, Inc.	Dewberry Engineers Inc.	Freese and Nichols, Inc.	CSRS, LLC	La Terre Engineering LLC	Each Discipline must total to 100%
Other (Hydrology& Hydraulics)	100%	42%	39%	15%	2%	2%	100%
Identify the percentage of work for the **overall contract** to be performed by the prime consultant and each sub-consultant.							
Percent of Contract	100%	42%	39%	15%	2%	2%	

13. FIRM SIZE:

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
Neel-Schaffer, Inc.	Principal	1	1
	Supervisor – Eng	5	6
	Engineer	17	25
	Engineer Intern	1	2
Dewberry Engineers Inc.	Principal	1	6
	Supervisor- Other	2	24
	Engineer	3	2
	Engineer- Other	5	166
	Engineer Intern	4	132
	Technician	2	20
	Senior Technician	2	20
	Supervisor- Eng	2	12
	Planner	1	6
	Administrative	1	6
	Graphics	1	4
	GIS Analyst	3	35
	Clerical	1	2

13. FIRM SIZE:

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
Freese and Nichols, Inc.	Clerical	1	44
	Engineer	1	29
	Engineer - Other	4	192
	Engineering-Aide	1	131
	GIS Analyst	3	23
	Planner	1	1
	Principal	4	83
	Professional	12	36
	Senior Technician	3	5
	Supervisor - Eng	6	29
	Supervisor - Other	3	7
	Technician	3	3
CSRS, LLC	Supervisor - Eng	1	4
	Engineer	2	12
	Engineer Intern	1	9
LA TERRE ENGINEERING LLC	Engineer	1	1
	Engineer Intern	1	1
	Technician	1	1
	Accountant	1	1

14. ORGANIZATIONAL CHART

Principal In Charge
- Nick Ferlito, Jr., PE, PTOE

Project Manager
- Sarah McEwen, PE, CFM

Subject Matter Expert
- Mike Phillips, PE, CFM

Deputy Project Manager
- Leah Selcer, PE

THE NEEL-SCHAFFER TEAM
- Neel-Schaffer, Inc
- Dewberry Engineers Inc.
- Freese and Nichols, Inc.
- CSRS, LLC
- La Terre Engineering, LLC

MPR Designation | TEPR Certified

Hydraulics Manual Revision

Lead: Mike Phillips, PE, CFM
Support: Dewberry, Freese, CSRS, LTE

Hydrology	Roadway Hydraulics
Mike Phillips, PE, CFM	Leah Selcer, PE
Sarah McEwen, PE, CFM	Sarah McEwen, PE, CFM
Wade Barnes, PE, CFM	Amber Cutcliff, PE, CFM
Jay Coleman, PE	Colby Curtis, PE, CFM
Joe Rungee, PE, PhD	Dishili Young, PE, PTOE
	Chance Shuckrow, PE
	Hannah Prater, PE
	Priscilla Howell, PE

Manual Revisions	Bridge Hydraulics
Mike Phillips, PE, CFM	Mike Phillips, PE, CFM
Sarah McEwen, PE, CFM	Sarah McEwen, PE, CFM
Wade Barnes, PE, CFM	Kyle Grantham, PE, CFM
Jay Coleman, PE	Abigail Richardson, PE, CFM
Joe Rungee, PE, PhD	Colby Curtis, PE, CFM
Jennifer Ziegler, PE	Vaishali Kandpal, PE, CFM
Hannah Prater, PE	David MacLean, PE
	Sahar Haddadian, PE

Drainage in Wetlands	Pump Station
Leah Selcer, PE	Leah Selcer, PE
Dain Gillen, PE	Colby Curtis, PE, CFM
Vaishali Kandpal, PE, CFM	Wade Barnes, PE, CFM

Watershed Modeling

Lead: Sam Crampton, PE, CFM
Support: NSI, Freese, CSRS

LWI Breakout Models	LWI Hydraulic Model Maintenance
Seth Bradley, PE	Seth Bradley, PE
Sam Crampton, PE, CFM	Sam Crampton, PE, CFM
Matthew Deshotel, PE	Matthew Deshotel, PE
Emma Bones, PE	Emma Bones, PE
Lani Orgeron, PE	Lani Orgeron, PE

1D Hydraulic Modeling	2D Hydraulic Modeling
Seth Bradley, PE	Seth Bradley, PE
Sam Crampton, PE, CFM	Sam Crampton, PE, CFM
Matthew Deshotel, PE	Matthew Deshotel, PE
Emma Bones, PE	Emma Bones, PE
Lani Orgeron, PE	Lani Orgeron, PE
Sarah McEwen, PE, CFM	Sarah McEwen, PE, CFM
Kyle Grantham, PE, CFM	Kyle Grantham, PE, CFM
Jay Coleman, PE	Jay Coleman, PE
Joe Rungee, PE, PhD	Joe Rungee, PE, PhD
Stokka Brown, MS, PE, CFM	Stokka Brown, MS, PE, CFM
Spencer Johnson, PE, CFM	Spencer Johnson, PE, CFM
Brandon Campo, PE, CFM	Brandon Campo, PE, CFM
Henry McCall, EI	Henry McCall, EI

NFIP/FEMA Analysis

Lead: Mat Leclair, PE, CFM
Support: NSI, Dewberry, CSRS

No-Rise Applications	NFIP Regulatory Mapping
Mat Leclair, PE, CFM	Mat Leclair, PE, CFM
Nick Boardman, PE, CFM	Nick Boardman, PE, CFM
Hector Olmos, PE, CFM	Hector Olmos, PE, CFM
Jeremy Dixon, PE, CFM	Jeremy Dixon, PE, CFM
Bethany Fleitman, PE, CFM	Bethany Fleitman, PE, CFM
Jim Keith, PE, CFM	Jim Keith, PE, CFM
Mike Phillips, PE, CFM	Mike Phillips, PE, CFM
Sarah McEwen, PE, CFM	Sarah McEwen, PE, CFM
Vaishali Kandpal, PE, CFM	Kyle Grantham, PE, CFM
Sahar Haddadian, PE	Vaishali Kandpal, PE, CFM
Wade Barnes, PE, CFM	Joe Rungee, PE, PhD
Joe Rungee, PE, PhD	Jerri Daniels, CFM
Jerri Daniels, CFM	

2D Bridge Hydraulic Modeling

Lead: Sarah McEwen, PE, CFM
Support: Freese, Dewberry

2D Bridge Modeling	Countermeasure Design
Sarah McEwen, PE, CFM	Sarah McEwen, PE, CFM
Kyle Grantham, PE, CFM	David MacLean, PE
Abigail Richardson, PE, CFM	Mike Phillips, PE, CFM
Sahar Haddadian, PE	Leah Selcer, PE
David MacLean, PE	Joe Rungee, PE, PhD

2D Bridge Modeling Training
Sarah McEwen, PE, CFM
Kyle Grantham, PE, CFM
Abigail Richardson, PE, CFM

General Hydraulics

Lead: Leah Selcer, PE
Support: Dewberry, Freese, CSRS, LTE

3rd Party Hydraulic Report Reviews	Special Drainage Studies
Mike Phillips, PE, CFM	Mike Phillips, PE, CFM
Sarah McEwen, PE, CFM	Leah Selcer, PE
Leah Selcer, PE	Colby Curtis, PE, CFM
Kyle Grantham, PE, CFM	Seneca Toussant, PE
Colby Curtis, PE, CFM	Lyle Tynes, EI
Kyle Grantham, PE, CFM	Roman Hundley
Wade Barnes, PE, CFM	

Hydraulic Structures	Bank Stabilization
Don Lancaster, PE	Sarah McEwen, PE, CFM
Leah Selcer, PE	Kyle Grantham, PE, CFM
Steve Hazen, PE	Colby Curtis, PE, CFM
Dain Gillen, PE	Leah Selcer, PE
Randy Boudreaux, PE	Joe Rungee, PE, PhD
Seneca Toussant, PE	
Lyle Tynes, EI	
Roman Hundley	

15. MINIMUM PERSONNEL REQUIREMENTS:

MPR No.	Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR / certification and number (Ex: PE # – Civil)	State of license	License / certification expiration date
1	Nick Ferlito, Jr., PE, PTOE	Neel-Schaffer, Inc.	PE No. 28001 – Civil	LA	09/30/2025
2	Sarah McEwen, PE, CFM	Neel-Schaffer, Inc.	PE No. 42539 – Civil CFM No. US-14-07857	LA	09/30/2026
3	Sarah McEwen, PE, CFM	Neel-Schaffer, Inc.	PE No. 42539 – Civil CFM No. US-14-07857	LA	09/30/2026
4	Sarah McEwen, PE, CFM	Neel-Schaffer, Inc.	PE No. 42539 – Civil CFM No. US-14-07857	LA	09/30/2026
5	Michael Phillips, PE, CFM	Neel-Schaffer, Inc.	PE No. 34600 – Civil CFM No. US-15-08186	LA US	09/30/2025
5	Stokka Brown, MS, PE, CFM	CSRS, LLC	PE No. 38148 – Civil CFM No. US-18-10677	LA US	09/30/2025
5	Mat Leclair, PE, CFM	Freese and Nichols, Inc.	CFM No. US-1893-10N	US	12/31/2025
5	Sam Crampton, PE, CFM	Dewberry Engineers Inc.	PE # 37866 – Civil CFM # US-08-03250	LA US	09/30/2025 07/31/2026
5	Jerri Daniels, CFM	Dewberry Engineers Inc.	CFM # US-07-02666	US	07/31/2025

NSI Staff Routinely Use the Following FHWA Publications:
FHWA Publications HEC 18 – Evaluating Scour at Bridges
HEC 23 – Bridge Scour and Stream Instability Countermeasures
HEC-20 – Stream Stability at Highway Structures
Hydraulic Design Series Number 6 – River Engineering for Highway Encroachments
Hydraulic Design Series Number 7 – Hydraulic Design of Safe Bridges
HEC 25 – Highways in the Coastal Environment
HEC 17 – Design of Encroachments on Floodplains Using Risk Analysis
HEC 21 – Design of Bridge Deck Drainage.
HEC 22 – Urban Drainage Design Manual

Technical Training Related to Bridge Hydraulic & Scour Analyses:
NHI Course 135095 Two-Dimensional Hydraulic Modeling of Rivers at Highway Encroachments Surface-Water Modeling System (SMS)
NHI Course 135046 Stream Stability and Scour at Highway Bridges
NHI Course 135041 One-Dimensional Modeling of River Encroachments with HEC-RAS
HEC RAS/GeoRAS - Water Surface Profiles
HEC HMS/GeoHMS Flood Hydrographs
Riverine Sediment Transport Modeling with HEC-RAS and HEC-6;
Hydraulic Design of Flood Control Channels
Floodplain Hydrology
Flood Frequency Analysis
Urban Hydrology
Hydraulic Design of Outlet Works;
Dam Break Analysis

Section 16

Contract No. 4400031035

IDIQ CONTRACT FOR HYDRAULICS SECTION SUPPORT

16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.					
Name	**Nick Ferlito, Jr., PE, PTOE**			Years of relevant experience with this employer	28
Title	Executive Vice President / Louisiana Area Manager			Years of relevant experience with other employer(s)	3
Degree(s) / Years / Specialization			BS / 1993 / Civil Engineering; MS / 1996 / Civil Engineering		
Active registration number / state / expiration date			PE No. 28001 / LA / 09-30-2025; PTOE No. 930		
Year registered	1998	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Principal **MPR 1**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/20 – Ongoing	**I-20: LA 544 Overpass Replacement**: TMP and traffic analysis QA/QC. Preliminary and final design services for this project., which will replace the LA 544 Overpass diamond interchange with a diamond roundabout interchange. The project includes a new bridge over I-20 with sidewalks and four multilane roundabouts within a roundabout interchange with two roundabouts on a 3% longitudinal grade & partially on bridge. Includes a level 2 TMP
01/15 – 01/23	**Various Traffic Impact Studies along LA 44:** Project Manager for multiple traffic impact studies for various developments along LA 44 which include Conway Plantation, Oak Lake Subdivision, Pelican Crossing Subdivision, Pelican Point Subdivisions and Love's Travel Stop. As part of the Conway Plantation study, a roundabout was analyzed and recommended at the entrance of LA 44 and Conway Plantation and Oak Lake Subdivision which was later constructed under a DOTD permit. Our latest study, the Love's Travel Stop, the interchange at LA 44 at I-10 was evaluated for existing and future conditions as a roundabout and with interim recommendations prior to the installation of roundabouts. Traffic data for the analysis was collected by Neel-Schaffer in 2022. Neel-Schaffer, Inc. has extensive knowledge of the LA 44 corridor from I-10 to LA 22 through. We are very familiar with the struggles to determine cost effective traffic control at the intersection of LA 44 and Loosemoore Road due to minimum gaps for side street traffic to exit onto LA 44. This roundabout corridor will greatly improve the access to and from Loosemoore Road.
10/13 – 12/16	**LA 30 Stage 0 Traffic & Safety Study, Gonzales, LA**: Project Manager for the traffic study, including a TIER analysis for new interchange concepts at I-10 at LA 30, as well as corridor improvements between LA 3251 and LA 44. Future traffic forecast for the study were developed using the CRPC Travel Demand model and considered future interchanges at I-10 and LA 74 and LA 429. The recommended TIER I alternatives were analyzed in detail using Vissim. Includes Multilane Roundabout interchange
01/11 – 01/14	**LA 447 Corridor Study (LA 16 to US 190), Walker, LA**: Project Manager for a traffic study to evaluate corridor improvements along LA 447 as well as interchange concepts at I-12. A TIER analysis was performed at the interchange of I-12 at LA 447 to evaluate various interchange configurations. The corridor analysis included HCS and Vissim analysis to evaluate RCUT and roundabout corridor concepts. Includes multilane roundabouts
07/16 – Ongoing	**I-49 South at Verot School Road, Lafayette, LA**: Performed Traffic QA/QC on the preparation of a Level 3 TMP and design of temporary and permanent traffic signals. Includes a multilane Roundabout
08/20 – Ongoing	**I-10 & I-12 College Drive Flyover Ramp Design Build, Baton Rouge, LA**: Project Manager for Interchange Modification Report, TMP, and ITR of MOT Plans for the proposed College Drive Ramp improvements. The IMR was prepared in accordance with DOTD's TEPR and FHWA Policy Points. The IMR analysis was performed using Vissim software. In addition, the TMP was prepared for the various maintenance of traffic phases. Analysis used in the TMP included HCS analysis for detour evaluations and Dynameq (Mesoscopic Modeling) for evaluating various MOT strategies.

08/20 – Ongoing	**College Drive Enhancement Project (Perkins Road to I-10), Baton Rouge, LA**: Project Manager for the Traffic Study component for the study of the College Drive corridor. The Traffic Study is being prepared in accordance with DOTD's TEPR and includes performing all analysis in Vissim to evaluate various alternatives. In addition to corridor improvements, a tiered analysis will be performed to evaluate various interchange alternatives for I-10 at College Drive.
12/19 – Ongoing	**US 80 Feasibility Study, Haughton, LA**: Project Manager for the preparation of a Stage 0 Report in support of safety improvements along US 80 corridor, specifically in the vicinity of Bellevue Road and Mid-South Loop Road. All analysis performed in HCS for this study. The traffic study was performed in accordance with DOTD's TEPR.
06/17 – 09/18	**I-10 New Orleans Master Plan, Port Access Improvements**: Created a plan or a program of projects which mitigates the severe congestion extending from Interstate 10 at its interchange with the Pontchartrain Expressway (US 90B / I-910) to the Crescent City Connection (CCC) crossing of the Mississippi River, including connecting ramps and roadways. Project Manager. Includes roundabout alternatives.
01/15 – 06/15	**LA 3002, 16 & 1034 Corridor Study Phase 2, Range Ave. Corridor Study**: Project Manager. Includes 12 roundabout alternatives.
03/13 – 09/14	**Operational / Safety Study, LA 311, Houma, LA**: Provided traffic signal evaluation and installation design services: Traffic counting (data collection), Warrant Analysis, Traffic Modeling, Intersection / Corridor Analysis Traffic Signal Design, Geometric Evaluations, Traffic Signal Inventories (TSI), and Access Management. Traffic Engineering Manager Includes 6 roundabout alternatives.
11/12 – 04/14	**Operational / Safety Study, LA 1088, Mandeville, LA**: Provided traffic signal evaluation and installation design services: Traffic counting (data collection), Warrant Analysis, Traffic Modeling, Intersection / Corridor Analysis Traffic Signal Design, Geometric Evaluations, Traffic Signal Inventories (TSI), and Access Management. Traffic Engineering Manager Includes 8 roundabout alternatives.
01/13 – 01/14	**US 190 (LA 433 to US 11) Interim Capacity / Widening Improvements Stage 0 Feasibility Study**: Performed a safety and capacity evaluation of a 6.6-mile segment of US 190 corridor within St. Tammany Parish extending from LA 433 to US 11. Traffic Engineering Manager. Includes 8 roundabout alternatives.
11/16 – 08/19	**LA 385 Feasibility Study, Lake Charles, LA**: Project Manager for the Stage 0 Report in support of safety and traffic operational improvements along with the LA 385 (Ryan Street) corridor between LA 3186 south of I-10 to Eddy Street north of I-10, including the LA 385 interchange with I-10. Includes Multilane Roundabouts
Career History	Nick joined Neel-Schaffer in 1996. He is a Senior Vice President and serves as Louisiana Area Manager, overseeing all responsibilities for the state. He has more than 30 years of experience managing a wide range of traffic and transportation projects. He has served as a project manager for many intersection/corridor signal timing studies, signal design projects, safety studies and other traffic engineering related projects for public and private projects. Nick is experienced with numerous traffic engineering software packages, including HCS, CORSIM, SYNCHRO, Tru-Traffic (TSPPDraft), and SIDRA. He also completed the Naztec TS1/TS2 Controller 2-Day training course. He has also completed the NEPA and Transportation Decision Making course (2004), the Highway Safety Manual Workshop (2011) as well as LADOTD's Traffic Engineering Process and Report (TEPR) training. He has also served as the project manager and lead traffic engineering for the following IDIQ contracts with Louisiana Department of Transportation and Development: • IDIQ Contract 44-01583 for Safety Studies Statewide • IDIQ Contract 44-04402 for Safety Studies Statewide • IDIQ Contract 44-10504 for Safety Studies Statewide • IDIQ Contract 44-08851 for Traffic Signal Engineering • IDIQ Contract 44-04712 for Traffic Engineering • IDIQ Contract 44-04064 for Traffic Engineering • IDIQ Contract 44-01777 Signal Timing Studies • IDIQ Contract 44-04712 Traffic Signal Engineering

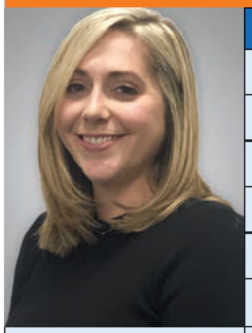
16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.					
Name	**Sarah McEwen, PE, CFM**			Years of relevant experience with this employer	2
Title	Central Region Hydrology & Hydraulics Lead			Years of relevant experience with other employer(s)	11
Degree(s) / Years / Specialization			BS / 2013 / Civil Engineering		
Active registration number / state / expiration date			PE No. 42539 / LA / 09-30-2026		
Year registered	2018	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Project Manager **MPRs 2, 3, & 4**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
09/23 – Ongoing	**MDOT SR 313 Bridge Replacement, Marshall County, MS:** Bridge replacement project involving modeling the existing and proposed bridge in SMS to analyze scour. Project is now in design phase. Role includes PM on project and technical lead.
08/23– Ongoing	**MDOT SR 4 Bridge Replacement, Tippah County, MS:** Bridge replacement project involving modeling the existing and proposed bridge in SMS to analyze scour. Project is now in design phase. Role includes PM on project and technical lead.
04/23 – Ongoing	**MDOT SR 172 Bridge Replacement, Tishomingo County, MS:** Bridge replacement project involving modeling the existing and proposed bridge in SMS to analyze scour. Project is now in design phase. Role includes PM on project and technical lead.
01/15 – 08/15	**Sonny McDonald Industrial Park, Jackson, MS:** Served as Project Engineer. This project for the Hinds County Development Authority included using HEC-RAS, ArcGIS, and hydrologic and hydraulic calculations to evaluate the proposed in-line structure risk during a breach. The dam was evaluated for risk and appropriate documentation submitted to MDEQ Dam safety division. The study involved unsteady flow analysis, review of hydrology, and use of ArcGIS to map the breach boundary to evaluate the potential impacts of the breach.
08/24 – Ongoing	**Moss Point General Services Contract, Moss Point, MS:** In this role she supports the Moss Point City Engineer by facilitating meeting between agency, consulting, and educational stakeholders to support the development of technical guidance, data collection of stormwater systems, and decision support tools.
05/17 – 06/18	**Lakefront Airport 2D Subsurface Modeling, New Orleans, LA:** General review and assistance on drainage design for the airport. As the project engineer work included using hydraulic software such as PCSWMM, to create hydraulic analysis of the pre- and post- conditions of site to that would meet or exceed drainage regulations.
10/23 – Ongoing	**MS Soil & Water Conservation Commission, Government Ditch Watershed Plan Restoration & Environmental Assessment, Coahoma County, MS:** Project Engineer. Engineer for the restoration and stabilization of a watershed in the Mississippi Delta. The goal of the project is to implement permanent stabilization structures to reduce sediment transport and improve water quality in the Sunflower River, which has a TMDL for pathogens, and to decrease flooding within the HUC12 watershed.
07/13 – 04/17	**Mississippi Department of Environmental Quality, Digital: Flood Insurance Rate Map (DFIRM):** Program Project Engineer responsible for updating FEMA floodplain maps for communities throughout Mississippi. Tasks include processing and analysis of digital terrain data in various formats, GIS data processing and analyses, hydrologic and hydraulic modeling and analyses, digital mapping, and extensive database management. Participated in community outreach meetings and educational programs to support the floodplain mapping projects of communities.

04/19 – 04/23	**LA Office of Community Development, Louisiana Watershed Initiative, Statewide, LA**: Project & Program Manager. Services included project management, design guidance review, and overall facilitation and quality control of the watershed initiative. Sarah served as the Project Manager for Task 1, which included leading a team to review current guidance/policies, summarize and present current data, develop a technical approach and guidance document for the Pilot Amite River model use and internal staff modifications. In addition, she served as the Project Manager for Task Order 12, which included project management of data and modeling activities. In this role she facilitated meetings between agency, consulting, and university stakeholders to support the development of technical guidance, oversees the 48 HUC 8 regional models, and decision support tools. Her technical background allowed her to advise and assist OCD on program decisions and support moving the multi- year schedule forward. In 2022, she took over as Program Manager, overseeing all Task Orders including Statewide Watershed Plan.
08/17 – 04/23	**CPRA, Mid-Barataria Sediment Diversion, Plaquemines Parish, LA:** Project Engineer. In charge of coordination with subconsultants on weekly progress reports for submission to the Louisiana Coastal Protection and Restoration Authority. Tasks include management and processing of data received from subconsultants. Other roles include reviewer of BODR report for technical approach and clarity. In addition, she led the scour evaluation of the bridge at a site with both riverine and coastal design factors evaluated for impact on the proposed structure including complex piers in a cohesive soil environment. Piers were evaluated using both HEC-18 and FLDOT methods due to the complex pier and cohesive soil conditions. A practical application of the scour methodology was used to replicate the most realistic scour conditions anticipated at the site.
01/16 – 04/17	**Mississippi Department of Environmental Quality, Delta Levee Protection Study, along Mississippi River from Memphis to Vicksburg:** Served as Project Engineer. Includes review and HEC-SSP analysis of hydrologic information from USGS and USACE historical gauge information provided along the reaches of the Mississippi River from Memphis to Vicksburg. Frequency analyses of river gage data was used to estimate the 1-percent-annual chance discharges along the portion of the Mississippi River that is the subject of this project. The U.S. Army Corps of Engineers provided two HEC-RAS geometry files for two reaches of the Mississippi River. The reaches were merged then modified to include appropriate manning's. Ultimately the cross sections were calibrated, thinned, calibrated and extended into the delta region to provide a flood analysis of without levee conditions. Software used includes HEC-SSP, HEC-RAS, and Arc-GIS.
Certifications and Training	2014 – US-14-07857 Certified Bridge Inspector 2021 – FHWA-NHI-130056 – Safety Inspection of In-Service Bridges for Professional Engineers 2013 – ASCE One-Dimensional Modeling of River Encroachment with HEC-RAS 2013 – FHWA NHI Course# 135046 Stream Stability and Scour at Highway Bridges 2014 – ASCE Stormwater/Constructed Wetland Design #8095W2014 2014 – National Flood Insurance Program Basic Agent Webinar (FIRA Compliant) 2015 – Aquaveo 2D Hydraulic Flow with SMS and SRH-2D 2016 – FWHA NHI Course #135027 Urban Drainage Design 2019 – FHWA NHI Course #135048 Countermeasure Design for Bridge Scour and Stream Stability 2021 – FHWA-NHI-130056 Safety Inspection of In-Service Bridges for Professional Engineers
Career History	Sarah serves as the Central Region Hydrology and Hydraulics Discipline Lead. In this role, she is responsible for managing all hydrology, hydraulics, and drainage projects in MS, LA, and AR. She has extensive experience managing projects and programs for state agencies, including current work on master services H&H contracts for MDOT and ARDOT, and previously led the program management for the Louisiana Watershed Initiative for the LA Office of Community Development. Sarah has a background in floodplain mapping and is a Certified Floodplain Manager. She has experience in HEC-HMS, HEC-RAS, HEC-SSP, PCSWMM, HY-8, Hydraulic Toolbox, XPSWMM, ESRI ArcGIS, AutoCAD, SMS SRH2D, MicroStation, and GeoPak. Sarah is also on the Transportation Research Board (TRB), and a member of the AKD50 Standing Committee on Hydrology, Hydraulics and. Stormwater

16. STAFF EXPERIENCE

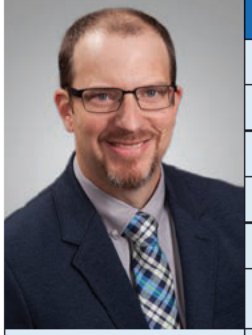


Firm employed by Neel-Schaffer, Inc.					
Name	**Leah Selcer, PE**			Years of relevant experience with this employer	5
Title	Louisiana Hydraulics & Hydrology Lead			Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization			BS / 2014 / Civil Engineering;		
Active registration number / state / expiration date			PE No. 43492 / LA / 09-30-2025		
Year registered	2019	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Deputy 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 years of experience specified in the applicable MPR(s).
03/23 – Ongoing	**US 90: Roundabout a LA 101 (Calcasieu) (SPN. H.015226); H&H Analysis and Design Services:** This project includes the design for a roundabout with high-speed approaches. The design avoids impacts to a gas station, and other development at the intersection. It includes minimum right of way taking and detention pond design.
06/24 – Ongoing	**LA 16: N 2nd Street to LA 445 (Tangipahoa Parish) SPN. H.009425.5; H&H Analysis and Design Services:** Project includes the mill and overlay of LA 16 from N 2nd Street to east of Duncan Avenue, the in-place base rehabilitation and overlay of LA 16 from east of Duncan Avenue to LA 445. The scope of work will also include the hydraulic analysis and development of construction plans for the rehabilitation of the existing subsurface drainage system to mprove drainage along LA 16 from US 51 to approximately 1000'east of Duncan Avenue.
04/21 – Ongoing	**CPRA, Calcasieu-Sabine Large-Scale Marsh & Hydrologic Restoration, Cameron Parish, LA**: Project Manager. Main project tasks consist of a combination of program management, design integration, and project concept design. Design Integration Services include a combination of initial project management activities, initial data gap analysis, preliminary data collection, design integration planning including project E&D work breakdown structure and cost estimates, optimization planning and initial optimization tasks, and other project planning tasks. Hydrologic structure design optimization includes development of hydrologic structure alternatives; analysis and determination of preferred structure type; construction logistics and constructability evaluation; conceptual level estimates of quantities, construction, and operations/maintenance costs; as well as conceptual pump station evaluation.
04/22 – 03/23	**St. Tammany Parish Sustainable Growth Pilot Study, St. Tammany Parish Government:** Study to detail the hydrology and hydraulics of three drainage basins to consider future development as related to types, conditions, densities, and regulatory structure. Additionally, the goal is to review regulation of stormwater management within the study area to avoid additional flood risk and or mitigate flooding within the existing drainage basins associated with the study area as related to existing and future developments. Project includes the hydrologic and hydraulic modeling of a regional detention pond.
06/22 – Ongoing	**Jimmie Davis Bridge (LA 511) (HBI) Design Build:** Drainage Design. This project will replace the existing 5 lane roadway with a 4 lane median divided roadway with turn lanes. It will provide a new bridge crossing for LA 511 at the Red River and will also modify the existing bridge crossing for use as a linear park and provide a multiuse path. Neel-Schaffer is providing the roadway drainage design, traffic analysis, signal design, striping and signing plans, road design support and Bridge H&H and Scour for the river crossing. This preliminary design is being completed in support of the Design Build Proposal document.
02/17 – 06/18	**Chacahoula-Gibson Drainage Pump Station, Terrebonne Parish, LA:** This project consisted of the design 1,000 cfs drainage pump station to reduce flooding due to excessive rainfall. Ms. Selcer performed site design of the pump station and the hydraulic calculations of the conveyance channel. Ms. Selcer prepared preliminary construction plans and estimate of probable cost. In addition, she performed site design of the pump station and the hydrologic and hydraulic calculations of the conveyance channel using HEC RAS.

05/19 – 12/19	**Upper Delta Soil & Water Conservation District, Upper Terrebonne Basin Watershed Plan/EA, Pointe Coupee, LA**: Project Engineer. Leah was the project engineer for the hydrologic and hydraulic analysis of the Upper Terrebonne Basin Watershed Plan and EA, using HEC HMS for stormwater runoff calculations and HEC RAS for channel improvements. The flood protection project covers seven HUC 12 watersheds, totaling about 225,072 acres.
2024 – Ongoing	**Port Hudson Pride Road Streambank Stabilization, EBR City-Parish, LA:** Leah served as the Project Manager for the H&H study and recommendations for the project that will address streambank erosion northeast of the Port Hudson Pride Road bridge crossing along the east bank of the Comite River as well as an area of west streambank north of the bridge crossing. The roadway and bridge crossing are subject to failure from erosion/undercutting of road bank from high velocities and flooding and displacement/destruction of the road structure and bridge footings from landslides due to heavy rains. The project intent is to repair current erosion and design solutions to reduce future erosion.
2020 – 2022	**Safe Haven Blue Green Campus Master Plan, St. Tammany Parish, LA:** Performed a drainage analysis to evaluate the effectiveness and size proposed retention ponds. The retention ponds concepts were proposed as a form of blue infrastructure improvement features during the grant application process.
2021 – 2022	**Louisiana Watershed Initiative – Slidell Ring Levee Project: East Segments Project:** Neel-Schaffer prepared a Louisiana Watershed Initiative Round 1 Application for the project that was successful in receiving $2.85M in award. Neel-Schaffer provided conceptual engineering and grant preparation services, include FEMA Benefit Cost Analysis, to St. Tammany Parish for the Slidell Ring Levee Project: East Segments Project. The project includes levee segments that provide flood protection and storm surge risk reduction around for the eastern side of the City of Slidell.
05/20 – 11/20	**ARDOT 101054: Bridge Replacements Along SR 230, Lawrence and Craighead Counties, AR:** Engineer for H&H Design. Neel-Schaffer was selected to devel-op and provide final roadway plans, final bridge plans, hydraulic analysis and a geotechnical report for this project that includes the replacement of hydraulic structures at 10 sites along SR 230 between Alicia and Bono in Lawrence and Craighead counties. Ms. Selcer prepared a Hydrologic and Hydraulic Analysis for the roadway drainage structures associated with the project.
03/21 – 09/21	**ARDOT 061614: Bridge Replacements Along SR 86, Prairie County, AR:** Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 86 near SR 38 in Prairie County. Ms. Selcer prepared a Hydrologic and Hydraulic Analysis for the roadway drainage structures associated with the project.
10/20 – 03/21	**ARDOT 040788: Bridge Replacements Along SR 64, Crawford County, AR:** Engineer for H&H Design. NSI was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 64 near Mulberry in Crawford County. Ms. Selcer prepared a Hydrologic and Hydraulic Analysis for the roadway drainage structures associated with the project.
12/20 – 04/21	**ARDOT 040780: Bridge Replacements Along SR 186, Franklin County, AR:** Engineer for H&H Design. NSI was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 186 near Altus in Franklin County. Ms. Selcer prepared a Hydrologic and Hydraulic Analysis for the roadway drainage structures associated with the project.
Career History	Leah is NSI's Hydrology and Hydraulics Lead in LA, overseeing H&H and drainage design projects statewide. With a decade of diverse experience in Civil and Coastal Engineering, she brings extensive project engineering and management expertise. Leah excels in design, planning, and budgeting, and is skilled at preparing permits, plans, specifications, and reports for various civil engineering projects. She has played a key role in engineering and designing complex projects for coastal ports, parish governments, the LADOTD, the Coastal Protection and Restoration Authority, and private developers.

16. STAFF EXPERIENCE

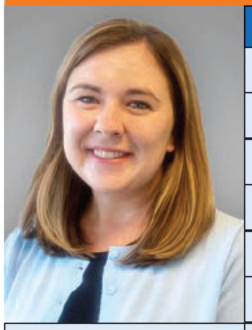


Firm employed by Neel-Schaffer, Inc.					
Name	**Michael Phillips, PE, CFM**			Years of relevant experience with this employer	24
Title	Senior Project Engineer			Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			BS / 2000 / Civil Engineering and Water Resources		
Active registration number / state / expiration date			PE No. 34600 / LA / 09-30-2025		
Year registered	2009	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Hydraulics Lead **MPR 5**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/14 – Ongoing	**GDOT On-Call Services for Special Drainage Studies, Statewide, GA:** Project Engineer. Responsible for performing detailed hydraulic and hydrologic analysis and design to solve complex drainage/flooding problems along the Department's roadways. Services included site reconnaissance, agency coordination, coordination of topographic surveys, hydrologic and hydraulic modeling, recommendation of infrastructure improvements, presentation of final reports to the Department, and development of construction plans. Proposed solutions to drainage/flooding problems included addition of custom-designed bridge deck drains, new storm sewer systems with inlets, flow diversions, ditch improvements, and modifications to existing storm sewer systems along interstates and state routes.
10/20 – Ongoing	**SCDOT Scour Critical Assessment and Management Program, Statewide, SC:** Senior Project Manager. Neel-Schaffer was selected to perform Bridge Scour Inspections, develop Scour Calculations/Reports, and develop Plans of Action for bridges throughout the state of South Carolina. Mr. Phillips was part of NSI field crew, consisting of hydraulic engineers from our Columbia (SC), Atlanta (GA), and Nashville (TN) offices, who performed Bridge Scour Inspections across the state for over 250 bridges. Mr. Phillips is responsible for coordinating with 25 hydraulic and structural engineers across the company to provide Scour Calculations/Reports and Plans of Action for over 250 bridge sites, along with being the client point of contact.
04/19 – 08/22	**Improvements to High Hazard Dams, Olive Branch, MS:** Senior Project Engineer responsible for developing hydrologic and hydraulic models of three high hazard dams and reservoirs in the Maywood Community, which do not currently meet MDEQ requirements. Developed and oversaw survey efforts and environmental permitting, managed and performed H&H modeling in HEC-HMS and HEC-RAS 2D (including dam breach analyses), developed concept designs to bring dams into compliance, and developed final report that was approved by MDEQ. Developed design/construction plans for Woodland Lake Outlet Control Structure, 150 LF labyrinth weir, and downstream channel improvements to bring the dam into compliance with MDEQ's High Hazard Dam Regulations. Developed design/construction plans for a 100' wide concrete weir structure to control outflow from Sylvan Lake.
03/04 – 07/17	**Reelfoot Lake Spillway Project, Lake County, TN:** Lead Hydraulic Engineer for hydraulic design of new Reelfoot Lake flood control spillway, 5,800 linear feet of new spillway inlet and outlet channel, and 3-span roadway bridge over Running Reelfoot Bayou. Hydraulic design of inlet/outlet channel was performed with HEC-RAS, Scour Analysis was performed using HEC-18 methodology, and Scour Countermeasures were designed with HEC-23 methodology. Coordinated with USACE and TN Wildlife Resource Agency to ensure the design will not impact normal pool of Reelfoot Lake or cause flooding of Running Reelfoot Bayou and downstream areas.
08/21 – 09/22	**Pearson Street Big Sunflower River Flood Protection Levee, Clarksdale, MS**: Senior Project Engineer responsible for performing hydrologic and hydraulic analysis and design/construction plans for a 3,500 LF ring levee that encompassed a residential subdivision and provided protection from the Big Sunflower River. The levee was designed with proper freeboard to be certified by FEMA and is currently under construction. A Flood Study of the river, as well as an interior drainage study/design was performed.

6/22 – Ongoing	**Jimmie Davis Bridge (LA 511) (HBI) Design Build:** This project will replace the existing five-lane roadway with a four-lane median divided roadway with turn lanes. It will provide a new bridge crossing for LA 511 at the Red River and will also modify the existing bridge crossing for use as a linear park and provide a multiuse path. NSI is providing the roadway drainage design, traffic analysis, signal design, striping and signing plans, road design support and Bridge H&H and Scour for the river crossing. This preliminary design is being completed in support of the Design Build Proposal document. Mr. Phillips is providing scour analysis QA/QC.
01/09 – 09/10	**Tag Along Creek Drainage Analysis, St. Tammany Parish, LA:** Project Engineer responsible for performing an unsteady flow (EPA-SWMM 5) model of Tag Along Creek, a tributary to Bayou Lacombe, for the purpose of determining causes of residential and street flooding along Cloverland Drive and developing multiple alternatives to mitigate the flooding.
09/13 – 10/15	**Baldwin Beach Express, Baldwin County, AL:** Project engineer for hydraulic analysis and design of three dual bridge structures for a multi-lane divided highway connecting I-10 and I-65 on the east side of Baldwin County. Structures included a 1,032-foot bridge, a 631-foot bridge and a 178-foot bridge.
05/03 – 08/04	**Hydraulic Analyses of Multiple Bridge Replacements, West Tennessee:** Performed hydraulic analyses/designs of multiple new highway bridges/ replacements and box culverts. HEC-RAS was used to model the existing and proposed bridges, and HEC-18 methodology was used to perform scour analyses.
06/09 – 08/10	**South Central Drainage Master Plan, St. Tammany Parish, LA:** Project Engineer responsible for performing detailed watershed analyses and hydrologic models for Bayou Lacombe and Bayou Castine watersheds north of I-12 (60 sq. mi. area). Conceptual engineering design was performed for seven proposed regional detention ponds, and utilization of an existing 60-acre borrow pit lake, to provide regional detention to accommodate future short-term (5-10 year) and long-term (10-20 year) development scenarios, while meeting Parish design requirements for future buildout within areas expected to experience significant growth. Detailed reports and cost estimates were prepared.
04/04 – 01/05	**Hydraulic Analysis of Rye Road Bridge Over Manatee River, Manatee County, FL:** Performed hydraulic and scour analysis of existing and proposed highway bridge. HEC-RAS was used to model existing and proposed bridges, and HEC-18/HEC-23 procedures were used to perform scour analysis and design scour countermeasures. Because the bridge was located in a FEMA Special Flood Hazard Area, the proposed bridge was designed to meet No-Rise criteria.
04/16 – 12/19	**GDOT FY16 Design-Build Bridges, Batch 4 and 5, South Georgia:** Performed hydraulic/scour analyses, designs, and H&H reports for multiple off-system bridge replacements using a Design-Build delivery method. Detailed hydraulic models were developed with HEC-RAS, scour analyses were conducted using HEC-18, and scour countermeasures were designed using HEC-23 procedures.
04/21 – Ongoing	**City of Mandeville Wetlands Restoration, Mandeville, LA:** Lead Hydraulic Engineer responsible for hydrologic and hydraulic modeling. Existing canals south of Galvez Street and east of Massena Street were modeled and alternatives were developed to divert canal flows via a complex weir structure through the proposed cypress wetlands at various storm levels. Multiple options for horizontal alignment and cross-sectional geometry of proposed channels through the wetlands were designed, as well as a public walking trail through the wetland area. Hydraulic designs were provided for two pedestrian bridges over the main canals connecting to Lake Pontchartrain.
01/17 – 12/24	**City of Hendersonville (TN) Drakes Creek Road Improvements – From Stop Thirty Road to SR 386:** Project Engineer. Hydrologic and hydraulic analysis of the existing and proposed bridge crossing at Drakes Creek. USGS Regression Equations were used to compute the design discharges, and HEC-RAS software was used to analyze the existing (undersized) bridge and proposed three-span bridge. A floodplain and floodway model was developed, which was submitted to FEMA in support of a Conditional Letter of Map Revision application.
Career History	Mike has extensive experience performing complex, large-scale hydrologic & hydraulic modeling and scour analyses for bridges and flood control infrastructure improvement designs for federal, state, municipal, and private clients. He has completed these services for multiple states, including LADOTD. He has managed and performed on-call contracts consisting of complex analyses for DOTs in Alabama, Georgia, and Tennessee, and the US Army Corps of Engineers. Mike has performed numerous high-profile FEMA Flood Insurance Study Updates and Map Revisions for municipalities and private clients. He is very familiar with FEMA National Flood Insurance Program Regulations; and he is an ASFPM Certified Floodplain Manager. Mike is proficient in the latest hydrologic & hydraulic computer models, including GIS-based applications for hydraulics & hydrology (steady and unsteady, 1D and 2D flow).

16. STAFF EXPERIENCE



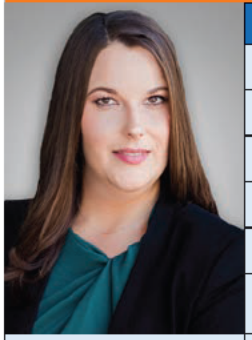
Firm employed by Neel-Schaffer, Inc.			
Name	**Hannah Prater, PE**	Years of experience with this firm/employer	1
Title	Georgia H&H Manager	Years of experience with other firm(s)/employer(s)	9

Degree(s) / Years / Specialization			BS / 2015 / Civil Engineering; MS / 2018 / Engineering
Active registration number / state / expiration date			PE 32049 /MS / 12-31-2025
Year registered	2021	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Hydraulic Manual Revisions; Roadway Hydraulics

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
08/22 – 01/23	**TDOT SR 150 Hydraulic Modeling, Marion County, TN:** Acted as Project Engineer by establishing a hydraulic study using a two dimensional (2D) hydraulic modeling software, Surface-Modeling-Software (SMS) and Sedimentation and River Hydraulics – Two-Dimensional Software (SRH-2D) that analyzed the preconstruction and current condition and determined a proposed recommendation to address client concerns. The deliverables included a model, report, and flyer for public use.
08/22 – 01/23	**GDOT Snapper Road Hydraulic Modeling, Bacon County, GA**: Acted as Project Engineer and Engineer of Record in the development of a report and hydraulic model used to determine the optimal bridge span arrangement and mitigation of flooding concerns. The design considered costs including right-of-way impacts, construction materials, and impacts due to grade changes. The deliverables included a model, roadway plan sheets, report, and cost estimate.
08/22 – 01/23	**MDOT I-10 Widening, Hancock and Harrison Counties, MS:** Served as support for roadway plan development for the 12-mile interstate project with an accelerated schedule. The deliverable was a roadway plan set.
03/22 – 08/22	**MDOT SR 415 Design, Choctaw County, MS:** Served as Project Manager by establishing and maintaining a project scope, schedule, and budget for Phase B plans, and served as the Lead Roadway Designer for corridor modeling development, plan sheet development, quantity calculations, roadway drainage, and on-team quality control. The deliverables included cadd files and roadway plan set.
03/22 – 08/22	**MDOT SR 37 Bank Stabilization, Covington County, MS**: Served as Project Engineer for the development of a bank stabilization project. The project deployed the 2D hydraulic modeling software, SMS and SRH-2D and utilized the corridor modeling to develop an accurate representation for the proposed solutions. In addition to a hydraulic model, a report and presentation were developed to discuss the recommendations.
6/19 – 12/20	**GDOT Rome Cartersville Development Corridor, Bartow County, GA**: Served as Project Engineer by creating a 2D hydraulic model for the natural, existing, and proposed conditions, preparing a hydraulic report that included hydrology, span arrangement recommendations, scour calculations, riprap assessment and size calculations, guide bank analysis, and stream morphology considerations, and preparing for preliminary FEMA coordination.
06/20 – 12/21	**MDOT I-55 Hydraulic Modeling at Beaver Creek, Dickerson Creek, Dye Branch, and West Ditch, Pike, Lincoln, Copiah, and Tate Counties, MS**: Served as Project Engineer by establishing a 2D hydraulic model for each site and analyzing the existing conditions to determine an estimated scour depth. The sites were field verified, and a geomorphic analysis was performed. The deliverables provided to the client included hydraulic models and reports for each site.

06/20 – 03/21	**MDOT I-55 Hydraulic Modeling, From SR 463 to Gluckstadt Road, Madison, MS**: Served as support by developing a 2D hydraulic model, preparing a conceptual hydraulic report, and establishing a preliminary roadway drainage design between a local road and the interstate. The deliverables included cadd files for the roadside ditch between the interstate and the local road, hydraulic model, report, conceptual bridge recommendations, and Phase A Bridge sheets.
06/21 – 12/21	**TDOT SR 58 Hydraulic Modeling, Hamilton County, TN:** Acted as Project Engineer by establishing a roadside ditch design to mitigate flooding between local businesses and the state route. Deliverables included a hydraulic model and report.
06/18 – 12/18	**MDOT SR 415 Hydraulic Modeling, Choctaw County, MS:** Acted as Project Engineer in the development of a report, Phase A Bridge Plans hydraulic model used to determine the optimal bridge span arrangement and mitigation of flooding concerns. The design considered costs including right-of-way impacts, construction materials, and impacts due to grade changes. The deliverables included a hydraulic model, report, conceptual bridge recommendations, and Phase A Bridge sheets.
09/17 – 06/18	**MDOT US 11 Drainage Design, Pearl River County, MS:** Acted as Project Engineer by providing an urban drainage design for over 300 inlets, plan development support, and quantity calculations. The project deliverables included a drainage report, Phase A & B plan sets, and Phase C (construction) services.
08/23 – 01/24	**Jefferson Avenue and Yorktown Road Intersection Improvements, Newport News, VA:** Developed closed and open drainage systems that maintain and tie to the existing pipe network for widening and reconstruction of Jefferson Avenue and Yorktown Road. The closed network included the design and addition of curb and grate inlets that were integrated into the existing drainage system. The open drainage featured a custom ditch to accommodate intersection widening and maintain the existing flow path. Erosion and Sediment control plans included the construction of silt fence around the limits of disturbance, soil stabilization, and temporary rock checks. All plans were developed in accordance with the methods, policies, procedures, and criteria contained in the current edition of the VDOT Drainage Manual, Virginia Erosion and Sediment Control Handbook, and the project scope of work.
08/23 – 01/24	**Route 608 (Catharpin Road) Culvert Replacement,VDOT, Fredericksburg, Spotsylvania County:** The purpose of the project was to replace a triple 60-inch culvert with a single cell box culvert. The stormwater management design determined the total phosphorus generated by the proposed plan and established an area that is required to be treated in order to meet water quality requirements set by the Commonwealth of Virginia. To meet the water quantity requirement, the one-percent rule was used to evaluate each outfall. Erosion and Sediment control plans included the construction of silt fence around the limits of disturbance, temporary channel diversion, soil stabilization, and inlet/outlet protection. All plans were developed in accordance with the methods, policies, procedures, and criteria contained in the current edition of the VDOT Drainage Manual, Virginia Erosion and Sediment Control Handbook, and the project scope of work.
Career History	Ms. Prater joined Neel-Schaffer in 2024. She is a dedicated and accomplished Project Engineer with expertise in Roadway Design and Bridge Hydraulics. Recently Ms. Prater prepared Standard Operating Procedures for model development using Aquaveo's SMS SRH-2D for NSI staff.

16. STAFF EXPERIENCE



Firm employed by Neel-Schaffer, Inc.					
Name	**Jennifer Sloan Ziegler, PE, PhD, ENV SP, CECP**			Years of relevant experience with this employer	2
Title	Environmental Senior Project Manager			Years of relevant experience with other employer(s)	11
Degree(s) / Years / Specialization			BS / 2010 / Civil & Envir. Eng; MS / 2012 / Civil Eng; PhD / 2013 / Civil Eng; Masters Certificate / 2018 / Coastal Eng		
Active registration number / state / expiration date			PE No. 41984 / LA / 03-31-2026		
Year registered	2017	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Hydraulic Manual Revisions		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
05/23 – Ongoing	**Mississippi Municipality & County Water Infrastructure Grant Program:** Internal NS program manager ensuring all contract documents and procedures meet or exceed federal and state requirements for reimbursement match. In this role, she has created internal procedure documents; developed template documents including engineering and construction contracts, memorandums, procurement policy manuals, etc.; and assisted our project managers with program compliance across the board, including quarterly reports, modification requests, project closeouts, and others. All documents and procedures must comply with state of Mississippi law and 2 CFR part 200, including applicable provisions listed in 2 CFR200.327.
05/24 – Ongoing	**Moss Point General Services Contract:** In this role, Jennifer supports the Moss Point City Engineer by facilitating meeting between agency, consulting, and educational stakeholders to support the development of technical guidance, data collection of stormwater systems, and decision support tools. She also assists with ensuring compliance with federal requirements for CDBG-DR funding.
10/23 – Ongoing	**Stormwater Compliance, DeSoto County, MS:** Project engineer working with DeSoto County and the Cities of Southaven, Horn Lake, Hernando, and Olive Branch in the implementation of their Municipal Separate Storm Sewer System (MS4) permits under the National Pollution Discharge Elimination System (NPDES). Jennifer reviews and makes recommendations to the county and municipalities to update environmental policies and procedures, specifically related to stormwater and construction activities; conducts erosion and sediment control inspection; reviews SWPPPs and erosion control plans; updates and provides stormwater training to contractors and employees; makes recommendations to enhance stormwater compliance activities; and ensures general compliance with MDEQ permits.
05/24 – Ongoing	**Coahoma County Government Ditch Watershed Plan and Restoration, Coahoma County, MS:** Project manager and lead engineer on a project in Coahoma County to restore and stabilize a watershed in the Mississippi Delta. The goal of the project is to implement permanent stabilization structures to reduce sediment transport and improve water quality in the Sunflower River, which has a TMDL for pathogens, and to decrease flooding within the HUC12 watershed. The project will stabilize the bank channel to eliminate continued channel sloughing and erosion; stabilize the channel bottom by stabilizing the head cut progressing upstream in Government Ditch; reduce water velocity in the channel; and reduce flooding in the vicinity of Government Ditch within the HUC12. This project also includes a strong public engagement and education component that calls for the development of specialized education on the proposed project and its impacts.
04/24 – 08/24	**Lower Luxapallila Creek Watershed Preliminary Investigation Feasibility Report, Columbus, MS:** Preliminary Investigation Reasibility Report (PIFR) for the Lower Luxapallila Creek Watershed. This is the first step in developing a watershed management plan for the National Resource Conservation Service (NRCS). Jennifer successfully steered the PIFR to a watershed that met federal funding requirements. This watershed has widespread flooding and water quality issues which will be addressed in the next step of the project.

06/22 – 03/23	**Front Beach Event Space and Marina, Ocean Springs, MS:** Lead engineer and project manager for a project redeveloping a beach-front property for the City of Ocean Springs. This project includes an event structure, green space, living shoreline, bulkhead, marina, restrooms, and stormwater features.
02/21 – 03/23	**HCPHC Environmental IDIQ, Hancock County, MS:** Project manager overseeing all environmental projects under contract with Hancock County Port and Harbor Commission. Contracted work to date includes mitigation bank feasibility assessment, permit application, and permit renewal.
03/21 – 01/23	**Mississippi Department of Transportation Properties, Phases I and II, Gulfport, MS:** Project manager and lead engineer for a Phase I ESA for a 30-acre site in accordance with ASTM E 1527-13. This ESA identified multiple Recognized Environmental Conditions, triggering a Phase II ESA and potential Corrective Action.
10/21 – 03/23	**Jackson County (MS) Watershed Management Plans:** Project manager and lead engineer for the creation of Jackson County's County-Wide Watershed Management Plan and portions of EPA-compliant WMPs for three HUC-12s in Jackson County. These portions include: watershed management plan objectives, stakeholder engagement, watershed characterization, fieldwork, plan implementation and evaluation, and financing strategies. Additionally, Jennifer was responsible for evaluation of feasible resource strategies, evaluation of existing stormwater ordinances and policies, and providing program-level stormwater support services as needed.
05/19 – 03/23	**Coastal Preserves Management Planning, Hancock, Harrison and Jackson Counties, MS:** Project Engineer. Responsible for identifying restoration techniques for 13 individual coastal preserves sites across coastal Mississippi. This work included identifying restoration techniques and creating opinions of probable cost.
03/20 – 11/20	**MDEQ, Round Island Intertidal Circulation Enhancements, Pascagoula, MS:** Lead Engineer. Lead engineer on the construction administration and record drawings for MDEQ's Round Island Intertidal Circulation Enhancements project in Pascagoula.
01/21 – 08/21	**Port of Gulfport, Sustainability and Resiliency Master Plan, Gulfport MS:** Project Engineer. Responsible for writing the NFWF proposal to fund the Port of Gulfport's Sustainability and Resiliency Master Plan. The proposal was awarded federal funding. The S&R Master Plan is currently underway.
01/21 – 03/23	**Hancock County, Stormwater Program, Hancock County, MS:** Project Engineer. Engineer on three EPA-focused stormwater management plans for three HUC-12s in Hancock County. Responsible for evaluation of feasible resource strategies, evaluation of existing ordinances and policies,
Career History	Jennifer joined NSI as an Environmental Senior Project Manager with 13 years of experience providing environmental and coastal engineering management and design services for clients across the country. She also assists in strategic business development pursuits of new clients. Her role on this project will utilize her extensive knowledge of MDEQ specifically programmatic implementation of grants, funding, permitting, and environmental alignment. She was singled out by Engineering News-Record as one of the nation's rising stars in professional engineering when she was named to the magazine's prestigious 2023 National Top 20 Under 40 list. Jennifer is active in multiple engineering organizations and is currently serving as Vice President of the Environmental & Water Resources Institute of the American Society of Civil Engineers. Founded in 1999, the EWRI has 23,000 members worldwide and is ASCE's technical source for environmental and water-related issues.

16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.			
Name	**Wade Barnes, PE, PhD, CFM**	Years of experience with this firm/employer	1
Title	Project Engineer	Years of experience with other firm(s)/employer(s)	22

Degree(s) / Years / Specialization			BS / 2008 / Civil Engineering; PhD / 2013 / Civil Engineering
Active registration number / state / expiration date			PE 120012 / TX / 3-31-2026
Year registered	2015	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Hydraulic Manual Revisions; 3rd Party Hydraulic Report Reviews; Scour; Breakout Models; 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 years of experience specified in the applicable MPR(s).
02/24 – 10/24	**T-1 Sidewalk, City of Murphy, TX:** (Lead Designer/Drainage Engineer) This project entails designing ~ 700 ln. ft of concrete sidewalk between S. Maxwell Creek Rd. and McCleary Rd. The proposed sidewalk transversed through a FEMA AE zone and crosses Maxwell Creek. A low water culvert crossing is designed at the creek crossing. The culvert design and flood plain analysis is performed to Zero rise criteria in the designed flood plain. FEMA HEC RAS models were modified to include the proposed culvert structure and verify the Zero rise criteria.
Ongoing	**Huddleston Street Reconstruction Project, Haltom City, TX:** (Lead Drainage Engineer) This project includes a hydrologic and hydraulic (H&H) analysis of the existing conditions and proposed improvements of Huddleston Street. This study includes delineation of drainage areas, preparing H&H models (HEC-HMS, HEC-RAS, Hydraulic Toolbox, and HY-8), and hydraulic evaluation of an existing culvert crossing under Huddleston. St. The reconstruction project includes the design of a storm sewer pipe network conveying the 25-year storm event and upgrades to the existing culverts to convey the 100-yr storm event with no over the road conveyance. The culvert replacement occurs in a designated FEMA Zone AE Stream with no floodway. Upon reviewing the FEMA Data, it was discovered that a 100- acre tract was not included in the FEMA Floodplain. Therefore, the project will include a LOMR demonstrating the updated Floodplain, and an update HEC_RAS stream model with updated flow rates and water surface elevations.
02/22 – Ongoing	**City of Rowlett Dead End Water Project, Rowlett, TX:** (Lead Engineer) This project includes designing water line loop connections at dead city mains. There are approximately 50 locations within various subdivisions in the city limits. Site locations vary in project length, pipe size, land use, topography, utility conflicts, and easement acquisition. The proposed design includes route availability, FEMA floodplain non-disturbance, topographic drainage patterns, and property restoration to original existing conditions.
05/21 – 06/22	**Andrews Economic Development Corporation North Business Park Design–Andrews, TX:** Project Manager for design of 92-acre commercial and residential multi-family site. Services included utility design, street layout, lot layout and platting, storm water drainage analysis, and design. Also coordinated with the city for upgrades to infrastructure and streets servicing the project area. Design included additional storage in the Playa lake to maintain existing water surfaces for No-Rise conditions.
03/21 – 01/22	**Blue Sky Lateral Design and Analysis– Lubbock, TX:** Project Manager for expansion of Lubbock's Northwest Drainage Improvement Plan. The design of Blue sky lateral conveyed through Indiana Avenue between 4th street and Fordham Street. The new lateral ranged from 24" to 36" high-performance polypropylene pipe. The inlet was located in an existing playa lake and the outlet was at a 10' x 10' concrete box. Design depths ranged from 12' to 30' deep. The storm pipe was in the city ROW under local streets.
09/18 – 03/19	**TxDOT SL 88 – Segment 3 Drainage Analysis:** Prepared Schematic H&H design using 2-D surface and sub-surface modeling for 55 sq. mi. encompassing the 12-mile roadway length meeting a modified TxDOT and local criteria. Design include No-Rise analysis at 22 different Playa Lakes in 5 different city watersheds.

03/21 – 06/22	**City of Lubbock 114th St Expansion–Lubbock, TX:** Project Task Lead for storm water analysis and design for a new 5-lane expansion of 114th Street. Performed H&H analysis for approximately 210 acres of contributing area. Coordinated with the floodplain administrator on the flood plain permits and flood plain water service elevation. Prepared FEMA LOMR documents for the expanded roadway project. Submitted LOMR-F documents to the city floodplain administrator.
05/22 – 01/23	**Nasa Road 1 Bypass–Webster, TX:** Project Stormwater Task Lead directing the analysis and design for a TxDOT-funded road. The project area exists in the coastal and FEMA 100-yr floodplain and interacted with two Harris County flood control drainage channels. In addition, it was subject to four flood jurisdictions with varying stormwater criteria. Services included roadway profile elevation set above the 100-year flood stage, detention mitigation, conveyance ditch design, and street sewer infrastructure design. Design includes a No-Rise certificate for the outfall streams.
06/18 – 09/19	**TxDOT FM 302: Highway Lane Expansion:** Performed Preliminary Drainage design for 13-mile limited access facility. Performed H&H analysis for a 2000 sq mi. watershed separating the contributing and non-contributing areas. Applied arid region analysis per the TxDOT Drainage manual.
Career History	Wade Barnes has over 22 years of experience in civil engineering design and construction. He has spent his career working mostly in Texas but has experience in New Mexico, Colorado, and Utah. His specialty is urbanized storm water design in existing cities and watersheds. He uses his experience to simulate computer models for watershed flooding, localized flooding, and site civil design. Wade performs drainage analyses from single 1-acre sites to entire river basin watersheds. The main goal of his studies are to protect structures, streets, people, and maintain lake, channel, and stream water elevations.

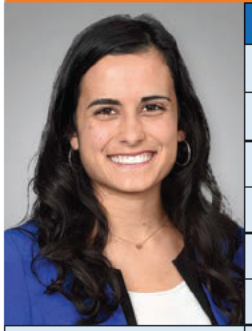
16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.			
Name	**Kyle Grantham, PE, CFM**	Years of relevant experience with this employer	5
Title	Project Engineer	Years of relevant experience with other employer(s)	11
Degree(s) / Years / Specialization	BS / 2013 / Civil Engineering		
Active registration number / state / expiration date	PE No. 47672 / LA / 09-30-2025		
Year registered 2023 Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities	Bridge Hydraulics; Roadway Hydraulics; 2D Hydraulic Modeling; Bank Stabilization; Breakout Models		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
04/23 – Ongoing	**MDOT SR 172 Bridge Replacement, Tishomingo County, MS:** QA/QC Engineer. Responsible for the conceptual, preliminary, and final hydraulic design for Ellington Creek crossing along SR 172. The site consists of a single bridge replacement. The crossing was modelled in SRH-2D.
08/23– Ongoing	**MDOT SR 4 Bridge Replacement, Tippah County, MS:** QA/QC Engineer. Responsible for the conceptual, preliminary, and final hydraulic design for Town Creek crossing along SR 4. The site consists of a single bridge replacement with multiple crossings modeled within the project area. The crossing was modelled in SRH-2D.
09/23 – Ongoing	**MDOT SR 313 Bridge Replacement, Marshall County, MS:** Project Engineer. Responsible for the conceptual, preliminary, and final hydraulic design for Unnamed Creek crossing along SR 313. The site consists of a single bridge replacement with multiple crossings modeled within the project area. The crossing was modelled in SRH-2D.
02/16 - 06/17	**Chickasaw County (MS) Bridge Replacement:** Project Engineer. Chickasaw County-SR 245-MDOT project 103352. Responsible for the design and analysis used to determine a hydraulic bridge recommendation. A multiple opening design using SRH-2D was used to recommend and replace four bridges along the same floodplain for Tallabinnela Creek. Software used: Bentley MicroStation, Google Earth, SMS.
04/22 – 04/23	**South Carolina Department of Transportation Scour Assessment:** Project Engineer. Performed scour assessments utilizing USGS bridge-scour envelope curves methods and FHWA HEC-18. SRH-2d models were utilized in Beaufort county.
04/22 – Ongoing	**ARDOT:** To develop and provide final roadway plans, final bridge plans and a hydraulic analysis for the following projects that include the replacement of hydraulic structures. Analyzed bridge and roadway hydraulics including scour, cross drains, and side drains. Projects are now in the design phase. • **ARDOT 020775 – HWY 83 STRS. & APPRS., Drew County, AR:** Provided final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 83. Analyzed bridge and roadway hydraulics including scour and side drains. Project is now in design phase. • **ARDOT 040788 – HWY 64 STRS. & APPRS., Crawford County, AR:** Provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 64. Analyzed bridge and roadway hydraulics including scour, cross drains, and side drains. Project is now in design phase. • **ARDOT 061614 - Bridge Replacements Along SR 86, Prarie County, AR:** Engineer for H&H Design. Provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 86 near SR 38 in Prairie County. Analyzed bridge and roadway hydraulics.

01/22 – 02/23	**Little Creek, Ponchitolawa Creek, Bayou Tete L'Ours, and Upper Bayou Chinchuba, St. Tammany Parish, LA:** Developed a preliminary 2D HEC-RAS model to analyze existing conditions along Little Creek, Ponchitolawa Creek, Bayou Tete L'Ours, and Upper Bayou Chinchuba, The model covered an approximate mesh area of 4,500 acres and included roughly 57 structures, such as pipe and box culverts, bridges, and weirs. I incorporated proposed pond alternatives upstream of Bayou Tete L'Ours to lessen hydraulic impacts and reduce flooding along Bayou Tete L'Ours. This work involved creating the mesh, modeling the proposed pond, and developing terrain data from channel surveys. The project utilized software including HEC-RAS version 6.2, HEC-HMS 4.9, QGIS, ArcMap 10.8, and SMS version 13.1
11/23 – 12/23	**Downtown Flora Development and Drainage Improvement Project, Flora, MS:** Tasked with conducting a comprehensive hydraulic and hydrologic evaluation of downtown Flora's redevelopment and drainage improvement plans using HEC-RAS 2d software. The project involved creating a HEC-RAS 2d model to simulate five different hydrologic scenarios — existing conditions, proposed development with and without on-site parcel retention, and both existing and proposed watershed with a retention pond — across 10-, 25-, and 100-year storm recurrence intervals. The purpose of this analysis was to assess the impact of downtown development on the town's drainage system, evaluate flood risk reduction strategies, and determine the need for and efficacy of additional retention measures to support sustainable urban growth and enhance flood resilience.
08/23 – Ongoing	**Supplemental Watershed Project Plan, Environmental Assessment (EA), and Design for Coahoma County – Gov't Ditch Watersheds, Coahoma County, MS:** Engineer responsible for conducting a hydrology and hydraulics floodplain study along the Boone Road community, approximately 5 miles south of Clarksdale, MS, along Highway 49. The study focused on the LuRand community, utilizing HEC-RAS 2D with rain-on-grid methodology to assess flooding impacts and evaluate potential mitigation strategies. Multiple alternatives were analyzed, considering various factors to determine the most effective solution. Two alternatives advanced through the EA process, with one ultimately selected for implementation.
01/25 –Ongoing	**SR400 Detention Pond Conceptual Improvements:** Neel-Schaffer, Inc. was engaged to conduct a field investigation and perform a hydrologic and hydraulic assessment of the detention pond and the downstream creek system, known as Riverkeeper Creek. Responsibilities included utilizing PCSWMM to determine the optimal pond outlet structure configuration to reduce downstream flows while effectively managing upstream water surface elevations. HEC-RAS 2D was employed to model flow routing downstream of the pond and assess the impacts of various proposed alternatives.
08/23 – Ongoing	**Port Hudson Pride Road Streambank Stabilization in East Baton Rouge Parish, Baton Rouge, LA:** Project Engineer. Assigned with leading HEC-RAS 2d modeling efforts for a critical erosion control project in collaboration with Richard C. Lambert Consultants, LLC (RCLC). This project, situated in the northeastern section of East Baton Rouge Parish at the intersection of Port Hudson Pride Road and the Comite River, aims to address severe streambank erosion issues threatening the structural integrity of the roadway along Port Hudson Pride Rd. The project's primary focus is to remediate current erosion damage and implement sustainable solutions to mitigate future erosion along critical sections of the Comite River. Proposed stabilization measures include the strategic placement of riprap and the construction of bendway weirs. As part of the RCLC-NSI team, Kyle Grantham's role involved conducting comprehensive Hydrologic and Hydraulic modeling supervision to support the design and implementation of the proposed erosion control solutions utilizing HEC-RAS 2d.
Certifications and Training	Certified Floodplain Manager – ASFPM – US-16-08958 FHWA-NHI-135046-Stream Stability and Scour at Highway Bridges FHWA-NHI-135090-Hydraulic Design of Safe Bridges FHWA-NHI-135095-Two-Dimensional Hydraulic Modeling of Rivers at Highway EncroachmentsFHWA-NHI-135041-One-dimensional Modeling of Rivers at Highway Encroachments with HEC-RAS FHWA-NHI-135095A- SRH-2D Model Data Files, Diagnostics & Verifying 2d Model Pilot Course FHWA-NHI-135056- Culvert Design FHWA-NHI-135027- Urban Drainage Design
Career History	Kyle joined NSI in 2020 and has eight years of experience as a Water Resources Engineer, including 2.5 with the Mississippi Department of Transportation. Kyle is skilled in all aspects of Hydrology and Hydraulic Engineering design. He is a licensed Professional Engineer and a Certified Floodplain Manager.

16. STAFF EXPERIENCE



Firm employed by Neel-Schaffer, Inc.					
Name	**Abigail Richardson, EI, CFM**			Years of experience with this firm/employer	3
Title	Project Engineer			Years of experience with other firm(s)/employer(s)	1
Degree(s) / Years / Specialization			BS / 2021 / Civil Engineering		
Active registration number / state / expiration date			Engineer Intern 32967 / MS		
Year registered	2022	Discipline	N/A		
Contract role(s) / brief description of responsibilities			Bridge Hydraulics		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/22 – 03/22	**St. Tammany Parish Sustainable Growth Pilot Study, St. Tammany Parish Government St. Tammany, LA:** Hydrology/ Hydraulics Engineer. Study to detail the hydrology and hydraulics of three drainage basins within the study area to consider future development as related to types, conditions, densities, and regulatory structure associated with the developments. Additionally, the goal is to review regulation of stormwater management within the study area to avoid additional flood risk and or mitigate flooding within the existing drainage basins associated with the study area as related to existing and future developments.
06/21 – 06/24	**MDOT Hydraulics IDIQ Master Contract (2021-24) Statewide, MS:** Neel-Schaffer holds a 3-year IDIQ Master Contract with the MDOT to provide Hydraulic and Hydrologic Engineering services as requested. Under this contract, Neel-Schaffer has or is performing the following tasks: • **MDOT SR 172 Bridge Replacement, Tishomingo County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 4 Bridge Replacement, Tippah County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 313 Bridge Replacement, Marshall County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **Phase I-II Scour Evaluation of US 84 at Tallahala Creek and Relief – Br. Nos. 151.5 and 151.7; SR 15 at Tallahala Creek and Relief – Br. Nos. 80.1 and 80.4 (Jones County) and Phase I-II Scour Evaluation of I-22 at Pechahalee Creek – Br. Nos. 46.9A and 46.9B; I-22 at Oaklimeter Creek – Br. Nos. 49.2A and 49.2B (Benton County):** Project Engineer. Scour evaluation project involving channel stability analysis and SRH-2D modeling to calculate scour for eight bridges in Jones and Benton County.
04/22 – 04/23	**SCDOT Scour Critical Assessment and Management Statewide, SC:** Project Engineer. Neel-Schaffer was selected as a subconsultant to perform bridge scour site inspections, develop scour calculations/reports, and develop Plans of Action for bridges throughout South Carolina at 276 bridge sites. NSI's work included: Scour Site Inspections – visited bridge sites and collected data related to scour conditions using a mobile database application. Scour analyses – performed calculations utilizing existing plans, site inspection data, USGS envelope curves, FHWA's HEC-18 equations, HEC-RAS (1D), and SRH- 2D models to determine if the bridges were scour critical, including bridges in coastal/tidally influenced areas. Plans of Action (POA) – developed POAs for every bridge determined to be scour critical or with unknown foundations.
01/24 – Ongoing	**MDOT 108168-101100 – I-55 from SR-463 to Gluckstadt:** Project to develop Phase A Roadway and Bridge plans to add two additional lanes to I-55. Involved designing cross drains, median inlets, subsurface drainage, and ditches. PCSWMM, HY-8, Hydraulic Toolbox, and ArcMap were utilized. Project is now in design phase.

09/22 – 06/23	**MDOT 109197-1010000 – US 49 from Turkey Creek to Creosote Road, Harrison County, MS:** Project to develop Phase A Field Inspection Plans and Phase B Roadway and Traffic Engineering Final Plans for pedestrian improvements along US 49. Designed a storm sewer system using PCSWMM to convey flow from the proposed sidewalk, existing roadway surface and surrounding businesses to Turkey Creek. Project is now in design phase.
03/24 – Ongoing	**MDOT Louisville South Industrial Road:** Project to design South Industrial Road through a FEMA Flood Zone AE floodplain. HEC-RAS was utilized to investigate what size drainage structure over Hughes Creek will be necessary to achieve a no-rise condition. Project is now in design phase.
08/23 – 10/23	**MDOT West Rankin Parkway Rankin County, MS:** Reviewing plans and confirming the adequate hydraulic and hydrologic analysis of roadway drainage structures within the project limits for proposed project conditions. Proposed project conditions included curb and gutter inlet system, cross drain pipe networks, and roadside ditches.
06/23 – 08/23	**Drainage Improvements City of Clarksdale, MS:** Project to improve the conveyance of stormwater within the Spruce Street area. PCSWMM was utilized to evaluate the existing subsurface drainage system and to design a proposed drainage system. Hydraulic Toolbox was utilized to evaluate inlet capacity and spread.
04/22 – Ongoing	**ARDOT:** To develop and provide final roadway plans, final bridge plans and a hydraulic analysis for the following projects that include the replacement of hydraulic structures. Analyzed bridge and roadway hydraulics including scour, cross drains, and side drains. Projects are now in the design phase. • **ARDOT 020775 – HWY 83 STRS. & APPRS., Drew County, AR:** Provided final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 83. Analyzed bridge and roadway hydraulics including scour and side drains. Project is now in design phase. • **ARDOT 040788 – HWY 64 STRS. & APPRS., Crawford County, AR:** Provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 64. Analyzed bridge and roadway hydraulics including scour, cross drains, and side drains. Project is now in design phase. • **ARDOT 061614 - Bridge Replacements Along SR 86, Prarie County, AR:** Engineer for H&H Design. Provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 86 near SR 38 in Prairie County. Analyzed bridge and roadway hydraulics.
01/22 – 02/23	**Drainage Improvements (RR2204) Hancock County (MS) Port & Harbor Commission:** Provide Engineering for a project to replace existing drainage crossing under LBl and Main Line at the Lower Bay Yard. The project will install approximately 3 new drainage crossings on the Main Line west of Ansley and add At-Grade Crossing to relieve water pressure north of tracks and prevent washouts during heavy rain events.
Career History	Mrs. Richardson joined Neel-Schaffer in 2022 and serves as a Water Resources Engineer Intern in the firm's Jackson office. Abigail was a Neel-Schaffer Scholarship recipient for three years while attending Mississippi State University. Abigail is one of nine ASFPM Certified Floodplain Managers employed by Neel-Schaffer. Abigail worked on Hydrology and Hydraulics projects, performing a variety of tasks, including H&H modeling in HEC-HMS, HEC-RAS, SMS, PCSWMM, and StormCAD. She is proficient in ArcMap, HEC-RAS, Hydraulic Toolbox, HY-8, Excel, MicroStation, PCSWMM, StormCAD, SMS SRH-2D, HEC-HMS, and CulvertMaster.

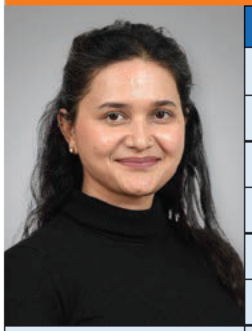
16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.					
Name	**Colby Curtis, PE, CFM**			Years of relevant experience with this employer	2
Title	Project Engineer			Years of relevant experience with other employer(s)	3
Degree(s) / Years / Specialization			BS / 2020 / Civil and Environmental Engineering		
Active registration number / state / expiration date			PE No. 49117 / LA / 09-30-26		
Year registered	2024	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Bridge Hydraulics; Roadway Hydraulics; 2D Hydraulic Modeling ; Bank Stabilization; 3rd Party Hydraulic Report Reviews; Breakout Models		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/24 – Ongoing	**LA 16: N 2nd Street to LA 445 (SPN. H.009425.5); H&H Analysis and Design Services; Tangipahoa Parish LA:** Project includes the mill and overlay of LA 16 from N 2nd Street to east of Duncan Avenue, the in-place base rehabilitation and overlay of LA 16 from east of Duncan Avenue to LA 445. The scope of work will also include the hydraulic analysis and development of construction plans for the rehabilitation of the existing subsurface drainage system to improve drainage along LA 16 from US 51 to approximately 1000'east of Duncan Avenue.
08/24 – 10/24	**US 90: Roundabout at LA 101 (SPN. H.015226); H&H Analysis and Design Services; Calcasieu Parish, LA:** The proposed roundabout at the intersection of US90 and LA101 conflicted with an existing swale used to capture an adjacent property's runoff. To re-route this flow, calculated the site's existing runoff and designed two detention ponds on either side of the property that would both ensure that the development maintained its permitted discharge into the state's roadside ditches as well as avoided the footprint of the new roundabout.
11/23 – 08/24	**Maxwell Creek No Rise Study, Murphy, TX:** The city is adding two pedestrian bridges on either side of East FM 44 road at the crossing of Maxwell Creek as well as low crossing a half mile downstream. A hydraulic analysis was performed to document any increase in water surface elevation and mitigate this increase in the stream due to these added obstructions to meet the FEMA required No Rise condition.
06/21 – 06/24	**MDOT Hydraulics IDIQ Master Contract (2021-24) Statewide, MS:** Neel-Schaffer holds a 3-year IDIQ Master Contract with the MDOT to provide Hydraulic and Hydrologic Engineering services as requested. Under this contract, Neel-Schaffer has or is performing the following tasks: • **MDOT SR 172 Bridge Replacement, Tishomingo County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 4 Bridge Replacement, Tippah County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 313 Bridge Replacement, Marshall County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **Phase I-II Scour Evaluation of US 84 at Tallahala Creek and Relief – Br. Nos. 151.5 and 151.7; SR 15 at Tallahala Creek and Relief – Br. Nos. 80.1 and 80.4 (Jones County) and Phase I-II Scour Evaluation of I-22 at Pechahalee Creek – Br. Nos. 46.9A and 46.9B; I-22 at Oaklimeter Creek – Br. Nos. 49.2A and 49.2B (Benton County):** Project Engineer. Scour evaluation project involving channel stability analysis and SRH-2D modeling to calculate scour for eight bridges in Jones and Benton County.

07/23 – 11/24	**DeSaix Bridge Replacement, New Orleans, LA:** Design of a replacement bridge in Bayou St. John, City of New Orleans. Obtained needed permitting to begin construction phase of project. Reviewed submittals and RFIs, checked monthly quantities usage, updated meeting notes, created invoice letters for contractors and subconsultants.
08/23 – Ongoing	**Green Infrastructure Toolkit, New Orleans, LA:** Audited and revised the City's standard details, specifications, toolkit calculator, and general guidance document. The details and specifications of focus for NSI's effort were porous concrete pavement, edge restraints, cleanouts, and pavers for sidewalks, alley ways, and parking lanes.
10/23 – 03/24	**Pelican Park Water System – Water Modeling, Mandeville, LA:** Evaluated the need for a new water well and storage tank at Pelican Park, located in Mandeville, LA. Developed a hydraulic model of the water system using InfoWater Pro that delivers pressurized flow to the park's playing fields and buildings. A data collection effort was conducted that fielded all the park's available information of the pipe network layout, existing wells, pumps, tanks, and sprinkler heads, and logs of monthly water usage. The model incorporated findings and associated properties such as the head losses, flow demands, and system's compliance with Louisiana Department of Health's water pressure requirements. Multiple scenarios were analyzed including adding a new well and tank. The modeling results were presented in a report that established the benefits of a new well and identified areas in the network where the pipes were undersized.
07/23 – Ongoing	**St. Tammany Parish Grande Maison Subdivision Drainage**: Addressing subdivision flooding issue in Mandeville, LA. Contributed writing Existing Data Memo, Modeling Report, prepared client presentation, reviewed HEC-RAS and PCSWMM model, and created plan sheets for proposed alternatives.
11/23 – 10/24	**East Baton Rouge Parish Port Hudson-Pride Road Bank Scour:** Upstream of the Port Hudson Pride Road Bridge, the Comite River was causing bank erosion, weakening embankment stability along the north side of the road. To mitigate this hazard, the river was modeled using HEC-RAS 2D to analyze velocities in the river bend as well as tested the effectiveness of constructing multiple bendway weirs to provide the client with the most stable and cost-effective solution. Calculated revetment gradations and design parameters for the bendway weirs.
10/23 – 11/24	**Stennis Tech Park Hancock County, MS:** Seven-acre site development for future business use. This effort included grading plans, ditch and culvert sizing, designing a detention pond in accordance with MDEQ guidance, laying out building and parking footprints, identifying utility tie-ins, creating specifications for project execution, and permitting.
10/23	**New Orleans Sewerage and Water Board Saltwater Intrusion:** The saltwater wedge moving up the Mississippi River posed a threat to the City of New Orleans' drinking water as it receives its supply from two intakes on both banks. Drafted preliminary design plans, collected permitting documentation for the Algiers Intake, and laid out initial pipe routing for the Carrollton Intake in a tight time frame to meet the Sewerage and Water Board's urgent needs.
Ongoing	**Donna Heights Drainage, McComb, MS:** Addressing subdivision flooding issue in McComb, MS. Calculated hydrologic runoff and hydraulic routing. Built HEC-RAS model to reflect existing conditions and to propose alternative solutions to problem.
09/23 – 01/24	**Huddleston Street No Rise Study, Haltom City, TX:** The city is repaving Huddleston Street as well as adding curb and gutter, inlets and storm drains, and sidewalks on either side. The street crosses Stream WB4, which flows through a culvert. A hydrologic and hydraulic analysis was performed to document the changes in runoff and mitigate any increase in water surface elevation in the stream to meet the FEMA required No Rise condition.
06/20 – 06/21	**Jimmie Davis Bridge, Bossier City, LA:** Internal technical review of the Drainage Calculations for the proposed ditches, culverts, inlets, and storm drains.
Career History	Colby joined Neel-Schaffer's New Orleans office in July 2023 and serves as a Project Engineer in the Water Resources Group. Prior to joining Neel-Schaffer, he worked for three years at the United States Army Corps of Engineers in the Hydraulics Branch for the Vicksburg District office and the Lower Mississippi River and Tributaries Branch for the New Orleans District office during which time he completed numerous dam and levee breach analyses for the Modeling Mapping and Consequences Center (MMC). These projects include Wallace Lake Dam, Tully Dam, Mathes Dam, Wright Patman Dam, Okatibbee Dam, Wax Lake Levees East and West, and the West St. Francis Floodway Levee System.

16. STAFF EXPERIENCE



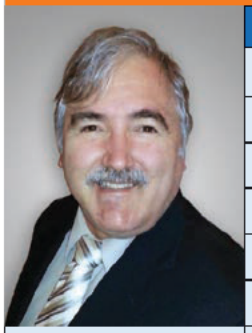
Firm employed by Neel-Schaffer, Inc.			
Name	Vaishali Kandpal, PE, CFM	Years of experience with this firm/employer	3
Title	Water Resources Engineer	Years of experience with other firm(s)/employer(s)	4

Degree(s) / Years / Specialization			BS / 2015 / Agricultural Engineering; MS / 2018 / Agricultural Engineering
Active registration number / state / expiration date			PE No. 155281 / AR / 12-31-2025
Year registered	2025	Discipline	Agriculture
Contract role(s) / brief description of responsibilities			Bridge Hydraulics; 2D Hydraulic Modeling ; 3rd Party Hydraulic Report Reviews; Breakout Models; 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 years of experience specified in the applicable MPR(s).
06/21 – 06/24	**MDOT Hydraulics IDIQ Master Contract (2021-24) Statewide, MS:** Neel-Schaffer holds a 3-year IDIQ Master Contract with the MDOT to provide Hydraulic and Hydrologic Engineering services as requested. Under this contract, Neel-Schaffer has or is performing the following tasks: • **MDOT SR 172 Bridge Replacement, Tishomingo County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 4 Bridge Replacement, Tippah County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 313 Bridge Replacement, Marshall County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **Phase I-II Scour Evaluation of US 84 at Tallahala Creek and Relief – Br. Nos. 151.5 and 151.7; SR 15 at Tallahala Creek and Relief – Br. Nos. 80.1 and 80.4 (Jones County) and Phase I-II Scour Evaluation of I-22 at Pechahalee Creek – Br. Nos. 46.9A and 46.9B; I-22 at Oaklimeter Creek – Br. Nos. 49.2A and 49.2B (Benton County):** Project Engineer. Scour evaluation project involving channel stability analysis and SRH-2D modeling to calculate scour for eight bridges in Jones and Benton County.
10/22 – Ongoing	**Calcasieu Sabine Large-Scale Restoration, Louisiana:** Project Engineer. Vaishali performed hydrologic and hydraulic analysis using HEC-RAS 2D rain-on-grid models to provide recommendations to improve drainage of the Calcasieu-Sabine Marsh using lake rim drainage structures and conveyance channels.
02/22 – Ongoing	**ARDOT:** To develop and provide final roadway plans, final bridge plans and a hydraulic analysis for the following projects that include the replacement of hydraulic structures. Analyzed bridge and roadway hydraulics including scour, cross drains, and side drains. Projects are now in the design phase. • **ARDOT 040788: Bridge Replacements Along SR 64, Crawford County, AR:** Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 64 near Mulberry in Crawford County. This contract began in 2019 and runs through 2024. • **ARDOT 101054: Bridge Replacements Along SR 230, Lawrence and Craighead Counties, AR:** Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans, hydraulic analysis and a geotechnical report for this project that includes the replacement of hydraulic structures at 10 sites along SR 230 between Alicia and Bono in Lawrence and Craighead counties. This contract began in 2019 and runs through 2024.

11/22 – Ongoing	**Veterans Cemetary Crypt Plan, Newton, MS:** Project Engineer. She performed hydrologic and hydraulic analysis using HEC-HMS and HEC-RAS 2D models to provide hydraulic design based on existing site hydrology and design storm drainage systems for proposed roadways within the Veterans Memorial Cemetery.
10/22 – Ongoing	**TxDOT Bridge Hydraulic Analysis, Bell County, TX:** Project Engineer. She performed bridge hydraulic analysis using HEC-RAS 2D model for the proposed bridge replacement projects in Bell County. The hydraulic analyses were based on methodologies and procedures presented in the TXDOT Hydraulic Design Manual.
11/22 – Ongoing	**Hancock County Port and Harbor Commission H/H Analysis, Port Bienville, MS:** Project Engineer. Vaishali performed hydrologic and hydraulic analysis using HEC-RAS 2D rain-on-grid modelling to design drainage plan for the proposed classification yard, intermodal transfer loading tracks and staging tracks in the Intermodal project area Port Bienville.
10/22 – 01/23	**Harris County (TX) Flood Control District H/H Analysis:** Project Engineer. Vaishali created HEC-RAS 2D model to perform hydraulic and hydrologic analysis using the rain-on-grid approach. The models were used to create a conceptual watershed plant o evaluate and quantify exisiting flooding problems in the Kingwood project area and develop strateges to eliminate existing flood problems while accounting for improved drainage infrastructure required to achive a 100-year open channel level-of-service.
10/22 – 11/22	**4-County Electric Power Association H/H Analysis, Webster County, MS:** Project Engineer. Vaishali preformed hydrologic and hydraulic analysis to determine base flood elevation for the proposed site in a in Webster County to ensure that all floodplain regulations are met for the proposed construction in FEMA Zone AE.
Career History	Ms. Kandpal joined Neel-Schaffer in 2022 and has five years of experience as a Water Resources Engineer across the United States and Canada. Vaishali's skills include floodplain mapping, hydraulic and hydrologic modeling, stormwater studies, Risk Map studies and railroad H&H analysis. She is passionate about water resources and strives to continuously expand her skillset by learning new methods and technologies in the market.

16. STAFF EXPERIENCE



Firm employed by Neel-Schaffer, Inc.					
Name	**David MacLean, PE**			Years of experience with this firm/employer	8
Title	Senior Project Engineer			Years of experience with other firm(s)/employer(s)	34
Degree(s) / Years / Specialization			AS / Civil Engineering Technology / 1982; BS / 1985 / Civil Engineering		
Active registration number / state / expiration date			PE No. 49971 / LA / 09-30-2025		
Year registered	2025	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Bridge Hydraulic; Scour		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
12/20 – 05/21	**SCDOT Scour Critical Assessment and Management, Statewide, SC:** Hydraulic/ Hydrology Engineer. Neel-Schaffer was selected as a subconsultant to perform bridge scour site inspections, develop scour calculations/reports, and develop Plans of Action for bridges throughout South Carolina at 276 bridge sites. NSI's work included: Scour Site Inspections – visited bridge sites and collected data related to scour conditions using a mobile database application. Scour analyses – performed calculations utilizing existing plans, site inspection data, USGS envelope curves, FHWA's HEC-18 equations, HEC-RAS (1D), and SRH- 2D models to determine if the bridges were scour critical, including bridges in coastal/tidally influenced areas. Plans of Action (POA) – developed POAs for every bridge determined to be scour critical or with unknown foundations.
07/22 – 06/23	**GDOT FY2022 Design-Build Bridge, Batch 1 (PI# 0018362)4 Counties, District 4:** Mr. MacLean is the project lead for the hydrology and hydraulics engineering of 6 off-system bridge replacement projects and EOR for three bridge H&H studies. Elements of work included estimation of peak flows, HEC-RAS 1D modeling, hydraulic comparison of natural (unconfined) conditions, to existing and proposed conditions with bridge structures, headwater depth and velocity evaluations, bridge low chord to water surface clearances, hydrology for deck drain analyses, scour calculations, erosion and scour countermeasures, and review of the Preliminary Bridge Layouts.
10/22 – 12/22	**Arkansas Department of Transportation (ArDOT) QAQC Scour Review - Project 3 (Mulberry River Bridge & Little Mulberry River Bridge), Project 4 (Cane Creek Bridge, Mud Creek Bridge, Rolling Fork Bridge), Project 5 (Wattensaw Bridge), Project 6 (Caddo River Bridge), and Project 9 (Structure #M4055 crossing Canal 14)**: Mr. MacLean was the hydrology and hydraulics engineer for QAQC review of the replacement bridge hydraulics and scour calculations for each of the ArDOT Projects above. Work included review of calculations and hydraulic models (HEC-RAS 1D) as well as the confirmation of the design selection of proposed scour protection for each bridge site.
08/16 – 12/20	**GDOT I-285/SR 400 Interchange Improvements, Atlanta, GA:** Hydraulic/Hydrology Engineer. I-285 and SR 400 Improvements Design-Build-Finance project for Georgia Department of Transportation. Neel-Schaffer's role includes all design elements for the SR-400 portion of the project, including six major bridges, 4.05 miles of retaining walls, 5.67 miles of noise walls, 8.5 miles of roadway improvements, and a new diverging diamond interchange. Mr. MacLean was responsible for erosion control plan design on this project. This project is currently under construction.
05/20 – 07/20	**SR 317 (Apison Pike) Improvements, CEI Services, Hamilton County, TN:** Hydraulic/ Hydrology Engineer. This project is the widening of Apison Pike (SR 317) from Ooltewah-Ringgold Road (SR 321)to just east of Layton Lane in Collegedale, Tennessee. Most of the existing roadway consists of a two-lane typical section and this project will widen it to five lanes with the majority being on a new alignment. The project includes five new bridges, nine retaining walls, three new traffic signals, utility relocations, and construction of a new roundabout on Tallant Road. Construction began in 2021 and is anticipated to be finished as much as one year ahead of the scheduled completion date of June 2025.

04/18 – 06/18	**TDOT I-75 at I-24 Interchange, Chattanooga, TN:** Hydraulic/ Hydrology Engineer. Neel-Schaffer was chosen by TDOT to serve as the Owner's Representative for this Design-Build project in Chattanooga. Our services included preliminary plans, document prepara-tion, administrative assistance with the RFP and selection process, and then design review. This project is ongoing and should be complete in late 2025.
06/16 – 05/18	**GDOT FY16 Bridges, Batch 4 and 5, South Georgia:** Hydraulic/Hydrology Engineer. Neel-Schaffer was contracted to design engineering and coordination for the construction of 11 bridge replacements in south Georgia. All of the bridges are for off-system stream cross-ings and include bridge design, H&H, surveys, detours, roadway approaches, and environ-mental permitting coordination. Mr. MacLean modeled the existing and proposed bridges in HEC-RAS and performed scour analyses with HEC-18 equations.
09/23 – 09/23	**MDOT 105324-118000 – Phase I-II Scour Evaluation of US 84 at Tallahala Creek and I-22 at Pechahallee Creek, Jones/Benton County, MS**: Provided quali-ty assessment of scour evaluation reports and confirmed compliance of scour with HEC-18. Supported finalization of NBI rating for Phase II assessment.
08/19 – 12/20	**City of Gallatin (TN) Regional Detention Pond Design, Gallatin Industrial Park:** Lead Engineer responsible for hydrologic/hydraulic analysis to size a regional deten-tion pond to provide downstream flood reduction. Developed final design and construction plans.
05/19 – Ongoing	**GDOT On-Call Services for Special Drainage Studies, Statewide, GA:** Mr. Mac-Lean performed as a Project Engineer for Neel Schaffer's continuing contract to perform de-tailed hydrologic and hydraulic analysis and design to solve drainage/flooding problems along GDOT's roadways. He performed site reconnaissance, coordinated the video record-ings of underground pipe and topographic surveys, hydrologic and hydraulic modeling, de-sign of infrastructure improvements, construction cost estimates, and final reports.
05/18 – 12/19	**GDOT FY2018, Design-Build Bridges, Batch 1 (PI#0015912), 6 Counties, Dis-tricts 1, 6, & 7:** Mr. MacLean is the hydrology and hydraulics engineer for 6 off-system bridge replacement projects and EOR for the H&H studies. Elements of work included esti-mation of peak flows, HEC-RAS 1D or SRH-2D modeling, hydraulic comparison of natural (unconfined) conditions, to existing and proposed conditions with bridge structures, head-water depth and velocity evaluations, bridge low chord to water surface clearances, hydrol-ogy for deck drain analyses, scour calculations, erosion and scour countermeasures, and review of the Preliminary Bridge Layouts.
06/17 – 12/17	**SR-39 Culvert Replacement Over Hannahatchee Creek Tributary (PI 0011687):** This project provided Value Engineering (VE) design services for the project sub-contractor responsible for replacing the existing two (2) 10'-0" diameter drainage pipes. The Depart-ment let plans required an on-site detour, the jacking of a temporary 10'-0" diameter pipe, and multi-stage construction of a 10'x12' concrete box culvert with concrete aprons and wing-walls. The sub-contractor had concerns about the constructability of the proposed culverts and the safety of workers between the temporary jack-and-bored pipe and the culvert. Neel-Schaffer's VE solution utilized a single-span 40' Type I-Mod girder bridge in lieu of the proposed box culvert. The bridge design eliminated the need for the temporary pipe jacking and allowed the entire replacement structure to be constructed safely in one stage. The bridge end bents were protected by sheet-piling rather than the typical end rolls utilized by the Department, allowing for a cost effective bridge design while still maintaining an adequate channel. The VE nature of this project required design and plans to be developed on a tight time schedule and to get approved by the GDOT Office of Bridge Design quickly. Start of design through end of construction (including geotechnical testing and BFI preparation) was only 11 months.
Career History	Mr. MacLean joined Neel-Schaffer in 2016 and has more than three decades of civil engineering experience. David has experience in hydrology, hydraulics, storm water management, floodplain management, floodplain delineations, stream restorations and erosion protection. David has previously worked on transportation projects in the capacity of lead engineer.

16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.			
Name	**Sahar Haddadian, PE, PhD, CFM, WEDG**	Years of experience with this firm/employer	2
Title	Coastal Engineer	Years of experience with other firm(s)/employer(s)	2
Degree(s) / Years / Specialization	BS / 2011 / Civil and Structural Engineering; MS / 2013 / Civil & Hydraulic Engineering; PhD / 2020 / Civil & Coastal Engineering		
Active registration number / state / expiration date	PE No. 48648 / LA / 09-30-26		
Year registered	2024	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities	Bridge Hydraulics; 2D Hydraulic Modeling ; Breakout Models; Mapping; 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 years of experience specified in the applicable MPR(s).
08/22 – 12/24	**PO-167: St. Tammany Coastal Protection Master Plan, St. Tammany Parish, LA:** Hydraulic/ Hydrology Engineer. Neel-Schaffer tasks include updating the GEC 2012 Northshore Hurricane and Flood Protection Study with newly completed and current proposed projects, gather information on multiple projects by different agencies and jurisdictions. Perform a gap analysis to identify new projects, and a benefit/cost analysis of proposed projects will be completed to determine project priority and viability. NSI is currently performing a Conceptual project Alternatives and Feasibility Analysis as a part of Task III.
11/22 – 10/23	**St. Tammany Parish Slidell Breakwater Restoration Feasibility Study, Slidell, LA:** Hydraulic/ Hydrology Engineer. Sahar was in charge of evaluating the feasibility of constructing shoreline protection and habitat development through the construction of segmented breakwaters along Lake Pontchartrain's southeast shoreline. Sahar analyzed the existing conditions (water levels, subsidence, sea level rise) and coastal processes (wind and wave climate during normal and extreme conditions) on site to determine the real and ongoing negative consequences to the immediate shoreline and littoral habitat found within the study area.
02/21 – 06/21	**Austal USA South Access Road, Mobile, AL:** Sahar was in charge of conducting a two-dimensional HEC-RAS model to evaluate the changes in water surface elevation within the vicinity of the project site due to the widening of the connector road located on Pinto Pass that connects the South end of the Austal Complex to Dunlap Drive.
02/24 – 08/24	**MDOT SCOUR Analysis for US-84 and SR-15 Bridges Over Tallahala Creek, MS:** Provided quality assessment of two-dimensional numerical modeling of river hydraulics and bridge scour analysis using SMS-SRH2D software
08/22 – 12/24	**SCDOT Scour Analysis for US-301 Bridge Over Savannah River, SC:** Sahar was in charge of two-dimensional numerical modeling of river hydraulics and determining the bridge scour depth and extent for the proposed bridge replacement using SMS- SRH2D software.
05/23 – 12/23	**SCDOT Scour Critical Assessment and Management, Statewide, SC:** Hydraulic/ Hydrology Engineer. Neel-Schaffer was selected as a subconsultant to perform bridge scour site inspections, develop scour calculations/reports, and develop Plans of Action for bridges throughout South Carolina at 276 bridge sites. NSI's work included: Scour Site Inspections – visited bridge sites and collected data related to scour conditions using a mobile database application. Scour analyses – performed calculations utilizing existing plans, site inspection data, USGS envelope curves, FHWA's HEC-18 equations, HEC-RAS (1D), and SRH- 2D models to determine if the bridges were scour critical, including bridges in coastal/tidally influenced areas. Plans of Action (POA) – developed POAs for every bridge determined to be scour critical or with unknown foundations.
Career History	Ms. Haddadian joined Neel-Schaffer in 2022 and serves as a Coastal Engineer responsible for coastal engineering analyses, numerical modeling, and the design of coastal structures. Sahar has three years of experience, and her expertise ranges from project inception to construction, including: feasibility studies, field investigations, cost estimates, comprehensive coastal engineering analyses, numerical modeling, and structural design.

16. STAFF EXPERIENCE

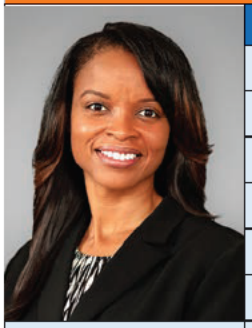
Firm employed by Neel-Schaffer, Inc.			
Name	**Amber Cutcliff, PE, CFM**	Years of experience with this firm/employer	22
Title	Senior Project Engineer	Years of experience with other firm(s)/employer(s)	0

Degree(s) / Years / Specialization			BS / 2001 / Civil and Structural Engineering
Active registration number / state / expiration date			PE No. 44388 / LA / 09-30-26
Year registered	2020	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Roadway Hydraulics

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/21 – 06/24	**MDOT Hydraulics IDIQ Master Contract (2021-24) Statewide, MS:** Neel-Schaffer holds a 3-year IDIQ Master Contract with the MDOT to provide Hydraulic and Hydrologic Engineering services as requested. Under this contract, Neel-Schaffer has or is performing the following tasks: • **MDOT SR 172 Bridge Replacement, Tishomingo County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 4 Bridge Replacement, Tippah County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 313 Bridge Replacement, Marshall County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **Phase I-II Scour Evaluation of US 84 at Tallahala Creek and Relief – Br. Nos. 151.5 and 151.7; SR 15 at Tallahala Creek and Relief – Br. Nos. 80.1 and 80.4 (Jones County) and Phase I-II Scour Evaluation of I-22 at Pechahalee Creek – Br. Nos. 46.9A and 46.9B; I-22 at Oaklimeter Creek – Br. Nos. 49.2A and 49.2B (Benton County):** Project Engineer. Scour evaluation project involving channel stability analysis and SRH-2D modeling to calculate scour for eight bridges in Jones and Benton County.
02/23 – 04/25	**ARDOT:** To develop and provide final roadway plans, final bridge plans and a hydraulic analysis for the following projects that include the replacement of hydraulic structures. Analyzed bridge and roadway hydraulics including scour, cross drains, and side drains. Projects are now in the design phase. • **ARDOT 030412: Bridge Replacements Along SR 70, Sevier County, AR:** Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at three sites along SR 70 near the Oklahoma state line. Mrs. Cutcliff analyzed roadway hydraulic culvert design for the project. This contract began in 2019 and runs through 2024. • **ARDOT 040780: Bridge Replacements Along SR 186, Franklin County, AR:** Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans and a hydraulic analysis for this project that includes the replacement of hydraulic structures at two sites along SR 186 near Altus in Franklin County. This contract began in 2019 and runs through 2024. • **ARDOT 101054: Bridge Replacements Along SR 230, Lawrence and Craighead Counties, AR:** Engineer for H&H Design. Neel-Schaffer was selected to develop and provide final roadway plans, final bridge plans, hydraulic analysis and a geotechnical report for this project that includes the replacement of hydraulic structures at 10 sites along SR 230 between Alicia and Bono in Lawrence and Craighead counties. Mrs. Cutcliff analyzed roadway hydraulic culvert design for the project. This contract began in 2019 and runs through 2024.

04/22 – 12/22	**MDOT US 72 at MS 7 Roundabout Roadway Drainage:** H&H Design Engineer responsible for pre and post construction analysis of urban drainage, including cross drains, median inlets, and storm drain system.
06/23 – 07/23	**MDOT SR Slide Repair, Rankin County, MS:** H&H Design Engineer responsible for review of hydrologic and hydraulic analysis of proposed project design. Reviewed storm sewer system designed using StormCAD to convey flow from the proposed surface to the existing cross drain.
01/24-04/25	**MDOT I-55 Widening Roadway Hydraulics 463 to Gluckstadt:** H&H Project Engineer responsible for reviewing hydrologic and hydraulic analysis of project to develop Phase A Field Inspection Plans and Phase B Roadway and Traffic Engineering Final Plans for roadway widening along I-55 in Madison County. Designed a series of ditches and storm sewer systems to convey flow from interior system to ROW outfalls. Included review and widening of existing cross drains and connection to the Reunion Parkway Interchange and Flyover. Project is currently in design phase.
12/23 – 04/24	**MDOT MS HWY 51 and West Oak Grove Road Intersection, Hernando, MS:** H&H Design Engineer responsible for pre and post construction analysis of urban drain-age, including cross drains, median inlets, and storm drain system.
03/22 – 05/22	**Roy Cumbest Bridge Replacement, Jackson County, MS:** H&H Design Engineer responsible for performing hydraulic and scour analysis of existing and proposed bridges over the Pascagoula River at Wade-Vancleave Road. The new bridge is approximately 1,350 feet long with 12 spans over the main river channel. HEC-RAS software was used to model existing and proposed bridges. HEC-18 procedures were used to perform scour analysis and HEC-23 procedures were followed to determine and design scour countermeasures. The bridge is located in a FEMA Special Flood Hazard Area, Zone AE, therefore the proposed bridge was designed to meet No-Rise criteria.
01/22 – 03/22	**Ceres Boulevard Extension, Warren County, MS:** H&H Design Engineer responsible for performing hydraulic and scour analysis of proposed bridge location over Crouches Creek for CERES Industrial Park development. HEC-RAS software was used to model proposed bridge conditions. HEC-18 procedures were used to perform scour analysis. The bridge was located in a FEMA Special Flood Hazard Area, therefore the proposed bridge was designed to meet one-foot rise criteria.
10/22 – 12/22	**Stateline Road Bridge Replacement, Olive Branch, MS:** Design Engineer responsible for performing hydraulic and scour analysis of existing and proposed bridge over Grants Creek at Stateline Road. HEC-RAS software was used to model existing and proposed bridges and HEC-18 procedures were used to perform scour analysis and HEC-23 procedures were followed to evaluate the need for scour countermeasures. The bridge was located in a FEMA Special Flood Hazard Area, therefore the proposed bridge was designed to meet No-Rise criteria.
02/23 – 05/23	**US 49 Forrest County Safety Improvements, Forrest County, MS:** H&H Design Engineer responsible for performing hydraulic and hydrologic analysis of drainage structures within the project limits for both existing and proposed project conditions. Proposed project conditions included cross drain extensions and cross drain pipe networks which combined south and north bound lane crossings.
01/21 – 04/22	**SR 601/30th Avenue, Gulfport, MS:** H&H Design Engineer responsible for hydraulic and hydrologic analysis of project area including roadway drainage system. Responsible for performing hydraulic analysis of existing and proposed box culvert under 30th Avenue at Brickyard Bayou. HEC-RAS software was used to model existing and proposed box culvert locations. Culvert was located in a Special Flood Hazard Area, therefore the proposed culvert was designed to meet No-Rise criteria.
Career History	Mrs. Cutcliff joined Neel-Schaffer in 2002 and currently serves as an Hydraulics Engineer based in the firm's Jackson (MS) office. In addition to Professional Engineering licensure, Amber is an ASFPM Certified Floodplain Manager (CFM). Mrs. Cutcliff has over 21 years of civil engineering experience and has previously served as a Project Engineer/Manager for numerous transportation, aviation, and civil design projects. Mrs. Cutcliff is proficient in the use and application of HEC-RAS, Bentley Culvert Master, Flow Master, StormCAD, HY-8 Culvert Hydraulic Analysis Program, and ArcGIS. Her experience includes urban drainage analysis and design, roadway and bridge , hydrology and hydraulics, and subsurface drainage analysis and restoration.

16. STAFF EXPERIENCE

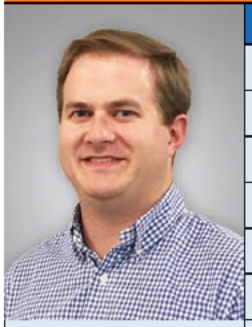


Firm employed by Neel-Schaffer, Inc.					
Name	**Dishili Young, PE, PTOE**			Years of experience with this firm/employer	6
Title	Vice President / Engineering Manager			Years of experience with other firm(s)/employer(s)	15
Degree(s) / Years / Specialization			BS / 2002 / Civil Engineering; MS / 2018 / Civil Engineering		
Active registration number / state / expiration date			PE No. 33723 / LA / 09-30-2026		
Year registered	2008	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Roadway Hydraulics		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/23 – Present	**IDIQ for Road Design Projects**: This contract includes three separate Task Order projects which include traffic services, road design, preliminary and final plan development. The projects include pavement preservation, constructing new roads, extend existing roads, construction of roundabouts, turn lanes and drainage improvements. **1.) US 90: Roundabout a LA 101 (Calcasieu) (SPN. H.015226)**; Project Manager and Design Services. This project includes the design for a roundabout with high-speed approaches. The design avoids impacts to a gas station, and other development at the intersection. It includes minimum right of way taking and detention pond design. **2.) LA 621: Realignment @ LA 73 (Ascension) (SPN. H.014366)**; Project Manager and Design Services. This project will widening LA 73 and realign LA 621 to near its existing intersection with LA 73 to relieve congestion and improve safety. This project includes the design of a multilane roundabout to provide connectivity for local roadways, traffic analysis, Transportation Management Plan, and 1 mile of mill and overlay for LA 621. **3.) LA 16: N 2nd Street to LA 445 (Tangipahoa Parish) SPN. H.009425.5**; Project Manager and Design Services. Project includes the mill and overlay of LA 16 from N 2nd Street to east of Duncan Avenue, the in-place base rehabilitation and overlay of LA 16 from east of Duncan Avenue to LA 445. The scope of work will also include the hydraulic analysis and development of construction plans for the rehabilitation of the existing subsurface drainage system to improve drainage along LA 16 from US 51 to approximately 1000'east of Duncan Avenue. **4.) LA 182: US 90 – Greenwood St. Overpass SPN. H.016158;** Project Manager and Design Services. This project includes pavement rehabilitation along LA 182 from WB Exit Ramp to Greenwood St. Overpass, in Morgan City, LA. The work includes pavement patching, mill and overlay, roadway reinforcing mesh, curb ramps and guard rail.
04/23 – Present	**Jimmie Davis Design Build:** This project will construct a new 4-lane bridge over the Red River, convert LA 511 from a five-lane roadway to a 4-lane median divided roadway with turn lanes, and construct full-access interchange connections with LA 511 at both Arthur Ray Teague Parkway and Clyde Fant Memorial Parkway. She assisted with design-related tasks. Managed the roadway drainage design, and managed the scour analysis, attends team technical meetings and meetings with DOTD. Provided QA/QC. She also assisted with the proposal preparation, attended one-on-one meetings, and assisted with the technical writing for the proposal.
01/20 – Present	**I-20: LA 544 Overpass Replacement**: Managing the preliminary and final design services for this project. This project will replace the LA 544 Overpass diamond interchange with a diamond roundabout interchange. The project includes a new bridge over I-20 with sidewalks and four multilane roundabouts within a roundabout interchange with two roundabouts on a 3% longitudinal grade & partially on bridge. Includes a level 2 TMP
04/18 – Present	**I-49 South at Verot School Road**: Managing the design services for the interstate design and service road design (drainage, preliminary and final road design and TMP). This project which will construct 2.4 miles of mainline freeway, bridges and an interchange at the intersection of I-49 South/US 90 and Verot School Road. This project includes the design of a major bridge crossing at Verot Rd. and I-49 and a roundabout at the relocated intersection of Verot Rd and South Collage Rd. Neel-Schaffer (NSI) is serving as the subconsultant for this project. NSI is designing the interstate mainline and frontage roadways, as well as, designing the drainage along these corridors. NSI is also completing the traffic design and level 3 TMP. Includes a multilane roundabout

09/18 – 12/18	**I-20 at 220 Interchange Improvement & BAFB Design-Build Project**: Included preliminary plan development for completing the existing partial interchange by adding a new flyover ramp, cloverleaf ramp, modifying existing ramps, and providing a new arterial roadway with a new bridge over the Kansas City Southern railroad.
08/17 – 03/19	**Juban Road Widening**: Served as the engineer of record and managed the completion of the roadway and drainage design services for this project which will widen LA 1026 (Juban Rd.), construct three multilane roundabouts and two new frontage access roadways, with storm drainage sewer systems.
08/17 – Present	**Mandeville Bypass, Mandeville, LA**: This project will provide a new 3 Mile median divided roadway with integral bike path connecting LA 1088 near its interchange with I-12 and US 190 near Fontainebleau Park. It will construct five roundabouts and multiple entrances to Pelican Park. Ms. Young is managing the roadway design services. Includes multiple multilane roundabouts. This project is in construction
02/10 – 12/11	**I-10 Widening Design-Build Siegen Ln. (LA Hwy 3246) to Highland Rd. (LA Hwy 74) for LA DOTD**: Served as Engineer and managed portions of the civil design for this project. This project involved the widening of I-10 from four lanes to six, bridge reconstruction (I-10 over Wards Creek and I-10 over KCS Bridge), and drainage improvements along the corridor. In addition to assisting with the roadway design, Ms. Young completed the H&H analysis and scour analysis for the Wards Creek Bridge. She also assisted with the drainage design along the interstate corridor. This project is in construction and NSI is providing Construction Admin. Services.
01/09 – 11/11	**I-12 Widening Design-Build (O'Neal Ln. to Pete's Hwy)**: Served as Engineer for this project which involved the widening of I-12 and bridge reconstruction (I-12 over Amite River (two bridges) and I-12 over O'Neal Lane (two bridges)). In addition to assisting with the roadway design, Ms. Young assisted with the scour analysis and H&H analysis at the Amite River as well as the drainage design along the interstate corridor.
08/17 – 03/20	**LA 73 Turn Lanes**: This project constructed turn lanes at multiple locations along LA 73 in Ascension Parish. The roadway and drainage design were completed in accordance with LADOTD guidelines
12/22 – Present	**LA 89 @ Guillot Rd Improvements**: Existing drainage determination, proposed drainage design and plan preparation. Includes roundabouts. Preliminary and Final Road Design
08/22 – Present	**LA 89 at Chemin Metairie Parkway, Youngsville, LA**: This project provides new two-lane connector roadway with drainage between Chemin Metairie Parkway & LA 89. Includes multilane roundabouts in final design stage. This project is on hold awaiting funding.
09/22 – Present	**E. Milton Ave Improvements, Lafayette Parish, LA**: This project will widen an existing Roundabout at E. Milton Ave./Chemin Metairie Rd intersection from single lane to multi-lane and widen and overlay E. Milton Ave. and Chemin Metairie Rd. in Youngsville, LA. Roadway and Drainage Design. This project is on hold awaiting funding.
12/14 – 08/17	**LA 447 Corridor Study, Walker, LA (LA 16 to US 190)**: Assisted with the geometric design for the R-Cut and roundabout improvements, public outreach and served as Project Manager and road design lead for the EA while working at another firm. Includes multilane roundabouts
08/17 – Present	**Ham Reid at LA 3092 Intersection Improvements**: Serves as engineer of record for this project which will construct a roundabout at the intersection of LA 3092 and Ham Reid Road. The roadway and drainage design were completed in accordance with LADOTD guidelines.
Career History	Dishili offers approximately 20 years of progressive experience which includes program management, engineering management, project management and engineering design. Her experience includes the management and design of interstate design-build projects, interstate design-bid-build projects, including roundabout interchanges, road design projects, including multilane roundabouts, drainage projects, H&H Studies, environmental studies and feasibility studies. Her Continuing Education is documented as follows: Transportation Safety Systems (Highway Safety Manual Graduate Course), Auburn University, 2016: ATSSA Traffic Control Supervisor Training Course, Baton Rouge, 2015; ATSSA Traffic Control Technician Training Course, Baton Rouge, 2015: FHWA Highway Safety Manual Workshop, Baton Rouge, 2014; Roadside Safety Design by the Federal Highway Administration and National Highway Institute, LTRC, 2010; Urban Street Design, University of Wisconsin, Madison,; Open Channel Design, University of Wisconsin, Madison; Comprehensive Culvert Design, University of Wisconsin; Maintaining Asphalt Pavements, University of Wisconsin; Using HEC-RAS to compute water surface profiles for floodplains, bridge and culvert hydraulics, University of Wisconsin; DOTD's Traffic Engineering Process and Report (TEPR) training

16. STAFF EXPERIENCE



Firm employed by Neel-Schaffer, Inc.

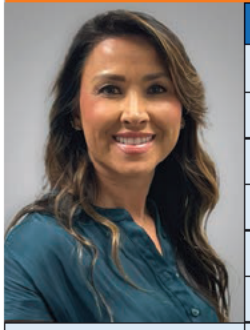
Name	**Chance Shuckrow, PE**	Years of relevant experience with this employer	10
Title	Project Engineer	Years of relevant experience with other employer(s)	0

Degree(s) / Years / Specialization	BS / 2014 / Civil Engineering
Active registration number / state / expiration date	PE No. 0042746 / LA / 03-31-2027
Year registered 2018 Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities	Roadway Hydraulics

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/23 – Present	**IDIQ for Road Design Projects**: This contract includes three separate Task Order projects which include traffic services, road design, preliminary and final plan development. The projects include pavement preservation, constructing new roads, extend existing roads, construction of roundabouts, turn lanes and drainage improvements. **1.) US 90: Roundabout a LA 101 (Calcasieu) (SPN. H.015226)**; Plan Production and Design Services. This project includes the design for a roundabout with high-speed approaches. The design avoids impacts to a gas station, and other development at the intersection. It includes minimum right of way taking and detention pond design. **2.) LA 621: Realignment @ LA 73 (Ascension) (SPN. H.014366)**; Plan Production and Design Services. This project will widening LA 73 and realign LA 621 to near its existing intersection with LA 73 to relieve congestion and improve safety. This project includes the design of a multilane roundabout to provide connectivity for local roadways, traffic analysis, Transportation Management Plan, and 1 mile of mill and overlay for LA 621. **3.) LA 16: N 2nd Street to LA 445 (Tangipahoa Parish) SPN. H.009425.5**; Plan Production and Design Services. Project includes the mill and overlay of LA 16 from N 2nd Street to east of Duncan Avenue, the in-place base rehabilitation and overlay of LA 16 from east of Duncan Avenue to LA 445. The scope of work will also include the hydraulic analysis and development of construction plans for the rehabilitation of the existing subsurface drainage system to improve drainage along LA 16 from US 51 to approximately 1000'east of Duncan Avenue. **4.) LA 182: US 90 – Greenwood St. Overpass SPN. H.016158;** Plan Production and Design Services. This project includes pavement rehabilitation along LA 182 from WB Exit Ramp to Greenwood St. Overpass, in Morgan City, LA. The work includes pavement patching, mill and overlay, roadway reinforcing mesh, curb ramps and guard rail.
11/19 – Present	**IDIQ Contract for Design of Safety Projects (Districts 02, 61 & 62):** The task orders under this project are as follows (see project profile for full description): 1.) Local Road Signing (Vermilion) (SPN. H.013014); 2.) Independence SRTS – Phase II (SPN. H.010108.1); 3.)LRSP (Iberia Parish and City of N.I.) (SPN. H.013770); 4.) LA 60: Bogalusa H.S. Ped Improvements (SPN. H.013713.1); 5.) W. 11th Avenue Ped and Bicycle Improvement (SPN. H.013621); 6.) LRSP Signs, Striping and X-Overs (Gonzales) (SPN. H.013621.1); 7). Downtown Greenway LA Connector (BR) (SPN. H.013751); 8.) LSU Laboratory School SRTS Project (SPR. H.009290); 9.) Local Road Signing (Ascension) (SPN. H.015011); 10.) FYA Signal Improvements (SPN H.014579); and 11.) LSRP Ardenwood Dr. Road Diet (East Baton Rouge) (SPN H.013622) See project profiles for more details.
09/20 – Present	**H.011280.1: LA 10 Stage 0 Phase 2, Washington Parish, LA:** This project considers multiple alternatives along a 5.5 mile portion of LA 10. Improvements include roundabouts, additional capacity, access management, couplets and more. Mr. Shuckrow will provide roadway support and help with the cost estimate.
04/23 – Present	**Jimmie Davis Design Build:** This project will construct a new 4-lane bridge over the Red River, convert LA 511 from a five-lane roadway to a 4-lane median divided roadway with turn lanes, and construct full-access interchange connections with LA 511 at both Arthur Ray Teague Parkway and Clyde Fant Memorial Parkway. She assisted with design-related tasks. Managed the roadway drainage design, and managed the scour analysis, attends team technical meetings and meetings with DOTD. Provided QA/QC. She also assisted with the proposal preparation, attended one-on-one meetings, and assisted with the technical writing for the proposal.

08/22 – Present	**LA 89 at Chemin Metairie Parkway, Youngsville, LA**: This project will provide a new two-lane connector roadway with drainage between Chemin Metairie Parkway and LA 89. Project includes preliminary and finals plans.
02/22 – Present	**W. Broussard Roundabout at Duhon Rd. (LA 724)**: This project will construct a roundabout and required drainage improvements. Includes roundabout. Design services. Preliminary plans completed. Final design ongoing.
09/20 – Present	**H.011280.1: LA 10 Stage 0 Phase 2, Washington Parish, LA:** This project considers multiple alternatives along a 5.5 mile portion of LA 10. Improvements include roundabouts, additional capacity, access management, couplets and more. Mr. Shuckrow will provide roadway support and help with the cost estimate.
08/20 – Present	**I-10 & I-12 College Drive Flyover Ramp Design Build, Baton Rouge, LA**: Project Manager for Interchange Modification Report, TMP, and ITR of MOT Plans for the proposed College Drive Ramp improvements. The IMR was prepared in accordance with DOTD's TEPR and FHWA Policy Points. The IMR analysis was performed using Vissim software. In addition, the TMP was prepared for the various maintenance of traffic phases. Analysis used in the TMP included HCS analysis for detour evaluations and Dynameq (Mesoscopic Modeling) for evaluating various MOT strategies.
04/18 – 04/20	**S.P. No. H.013023: Rees St. (LA 328) Stage 0 Corridor Study (Design Study), St. Martin Parish, LA** – This project focuses on the overall improvement of safety along the corridor. He reviewed the proposed road alignment, several roundabout intersection, roadway widening with sidewalks and bike path and cost estimates the corridor in Breaux Bridge, LA.
11/15 – Present	**Southcity Parkway Extension, Phase 1, Robley Drive to Kaliste Saloom Road, Lafayette Parish, Lafayette Consolidated Government (LCG).** EA and Final Design. Final Design of 2-mile four lane median divided roadway with 3 multilane roundabout intersections and a major bridge crossing the Vermilion River. Completed the vertical and horizontal alignments, modeled the project with Bentley software and completed the drainage design. Mr. Shuckrow serves as the engineer of record for this project assisting with the roadway design, stage 0 feasibility study and EA. This project includes bike lanes and sidewalks/paths.
03/15 – Present	**St. Martinville Bypass (LA31) Environmental Assessment and Line and Grade Study in St. Martinville, LA (SPNH.004924.5)** Includes five roundabout geometry intersections at connections with state routes. Assisted in geometric design of roadway alternatives and in the development of horizontal and vertical profiles.
06/13 – 09/20	**Stage 0 Feasibility Studies, Modern Roundabouts, SPN:** H04490, Lafayette Metropolitan Area (Retainer) Engineering in support of Stage 0 Scope and Budget Checklist for 24 separate roundabouts. This project focuses on the improvement of traffic flow and safety at each intersection & interchange. Mr. Shuckrow assisted with the review of the roadway design and cost estimates.
11/14 – 04/17	**I-20 @ LA 544 Overpass Replacement, Lincoln Parish, LA:** This project will replace the existing LA 544 bridge crossing and interchange with a new bridge and four roundabouts. Mr. Shuckrow is providing design support. Mr. Shuckrow assisted with the drainage design and provided roadway design support.
08/14 – 05/19	**Juban Road (LA1026) Widening for Livingston Parish Government in Livingston, LA (SPNH.004634.5)** Final design for reconstruction of Juban Rd as a four-lane median divided roadway with multilane roundabouts intersections. Completed vertical and horizontal alignments and modeled the project with Bentley software, assisted with the drainage design and preparation of plans. This project includes paths and bike lanes.
09/15 – Present	**Ham Reid Road at Lake Street Intersection Improvements, Calcasieu Parish, LA:** Project includes the final design of a multilane roundabout. Completed the roundabout design, drainage design, and developed plans.
Career History	Mr. Shuckrow joined Neel-Schaffer in of 2014 and has 10 years of experience in the design of roadways, freeways, signalized and roundabout geometry intersections. Based in the firm's Baton Rouge (LA) office, Chance has worked in the design of drainage, horizontal and vertical profiles, and corridors. He has also worked in cost estimating of projects and in the preparation of roadway design plans.

16. STAFF EXPERIENCE



Firm employed by Neel-Schaffer, Inc.					
Name	**Priscilla Howell, PE**			Years of experience with this firm/employer	5
Title	Project Engineer			Years of experience with other firm(s)/employer(s)	0
Degree(s) / Years / Specialization			BS / 2004 / Civil Engineering		
Active registration number / state / expiration date			PE No. 18895 / MS / 12-31-25		
Year registered	2009	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Roadway Hydraulics		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/24 – 06/24	**MDOT Flowers Interchange, Warren County, MS:** H&H Engineer responsible for completing hydrologic and hydraulic analysis of project to develop Phase A Field Inspection Plans and Phase B Roadway and Traffic Engineering Final Plans for roadway improvements along the I-20 Flowers Interchange. Designed a series of storm sewer systems to convey flow from proposed roadway round-abouts to adjacent roadside ditches. Project is currently in the design phase.
11/23 – 03/24	**MDOT I-55 Widening Roadway Hydraulics 463 to Gluckstadt:** H&H Engineer responsible for completing the hydrologic and hydraulic analysis of project to develop Phase A Field Inspection Plans and Phase B Roadway and Traffic Engineering Final Plans for roadway widening along I-55 in Madison County. Designed a series of ditches and storm sewer systems to convey flow from interior system to ROW outfalls. Included design of widening of existing and temporary cross drains and connection to the Reunion Parkway Interchange and Flyover. Project is currently in the design phase.
09/23 – 10/23	**MDOT West Rankin Parkway Rankin County, MS:** H&H Engineer responsible for performing hydraulic and hydrologic analysis checks of roadway drainage structures within the project limits for proposed project conditions. Proposed project conditions included curb and gutter inlet system, cross drain pipe networks, and roadside ditches.
10/23 – 01/24	**McComb Drainage ARPA:** H&H Engineer. Project to develop plans for the proposed drainage improvements to the neighborhood around Donna Heights. Evaluate and design inlets, ditches, and cross drains to convey flow from the proposed improvements to outfall. Project is now in the design phase.
08/24 – 09/24	**US-51 Green T Roundabout, DeSoto County, MS:** H&H Engineer responsible for performing hydraulic and hydrologic analysis checks of roadway drainage structures within the project limits for proposed project conditions. Proposed project conditions included curb and gutter inlet system, median and grate inlets, and cross drain pipe networks.
12/24 – Ongoing	**MDOT US-80 Clinton, MS :** H&H Engineer responsible for performing hydraulic and hydrologic analysis checks of roadway drainage structures within the project limits for proposed project conditions. Proposed project conditions included curb and gutter inlet system, cross drain pipe networks, and roadside ditches.
04/24 – 09/24	**Mallett Road/Sangani Intersection Improvements, D'Iberville, MS:** H&H Engineer responsible for performing hydraulic and hydrologic analysis checks of roadway drainage structures within the project limits for proposed project conditions. Proposed project conditions included urban system, roadside ditches, ponds, cross drains, and side drains.
Career History	Ms. Howell rejoined Neel-Schaffer in 2023 and currently serves as Hydraulics Engineer based in the firm's Jackson (MS) office. Ms. Howell has over five years of experience on a variety of traffic engineering and transportation planning projects for the Mississippi Department of Transportation and numerous local governments throughout Mississippi. She has conducted traffic noise impact studies, feasibility studies, traffic signal, signal timing and coordination, and signal warrant analysis, as well as environmental studies and structural analyses for telecommunication projects.

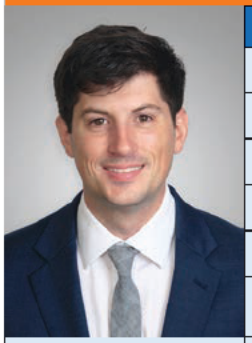
16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.					
Name	Jay Coleman, PE			Years of experience with this firm/employer	6
Title	Project Engineer			Years of experience with other firm(s)/employer(s)	2
Degree(s) / Years / Specialization			BS / 2017 / Civil Engineering		
Active registration number / state / expiration date			PE No. 128885 / TN / 02-28-26		
Year registered	2024	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			2D Hydraulic Modeling; Breakout Models		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/21 – 06/24	**MDOT Hydraulics IDIQ Master Contract (2021-24) Statewide, MS:** Neel-Schaffer holds a 3-year IDIQ Master Contract with the MDOT to provide Hydraulic and Hydrologic Engineering services as requested. Under this contract, Neel-Schaffer has or is performing the following tasks: • **MDOT SR 172 Bridge Replacement, Tishomingo County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 4 Bridge Replacement, Tippah County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **MDOT SR 313 Bridge Replacement, Marshall County, MS:** Project Engineer. Bridge replacement project involving modeling the existing and proposed bridge alternatives in SMS to analyze scour. Project is now in design phase. • **Phase I-II Scour Evaluation of US 84 at Tallahala Creek and Relief – Br. Nos. 151.5 and 151.7; SR 15 at Tallahala Creek and Relief – Br. Nos. 80.1 and 80.4 (Jones County) and Phase I-II Scour Evaluation of I-22 at Pechahalee Creek – Br. Nos. 46.9A and 46.9B; I-22 at Oaklimeter Creek – Br. Nos. 49.2A and 49.2B (Benton County):** Project Engineer. Scour evaluation project involving channel stability analysis and SRH-2D modeling to calculate scour for eight bridges in Jones and Benton County.
10/17 – 08/18	**GDOT On-Call Special Drainage Studies, Statewide, GA:** Engineer Intern. As part of an On-Call Contract, performed detailed hydrologic and hydraulic analyses and designs to solve drainage/flooding problems along multiple GDOT roadways. Services included site reconnaissance, agency coordination, coordination of topographic surveys, hydrologic and hydraulic modeling, and recommendations of infrastructure improvements to solve flooding problems. Software packages utilized include ArcGIS, StormCAD, PondPack, Microstation, and GeoPAK.
03/18 – 05/18	**TDOT I-75/I-24 Interchange Improvements - Chattanooga, TN:** Engineer Intern. Performed hydrologic and hydraulic analysis for bridge replacements over South Chickamauga and Spring Creek. Services included site reconnaissance, hydrologic and hydraulic modeling, and technical reports. HEC-RAS was used to model the existing and proposed bridges.
01/19 – 02/20	**SCDOT US 76 Bridge Over US 601, US 601 Bridge Over Colonel's Creek, Richland County, SC:** Hydrology/ Hydraulics. The bridge site at US 76 over US 601 is located in a FEMA-defined special flood hazard area. The new bridge was modeled with HEC-RAS and designed to cause no rise to the flood elevations. A final hydraulic report and No-Rise/No-Impact Certification was provided to SCDOT. The bridge site at Colonel's creek will be a multiple span bridge, with the proposed alignment shifted to allow for construction and maintaining current traffic configurations. Estimated construction late 2023.

03/20 – 04/24	**TDOT SR 109 Portland Bypass, Summer County, TN:** Neel-Schaffer performed survey and design of SR 109 on a new alignment beginning at SR 52 and ending at existing SR 109 north of Portland. The project includes survey, roadway design, hydraulic studies, drainage analysis, traffic engineering, and signing and marking. Worked as a design engineer on the project. Used PondPack and HEC-RAS for hydrologic and hydraulic analysis to correctly size drainage culvert, determine detention volumes, and determine upstream and downstream impacts on project adjacent properties.
9/21 – 10/22	**Hill Street Drainage Study, City of Lebanon, TN:** Project Engineer. Project improved pedestrian connectivity by adding multiple segments of sidewalk between existing segments. Performed a drainage study that established runoff discharges and conceptual design recommendations for the future sidewalk's closed drainage system, as well to solve existing drainage/flooding problems along Hill Street corridor. Services included detailed drainage investigations, GIS analysis and geoprocessing for modeling parameter calculations, detailed hydrologic/hydraulic modeling using GIS-based unsteady flow hydrologic and hydraulic software PCSWMM.
04/22 – 04/23	**Brentwood Watershed Master Plan, City of Brentwood TN:** Project Engineer. Led basin modeling in PCSWMM for this 3,800-acre urbanized watershed and field collection of the existing stormwater infrastructure. Services included development of GIS field inventory database of stormwater infrastructure, stormwater infrastructure inventory, detailed drainage investigations, GIS analysis and geoprocessing for modeling parameter calculations, detailed hydrologic/hydraulic modeling using GIS-based unsteady flow hydrologic and hydraulic software PCSWMM, and recommendations of infrastructure improvements to solve flooding problems.
02/23 – 08/23	**Phase I-II Scour Evaluation of US 84 at Tallahala Creek and Relief – Br. Nos. 151.5 and 151.7; SR 15 at Tallahala Creek and Relief – Br. Nos. 80.1 and 80.4 (Jones County) and Phase I-II Scour Evaluation of I-22 at Pechahalee Creek – Br. Nos. 46.9A and 46.9B; I-22 at Oaklimeter Creek – Br. Nos. 49.2A and 49.2B (Benton County):** Project Engineer. Scour evaluation project involving channel stability analysis and SRH-2D modeling to calculate scour for eight bridges in Jones and Benton County.
Career History	Mr. Coleman joined Neel-Schaffer in 2019 and has eight years of engineering experience, including one year with the Mississippi Department of Transportation in the Bridge Hydraulics and Roadway Hydraulics sections. Based in the firm's Nashville office, Jay is part of the firm's Hydraulics and Hydrology group and works on a wide variety of H&H modeling projects and basin master plans. Jay also has experience assisting in the development of both 1-Dimensional and 2-Dimensional hydraulic models in HEC-RAS and SMS in support of roadway design and stormwater capital improvement projects.

16. STAFF EXPERIENCE



Firm employed by Neel-Schaffer, Inc.					
Name	**Joe Rungee, PE, PhD**			Years of relevant experience with this employer	1
Title	Tennessee Hydraulics & Hydrology Lead			Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization			BS / 2012 / Civil & Environmental Engineering; MS / 2014 / Environmental Engineering; PhD / 2019 / Environmental Systems		
Active registration number / state / expiration date			PE No. 126954 / KY / 08-31-2026		
Year registered	2022	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			2D Hydraulic Modeling; Bank Stabilization; Breakout Models; 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 years of experience specified in the applicable MPR(s).
04/23 – 10/24	**Bureau of Reclamation Bartlett Dam Design, Arizona:** Project engineer who developed a 2D HEC-RAS model to calibrate a Flow 3D model assessing proposed spillway designs.
06/21 – 04/22	**Chatuge Dam Spillway Risk Analysis and Alternative Development, Tennessee:** Developed python-based script to simulate 1440 hydraulic scenarios of potential failure caused by modes of spillway-drainage-capacity exceedance.
04/19 – 05/21	**Missouri State Emergency Management Agency (SEMA) Risk MAP Modernization and Support Services:** Technical lead, reviewer and modeler for HEC-RAS 2D rain-on-grid models. Developed working SOP for modeling processes, provided modeling guidance, and reviewed models to the point of internal sign-off. Developed in-house tools to improve model-building efficiency, reduce input and data processing errors, and provide QA/QC metrics to aid in the resolution model stability issues and concerns. Developed 2D rain-on-grid models to support FEMA Risk MAP efforts.
01/21 – 05/21	**Alabama Department of Economic and Community Affairs Office of Water Resources Risk MAP Modernization and Support Services:** Developed HEC-RAS stead-state 1D models for rivers in the Middle and Lower Tallapoosa watersheds. The purpose of this project was to support FEMA Risk MAP efforts.
01/2024-10/2024	**Nebraska Department of Natural Resources Statewide Regional Regression Equation Development:** Statistical hydrology technical lead overseeing a team of engineers to utilizing self-organizing maps (SOMs) to delineate hydrologically similar regions for the development of updated statewide regional regression questions.
05/23 – 10/24	**City of Grand Prairie (TX) Fish and Kirby Geomorphic Assessment:** Project manager and hydrology and hydraulic lead who performed the change point analysis and managed a team performing a geomorphic assessment of Fish and Kirby Creeks.
12/22 – 04/23	**Equinox Hominy Creek Restoration, North Carolina:** Project engineer modeling 1,060-feet of Hominy Creek in Chestnut Mountain Park in HEC-RAS 1D for no-rise certification.
02/23 – 04/23	**Portage County (WI) Little Plover Stream Restoration:** H&H technical lead modeling 3,257-feet of Little Plover Stream. Project goals included restoring the channel and improving stability, increasing in-stream and off-line habitat, reducing groundwater drawdown to generate floodplains, and replacing invasive species with natives.
01/23 – 02/23	**Manitowoc County (WI) Forget Me Not Creek Stream Restoration:** H&H technical lead modeling 2,220-feet of Forget Me Not Creek and 130-feet of an unnamed tributary. The project goal included restoring the channel and improving stability, increasing in-stream and off-line habitat, reestablishing hydrologic connectivity to the floodplain, and replacing invasive species with natives.

06/20 – 05/21	**Mosaic Company Hopewell Kingsford Wetland Connections, Florida:** Project engineer designed step-pool and pool-riffle channels using the Rosgen framework to restore streams ranging from 300- to 1,300-feet in length.
04/22 – 06/22	**Florida Fish and Wildlife Conservation Commission Yellow Riverbank Stabilization:** Project engineer modeling 1,200-feet of the Yellow River for no-rise certification. Objectives for this study included stabilizing the banks, reducing sediment input into the Yellow River, increasing aquatic habitat and channel bed-form diversity, and improving the riparian corridor to re-establish native vegetation.
Career History	Joe manages H&H projects, assists in expanding the firm's Tennessee H&H staff, and pursues new clients and service lines in the H&H/Water Resources fields. He has hands-on experience and technical acumen that have elevated Neel-Schaffer's H&H services. His unique capabilities have helped increase our efficiency and added value to the services we provide to clients. Before joining NS, Joe held roles for another consultant that including project engineer, tool developer, project manager, office lead, and regional discipline lead. For a previous firm, he served as the lead for FEMA's Future of Flood Risk Data (FFRD) in the Open-source Tool Development (OST) and Probabilistic Risk Assessment (PRA) projects. Joe's experience includes HEC-RAS 1D and 2D model development; Rosgen channel design; python-based tool development; meteorological station, radar and remotely sensed data collection, processing, and gap filling. Joe has experience in leading design teams in FEMA-scale H&H studies and tool development efforts for automating H&H model parameterization, as well as managing catchment to basin-scale design projects.

16. STAFF EXPERIENCE

Firm employed by Neel-Schaffer, Inc.					
Name	**William (Don) Lancaster, PE**			Years of experience with this firm/employer	20
Title	Senior Project Manager			Years of experience with other firm(s)/employer(s)	22
Degree(s) / Years / Specialization			BS / 1982 / Civil Engineering		
Active registration number / state / expiration date			PE No. 22821 / LA / 09-30-2025		
Year registered	1987	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Hydraulic 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 years of experience specified in the applicable MPR(s).
03/23 – Present	**IDIQ for Road Design Projects:** This contract includes three separate Task Order projects which include traffic services, road design, preliminary and final plan development. The projects include pavement preservation, constructing new roads, extend existing roads, construction of roundabouts, turn lanes and drainage improvements. **1.) US 90: Roundabout a LA 101 (Calcasieu) (SPN. H.015226)**; Utility Design Services. This project includes the design for a roundabout with high-speed approaches. The design avoids impacts to a gas station, and other development at the intersection. It includes minimum right of way taking and detention pond design. **2.) LA 621: Realignment @ LA 73 (Ascension) (SPN. H.014366)**; Utility Design Services. This project will widening LA 73 and realign LA 621 to near its existing intersection with LA 73 to relieve congestion and improve safety. This project includes the design of a multilane roundabout to provide connectivity for local roadways, traffic analysis, Transportation Management Plan, and 1 mile of mill and overlay for LA 621. **3.) LA 16: N 2nd Street to LA 445 (Tangipahoa Parish) SPN. H.009425.5**; Utility Design Services. Project includes the mill and overlay of LA 16 from N 2nd Street to east of Duncan Avenue, the in-place base rehabilitation and overlay of LA 16 from east of Duncan Avenue to LA 445. The scope of work will also include the hydraulic analysis and development of construction plans for the rehabilitation of the existing subsurface drainage system to improve drainage along LA 16 from US 51 to approximately 1000'east of Duncan Avenue. **4.) LA 182: US 90 – Greenwood St. Overpass SPN. H.016158;** Utility Design Services. This project includes pavement rehabilitation along LA 182 from WB Exit Ramp to Greenwood St. Overpass, in Morgan City, LA. The work includes pavement patching, mill and overlay, roadway reinforcing mesh, curb ramps and guard rail.
03/07 – 04/11	**Bay Saint Louis Infrastructure Repairs, Bay St. Louis, MS:** Project Manager for the planning, design, bidding, and construction management of this program. Supervised the engineering and support staff responsible for design and construction administration of over $70 million in water, sewer, gas distribution, roadway, and sidewalk improvements.
04/24 – Ongoing	**Pelican Park Water System - Water Modeling, Mandeville, LA:** Project Manager. Evaluated the need for a new water well and storage tank at Pelican Park, located in Mandeville, LA. Neel-Schaffer used InfoWater Pro to developed a hydraulic model of the water system that delivers pressurized flow to the park's playing fields and buildings. A data collection effort was conducted that fielded all the park's available information of the pipe network layout, existing wells, pumps, tanks, and sprinkler heads, and logs of monthly water usage. The model incorporated findings and associated properties such as the head losses, flow demands, and system's compliance with Louisiana Department of Health's water pressure requirements. Multiple scenarios were analyzed including adding a new well and tank. The results of modeling were presented in a report that established the benefits of a new well and tank and identified areas in the network where the pipes are undersized for the demands.

2018 – 2019	**The Groves, Pelican Park, Mandeville, LA:** Project Manager for programming, schematic design, final design, bidding and construction phase services for this $1.8 million green space and multi-generational park project for Pelican Park in Mandeville, Louisiana. The project converted an unused baseball field and surrounding area into a multi-use facility that incorporates a detention pond feature circled by a walking trail. Project also includes a walkway routed through an oak grove, elevated to prevent damage to tree roots, as well as various adult recreation amenities including bocce ball courts, pickleball courts, shuffleboard, horseshoes, exercise equipment and other park amenities. The pond includes timber bulkheads and fountains as well as spillways for discharging storm event overflows. The project engineering included geotechnical engineering, a hydrology and hydraulics study supporting site drainage design and pond hydraulics, civil sitework, site-lighting and landscaping.
2/21 – Ongoing	**City of Mandeville Wetlands Restoration:** Project Manager for Lakefront Wetlands Restoration Project that will prevent further degradation of the wetlands and restore a functioning wetlands ecosystem within the area. Storm water from the Galvez and Massena outfalls will be directed through created wetlands, improving water quality within Lake Pontchartrain. The project established a best practice for creation of new wetlands, provided engineering concepts in support of multiple storm water routing alternatives and coastal engineering concepts for the design of a storm-resistant shoreline closure with an integral bike path and pedestrian link between Old Mandeville and Sunset Point Park.
11/17 – 2019	**Repairs to Mississippi River Fender Systems, New Orleans, LA:** Project Manager for engineering services to New Orleans Sewerage and Water Board for a multi-phase effort to analyze the damaged dolphins and design replacement structures at the Oak Street and New River Intakes. The dolphins were damaged when a crude oil tanker traveling on the Mississippi River struck the New River Intake and then struck the Old River Intake before continuing down river. The intakes remained functional but the protective dolphin structures were damaged at both river intakes.
10/12 – 01/14	**Brownswitch Road Widening, Hydrology Study Phase, Slidell, LA:**The initial phase of the work includes extensive modeling of the watersheds north and south of I-12. These include the 436-acre W-14 Canal watershed, north of I-12 composed of 18 sub-basins currently directing water to Brownswitch Road; a 55 acre portion of the W-15 watershed north of I-12 and two sub-basins within the W-14 watershed south of I-12. The hydrology study establishes the capacity requirements of the Brownswitch Road drainage structure. The study also evaluates methods for providing storage and redirecting outfall flows north and south of I-12 to mitigate flooding concerns within the W-14 and W-15 drainage basins.
01/09 – 07/15	**Tag Along Creek Drainage Analysis, St. Tammany Parish, LA:** Project Manager, Responsible for engineering deliverables for a drainage analysis of Tag Along Creek, a tributary to Bayou Lacombe, for the purpose of determining causes of flooding and developing a solution to afford flood relief for residents of Cloverland Acres Subdivision.
03/10 – 05/16	**Bayou Duplantier Upgrades for City of Baton Rouge/E. Baton Rouge Parish DPW:** Project manager for upgrades to the sanitary sewer system in the Bayou Duplantier area. Work included improvements to a gravity sewer system to alleviate sanitary sewer overflows (SSO). The project included approximately 12,500 linear feet of gravity sewer pipeline 15 to 36 inches in diameter.
12/19 – Ongoing	**Safe Haven Blue Green Campus Master Plan, St. Tammany Parish, LA:** Project Manager. Development of a master plan and designing drainage improvements for the 293-acre Safe Haven complex. Responsibilities on the project include an assessment of the existing infrastructure including, roadways, parking, site utilities and site drainage; an environmental screening considering potential for impacts to wetlands and known species of concern, including consideration of required permits; design of improvements to site drainage emphasizing green infrastructure, including detention ponds, bioswales, and rain gardens.
Career History	Mr. Lancaster has over 40 years of experience in civil engineering and project management. He is the Civil Design Manager for Neel-Schaffer's Louisiana offices and Senior Project Manager for Neel-Schaffer's large Gulf Coast Katrina Recovery Projects. Prior to joining Neel-Schaffer, Mr. Lancaster was Design Manager for a national firm overseeing the Sewerage and Water Board of New Orleans' Sewer System Evaluation a¬nd Rehabilitation Program (SSERP). Responsibilities include overseeing all aspects of planning, design and construction administration. He was most recently Project Manager for the City of Bay Saint Louis Mississippi's FEMA utility replacement projects and the Sewerage and Water Board's (S&WB) Sewer System Rehabilitation for Hurricane Katrina Emergency Recovery Efforts. Mr. Lancaster offers his clients a wide range of design and project management experience leading to improved quality in the overall project.

16. STAFF EXPERIENCE

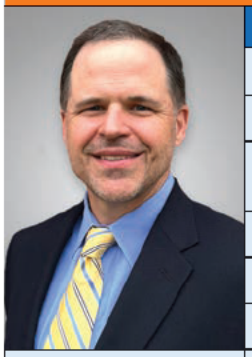
Firm employed by			
Name	**Steve Hazen, PE**	Years of experience with this firm/employer	15
Title	Senior Engineer	Years of experience with other firm(s)/employer(s)	34

Degree(s) / Years / Specialization	BS / 1974 / Civil Engineering
Active registration number / state / expiration date	PE No. 18087 / LA / 03-31-2027
Year registered 1979 / Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities	Hydraulic 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 years of experience specified in the applicable MPR(s).
03/23 – Present	**IDIQ for Road Design Projects:** This contract includes three separate Task Order projects which include traffic services, road design, preliminary and final plan development. The projects include pavement preservation, constructing new roads, extend existing roads, construction of roundabouts, turn lanes and drainage improvements. **1.) US 90: Roundabout a LA 101 (Calcasieu) (SPN. H.015226)**; Structural Design. This project includes the design for a roundabout with high-speed approaches. The design avoids impacts to a gas station, and other development at the intersection. It includes minimum right of way taking and detention pond design. **2.) LA 621: Realignment @ LA 73 (Ascension) (SPN. H.014366)**; Structural Design. This project will widening LA 73 and realign LA 621 to near its existing intersection with LA 73 to relieve congestion and improve safety. This project includes the design of a multilane roundabout to provide connectivity for local roadways, traffic analysis, Transportation Management Plan, and 1 mile of mill and overlay for LA 621. **3.) LA 16: N 2nd Street to LA 445 (Tangipahoa Parish) SPN. H.009425.5**; Structural Design. Project includes the mill and overlay of LA 16 from N 2nd Street to east of Duncan Avenue, the in-place base rehabilitation and overlay of LA 16 from east of Duncan Avenue to LA 445. The scope of work will also include the hydraulic analysis and development of construction plans for the rehabilitation of the existing subsurface drainage system to improve drainage along LA 16 from US 51 to approximately 1000'east of Duncan Avenue. **4.) LA 182: US 90 – Greenwood St. Overpass SPN. H.016158;** Structural Design. This project includes pavement rehabilitation along LA 182 from WB Exit Ramp to Greenwood St. Overpass, in Morgan City, LA. The work includes pavement patching, mill and overlay, roadway reinforcing mesh, curb ramps and guard rail.
02/22 – Present	**W. Broussard Roundabout at Duhon Rd. (LA 724)**: This project will construct a roundabout and required drainage improvements. Includes roundabout. Completed the horizontal and vertical alignments (structural design.).
09/18 – 12/18	**I-220 / I-20 Interchange Improvement & BAFB Design-Build Proposal, Bossier Parish, LA**: Project Engineer. Design of preliminary roadway drainage and H&H analysis for Musselshell Bayou and its tributaries and HEC-RAS analysis of Red Chute Bayou to check for effect of road embankment on flood stages. Project included both bridges and box culverts. Preliminary design was in accordance with LA Standard Specifications for Roads and Bridges as well as LA DOTD Bridge Design Manuals.
02/10 – 10/11	**Off System Highway Bridge Program; Sparks Davis Rd Bridge over Tributary to Buchanan Bayou, Caddo Parish, LA**: Project Engineer. Work included HEC-RAS analysis of existing bridge opening and bridge replacement alternative plans. Existing bridge was a three-span concrete bridge, and the recommended alternative was four reinforced box culverts. Inspection and design were in accordance with LA Standard Specifications for Roads and Bridges as well as LADOTD Bridge Design Manuals.

02/10 – 06/10	**Off System Highway Bridge Program; South Lakeshore Drive Bridge over Tributary to Cross Lake, Caddo Parish, LA**: Project Engineer. Work included HEC-RAS analysis of existing bridge opening and bridge plans for the proposed replacement of two, 21-ft span concrete bridge. Recommendation was 4 reinforced box culverts. Inspection and design were in accordance with LA Standard Specifications for Roads and Bridges as well as LADOTD Bridge Design Manuals.
11/06 – 12/09	**Off System Highway Bridge Program; Country Road Bridge over Garrett Creek, Jackson Parish, LA**: Project Engineer. Hydraulic design of Off-system Bridge Replacement in Jackson Parish, using HEC-RAS. Project included design of bridge replacement for a 25 ft x 57 ft timber bridge with four 10x8 reinforced concrete box culverts. Inspection and design were in accordance with LA Standard Specifications for Roads and Bridges as well as LA DOTD Bridge Design Manuals.
06/06 – 01/08	**Off System Highway Bridge Program; Morningside Drive Bridge over Virginia Avenue Ditch, Caddo Parish, LA**: Project Engineer. Work included HEC-RAS analysis of bridge opening and bridge replacement alternative plans. Project included the replacement of a 20-ft single span concrete bridge with recommended alternative of two reinforced box culverts or 2 reinforced concrete pipe culverts based on hydraulic and economic analysis. Inspection and design proposals were in accordance with LA Standard Specifications for Roads and Bridges as well as LADOTD Bridge Design Manuals.
01/04 – 09/05	**US 167 - Jackson Parish; Quitman, Lincoln Parish, LA**: Project Engineer responsible for improvements including widening existing 2-lane roadway to a 4-lane roadway with grassed median, performed hydraulic analysis of existing structures and prepared improvements to same and hydraulic design of slab span bridges and culverts for project. Use of HEC-RAS and LADOTD Hydraulics Programs as well as Louisiana Standard Specifications for Roads and Bridges as well as Louisiana DOTD Bridge Design Manuals.
04/02 – 12/04	**Environmental Assessment for Tarbutton Road Interchange and Frontage Road; Route I-20, Ruston, LA**: Project Engineer evaluated existing bridge structures at LA 544, LA 149 and Tarbutton Road. Prepared schematic design modification or replacement of existing bridges and estimated construction costs. Inspection, review, and design was in accordance with LA Standard Specifications for Roads and Bridges as well as LA DOTD Bridge Design Manuals.
1998 – 1999	**La 3032 for LADOTD**: Project Engineer responsible for new bridge approach structure for existing LA 3032 main span bridge over Red River. Evaluated existing structure for possible continued use. There were concerns about existing bridge deck as well as the silicon steel beams in the approach spans. Inspection and review were in accordance with LA Standard Specifications for Roads and Bridges as well as LA DOTD Bridge Design Manuals.
02/96 – 03/97	**Clyde E. Fant Memorial Parkway – Northern Extension Phase IIIA/IIIB Bridge over Cross Bayou, Shreveport, LA**: Project Engineer. Design of bridge structures for 632 ft., 4-lane plus median structure across Cross Bayou and a 300 ft., 4-lane grade separation bridge with horizontal and vertical curve. Design utilized both the LA Standard Specifications for Roads and Bridges as well as LA DOTD Bridge Design Manuals.
01/87 – 01/89	**US 371 / US 84 Bridge over Red River at Coushatta, LA**: Project Engineer responsible for design of steel cross frames and lateral bracing for non-redundant steel plate girders, concrete approach piers designed to withstand barge impacts and voided concrete slab approach span design. Pier design included steel H-pile designed for barge impact and design of concrete tremie seals. Other work included detailing of miscellaneous steel items, quality control of drawings and review of shop drawings. Two designs were provided for the bridge: one being a concrete segmental bridge and the other a steel plate girder bridge. The 2 column approach bents were connected with concrete walls. The project was designed using both the LA Standard Specifications for Roads and Bridges as well as LADOTD Bridge Design Manuals.
01/83 – 12/85	**Boyce-Shreveport Highway; LA 490 to LA 119; Natchitoches Parish, I-49 Section 4**: Project Engineer. Assisted in the design of bridge structures at 3 grade separations and several stream crossing bridge structures for 3 rural segments of I-49. Design was in accordance with LA Standard Specifications for Roads and Bridges as well as LA DOTD Bridge Design Manuals.
Career History	Mr. Hazen joined Neel-Schaffer in 2008 following many years with Demopulos & Ferguson Associates, Inc. Mr. Hazen has worked as a Structural, Hydraulics and Soils Engineer with a primary focus on highway and railway bridges, structural design for buildings, facilities, hydrological analysis and drainage design for projects.

16. STAFF EXPERIENCE

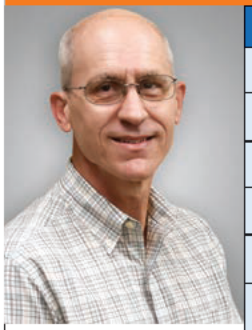


Firm employed by Neel-Schaffer, Inc.					
Name	**Dain Gillen, PE**			Years of experience with this firm/employer	2
Title	Coastal Senior Project Manager			Years of experience with other firm(s)/employer(s)	21
Degree(s) / Years / Specialization			BS / 2000 / Biological Engineering (Minor in Environmental Engineering); MS / 2002 / Biological and Agricultural Engineering		
Active registration number / state / expiration date			PE No. 33282 / LA / 09-30-25		
Year registered	2007	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Hydraulic 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 years of experience specified in the applicable MPR(s).
03/23 – Ongoing	**Lillian Park Beach Habitat and Shoreline Protection, Baldwin County, AL:** Design Engineer on a project to mitigate excess sand deposition on a County boat ramp. This project consists of the design of riprap groins on Perdido Bay to mitigate excess sand deposition on a County boat ramp. The design of the groins will stabilize the beach shoreline, minimize erosion and habitat loss, and provide a usable public beach. Mr. Gillen is serving as project engineer for the project.
10/23 – Ongoing	**West Hancock County Nearshore Habitat Restoration Project:** Project Manager and Design Engineering on a coastal habitat restoration project in Waveland, MS. The project will enhance sub-tidal habitat by placing extensive reef substrate for shellfish and artificial reefs for productivity of red and black drum, spotted seatrout, crabs, and oysters.
03/23 – 08/23	**University Lakes Flood Risk Reduction, Baton Rouge, LA:** The goal of this project is to increase the sustainability and recreational attributes of the University Lakes on and near the LSU campus. Five of the six lakes will be dredged to increase water quality, and a bird sanctuary and several islands will be constructed to enhance ecological habitat. The project will include drainage improvements at the drainage culvert outfalls. Mr. Gillen is assisting with review of design, quantities, layout, and construction administration for the project.
03/23 – 10/23	**Slidell Breakwaters Coastal Resilience Project, Slidell, LA:** Design engineer of large segmented breakwaters near Slidell, LA. The project consists of the design approximately 8,000 linear feet of foreshore rock dike structures intended to provide coastal resiliency to the Eden Isle community in Slidell, LA. The breakwaters are being designed in phases, as construction funding allows, to provide increasing levels of protection from wave impacts during storm events.
12/17 – 02/23	**Mid-Basin Sediment Diversion Program, Plaquemines Parish, LA:** Multi-billion dollar program consisting of the Mid- Barataria (BA-153) and Mid-Breton (BS-030) Sediment Diversion projects. These are large scale civil works projects proposed to divert 75,000 and 50,000 cfs, respectively, from the Mississippi River to deliver sediment to degrading marshes south of New Orleans. Mr. Gillen served as the State's project engineer, working with design contractors and the Construction Manager at Risk (CMAR) contractors on both projects to optimize project designs for constructability and performance.
03/23 – 06/24	**St. Tammany Parish Coastal Master Plan, St. Tammany Parish, LA:** Assisting St. Tammany Parish with development of a Coastal Master Plan to reduce flooding risk for residents and protect, restore, and enhance coastal wetlands. Conceptual design and alternatives to achieve these goals are currently underway. Mr. Gillen is assisting in development and analysis of conceptual projects to help meet these objectives.

02/23 – Ongoing	**City of Mandeville, Lakefront Wetlands Restoration Project, Mandeville, LA:** Project Engineer. The project will prevent further degradation of the existing wetlands and restore a functioning wetlands ecosystem within the area. Storm water from the Galvez and Massena outfalls will be directed through created wetlands, improving water quality within Lake Pontchartrain.
03/23 – Ongoing	**CS-87: Calcasieu-Sabine Large-Scale Marsh & Hydrologic Restoration, Cameron Parish, LA:** Design Integration Services that include a combination of initial project management activities, initial data gap analysis preliminary data collection, design integration planning, including project E&D work breakdown structure and cost estimates, optimization planning and initial optimization tasks, and other project planning.
03/23 – Ongoing	**Mid-Basin Sediment Diversion Program, Plaquemines Parish, LA:** Multi-billion dollar program consisting of the Mid-Barataria (BA-153) and Mid-Breton (BS-030) Sediment Diversion projects. These are large scale civil works projects proposed to divert 75,000 and 50,000 cfs, respectively, from the Mississippi River to deliver sediment to degrading marshes south of New Orleans. Mr. Gillen served as the State's project engineer, working with design contractors and the Construction Manager at Risk (CMAR) contractors on both projects to optimize project designs for constructability and performance.
Career History	Mr. Gillen joined Neel-Schaffer in 2023 as a Senior Project Manager with 20 years of experience in the field of Water Resources Engineering. Prior to joining Neel-Schaffer, Mr. Gillen served as Engineer Manager for a staff of 10 engineers and technicians for the Louisiana Coastal Protection and Restoration Authority (CPRA). In this role, he was responsible for oversight of project planning, development, design, and construction of large-scale ecosystem restoration and flood risk reduction projects. He also has previous experience with many civil works and flood control projects during design and construction. Mr. Gillen has worked for state and Federal agencies and private engineering firms, giving him a diverse background and ability to communicate effectively with multiple stakeholders.

16. STAFF EXPERIENCE



Firm employed by Neel-Schaffer, Inc.					
Name	**Randy Boudreaux, PE**			Years of relevant experience with this employer	36
Title	Senior Structural Engineer			Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			BS / 1985 / Civil Engineering; MS / 1987 / Civil Engineering /		
Active registration number / state / expiration date			PE No. 32362 / LA / 09-30-2026		
Year registered	2006	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Hydraulic 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 years of experience specified in the applicable MPR(s).
04/97 – 01/99	**US 82 Mississippi River Bridge and Approaches**: A joint effort be-tween the Mississippi and Arkansas Departments of Transportation, this is 2.8-mile, four-lane bridge was estimated to cost approximately $275 million. Performed structural design, detailing and quantity takeoffs for two continuous haunched steel plate girder bridge spans units. One unit had spans of 76.6m-100m-76.5 and the second unit had spans of 84.5m-110-85.5m. Structural Engineer.
01/98 – 10/99	**US 90 across East Pascagoula River, Jackson County, MS:** Performed structural design, detailing and quantity takeoffs. The 3500' bridge has prestressed concrete bulb-tee spans with 80' x 150' navigation channel and deep piers designed for vessel collision. Scour analysis included effects of both stream flow and tidal action and design of mitigation features. Structural Engineer.
08/05 – 12/05	**Popps Ferry Road Bridge, Biloxi, MS:** Performed on-site damage assessment, structural design, detailing and quantity takeoffs. A direct barge impact to a pile bent collapsed two spans of this 3900-foot long prestressed concrete and bascule bridge. Contract plans and specifications for debris removal, replacement of the pile bent and spans were prepared for advertisement within three weeks of initial damage assessment. (08/2005 – 12/2005) / Structural Engineer.
02/95 – 08/96	**Norfolk Southern Railroad, Jackson, AL:** Preformed structural design and detailing for a pier protection fender system for vessel impact. Lead Structural Engineer.
06/09 – 01/10	**Taylor Creek Road Bridge over Tootoosahatchee Creek, Orange County, FL:** Performed LRFD structural design, detailing and quantity takeoffs. The bridge consists of three prestressed concrete girder units with spans of 50.5'- 50'-50.5' made continuous for live load and a gutter to gutter width of 40'. The substructure consists of vertical wall end bents on a pile supported footings and standard intermediate pile bents. The approach roadway is supported by 640.5' of concrete retaining walls along each side.
12/08 – 06/09	**I-20 over US 51 Bridge Replacement, Jackson, MS:** Performed LRFD structural design, detailing and quantity takeoffs. The bridge consists of one continuous curved steel girder unit with spans of 134'-141'-145'-121'-121'. Bridge width (gutter to gutter) is a constant 72' and is in super elevation transition along the last two spans. The two center-most bents were designed as post-tensioned concrete "two-column" straddle bents (in-line with the steel girders) to minimize the depth of the substructure over the underlying US Hwy 51. The remaining bents were designed as traditional 4-column bents. All bents were supported on steel pile supported footings

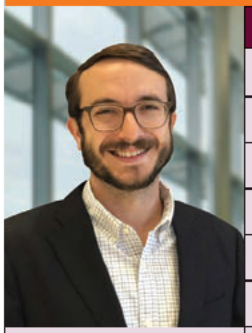
06/04 – 07/07	**Camp Horner Road over Cahaba River, Jefferson/Shelby Counties, AL:** Performed structural design, detailing and quantity takeoffs. The bridge consists of 110' and 130' simple prestressed concrete bulb tee girder spans and a gutter to gutter width of 54'. The substructure consists of rock bearing drilled shaft supported end and intermediate bents. Lead Structural Engineer.
08/10 – 01/14	**Marina Access Bridge, Bay St. Louis, MS:** Performed LRFD structural design, detailing and quantity takeoffs. The bridge consists of simple prestressed concrete girder spans with a 70’ main span over the seawall and five 30’ spans with a 90’ radius horizontal curve. The approach roadway embankment has mechanically stabilized earth walls (MSEW) along each edge to minimize the footprint and maximize the available parking spaces. The bridge was designed for hurricane wind loading and submergence during storm surge. Lead Structural Engineer.
2011 – 2020	**Fracture Critical/Complex Bridge Inspections and Load Rating,Office of State Aid Road Construction, Statewide, MS:** Load Rating Engineer. Bridge inspection and load rating services were provided for the MDOT Office of State Air Road Construction. From 2011 through 2020 our firm performed more than 400 inspections and load ratings for bridges across the state. Load ratings were performed using both LRFD and LFR utilizing various software including BrR, TRAPP, and BRASS.
Certifications	National Highway Institute LRFD Superstructure, NHI #130081D LRFD for Curved and Skewed Steel Bridges, NHI #130095 Design and Evaluation of Steel Bridges for Fatigue and Fracture, NHI #130122
Career History	Randy has nearly 40 years of structural design experience, including the design and/or rehabilitation of bridges, buildings, water and wastewater treatment facilities, flood control structures, and temporary retaining structures. His responsibilities include producing and checking design calculations, preparing contract plans and specifications, preparing preliminary cost estimates, reviewing shop drawing submittals and reviewing surveys, soil borings, engineering studies or other information required for planning and design of projects.

16. STAFF EXPERIENCE

Firm employed by Dewberry Engineers Inc.			
Name	**Sam Crampton, PE, CFM**	Years of relevant experience with this employer	23
Title	Vice President, Department Manager	Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization	MEng / 2001 / Civil Engineering		
Active registration number / state / expiration date	PE No. 37866 / LA / 09-30-2025 ; CFM No. US-08-03250 / US / 07-31-2026		
Year registered: 2013	Discipline: Civil Engineer		
Contract role(s) / brief description of responsibilities	Watershed Modeling Lead and SME (Hydrology, hydraulics, sediment transport, bridge hydraulics, FEMA regulations) **MPR 5**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
6/20 - Present	**DOTD Louisiana Watershed Initiative Region 7 Modeling Contract:** Project Manager and Technical Lead. This included **advanced calibrated 1D and 2D hydrologic and hydraulic watershed scale modeling** of eight HUC8's using HEC-DSS, HEC-DSSVUE, HEC-SSP, HEC-MetVUE, HEC- HMS, HEC-RAS (1D/2D) and HEC-FIA. This included modeling of **several hundred roadways** and associated embankments, culverts, and bridges in both 1D and 2D. The Amite River Basin Numerical Model previously developed by Dewberry for DOTD was **maintained and updated** to a newer version of HEC-RAS and included the **full incorporation of bridges** and culverts for roadway projects into the 2D mesh to ensure models are up to date.
05/24 - 04/25	**Amite River Basin Commission Master Plan:** Project Manager and Technical Lead. This included **watershed scale modeling** leveraging and **updating LWI HEC-HMS and HEC-RAS models** including break-out models. **2D scour assessment using SRH2D for bridges** and gravel pit areas for portions of the basin. Assessment of perceived bank erosion impacts of the Comite River Diversion Canal for Port Hudson-Pride Road on the Comite River on a cut bank to mitigate concerns of residents. Development of a basin-wide **HEC-RAS sediment transport** model to simulate **scour and deposition processes.** Assessment of multiple infrastructure projects including major reservoirs, levees, and pump stations.
07/17 - 03/19	**DOTD CTP Amite River Basin Numerical Model:** Project Manager and Technical Lead for development of **watershed modeling tools** to assess hydrology, hydraulics, and consequences using **HEC-HMS, HEC-RAS (1D/2D)** and HEC-FIA. DOTD bridge plans supplemented with new laser scans were used for coding bridges and culverts. Extensive model calibration and validation was performed. Numerous infrastructure projects were assessed including concept projects for the **modification of roadway embankments and bridges**. At the time, the project was the largest implementation of a detailed 2D HEC-RAS model in Louisiana and guided many of the technical approaches and software used for the Louisiana Watershed Initiative.
06/23 - 04/25	**St. John the Baptist Parish Comprehensive Floodplain and Stormwater Master Plan:** Principal-in-Charge and Technical SME for a comprehensive floodplain and stormwater master plan. Detailed hydrologic and hydraulic modeling of roadway infrastructure and proposed alternatives.
01/19 - 12/19	**FEMA LOMR 19-06-21114P:** Project Manager and Lead modeler for a LOMR in Ruston, LA. This involved the **updating of FEMA HEC-RAS models to accurately model flood risk for Interstate 20** and downstream drainage features. The LOMR was successfully adopted by FEMA.
07/14 - 03/15	**Boulder County, CO, Bridge Crossing Design Manual Updates:** Technical SME for the update of hydraulic design manuals for stream crossings to aid the recovery efforts following the 2013 Front Range Flood. This included guidance on FEMA CLOMR and LOMR compliance.
03/18 - 07/18	**Anderson County Bridge Scour Analysis:** Technical SME for the performance of a **bridge scour assessment** using FHWA **HEC18 methods for scour analysis and HEC23 methods for counter measure** recommendations. HEC-RAS was used to determine hydraulic parameters.

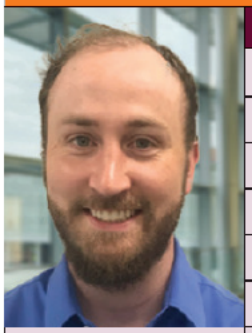
16. STAFF EXPERIENCE



Firm employed by Dewberry Engineers Inc.					
Name	**Seth Bradley, PE**			Years of relevant experience with this employer	12
Title	Project Manager			Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			MS / 2012 / Civil Engineering; BS / 2009 / Civil Engineering		
Active registration number / state / expiration date			PE No. 42121 / LA / 03-31-2026		
Year registered	2017	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Watershed Modeling and SME (Hydrology, hydraulics, FEMA mapping) **MPR 5**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/20 - Present	**Louisiana Watershed Initiative Region 7/9 Modeling:** Senior H&H Engineer. This included **advanced calibrated 1D and 2D hydrologic and hydraulic watershed scale modeling** of eight HUC8's using HEC-DSS, HEC-DSSVUE, HEC-SSP, HEC-MetVUE, HEC- HMS, HEC-RAS (1D/2D) and HEC-FIA. This included modeling of **several hundred roadways** and associated embankments, culverts, and bridges in both 1D and 2D. The Amite River Basin Numerical Model previously developed by Dewberry for DOTD was **maintained and updated** to a newer version of HEC-RAS and included the **full incorporation of bridges** and culverts for roadway projects into the 2D mesh to ensure models are up to date.
06/23 - 04/25	**St. John the Baptist Parish Comprehensive Floodplain and Stormwater Master Plan:** Project Manager and H&H Lead for a comprehensive floodplain and stormwater master plan. This included **detailed hydrologic and hydraulic modeling of roadway infrastructure** and project alternatives designed to reduce flooding. **LWI models were updated** to incorporate new developments, infrastructure and provide more detail. Additionally, the performance of the West Shore Lake Pontchartrain Project, currently under construction was assessed to validate adequate interior drainage infrastructure.
05/24 - 04/25	**Amite River Basin Commission Master Plan:** H&H Modeling Lead for **watershed scale modeling.** This included leveraging and **updating LWI HEC-HMS and HEC-RAS models** including break-out models. Assessment of perceived bank erosion impacts of the Comite River Diversion Canal for Port Hudson-Pride Road on the Comite River on a cut bank to mitigate concerns of residents. Quality control for the development of a basin-wide HEC-RAS sediment transport model to simulate **scour and deposition processes.** Assessment of infrastructure projects including major reservoirs, levees, and pump stations.
07/17 - 03/19	**Amite River Basin Numerical Model:** Project Engineer for development of **watershed modeling tools** to assess hydrology, hydraulics, and consequences using **HEC-HMS, HEC-RAS (1D/2D)** and HEC-FIA. DOTD bridge plans supplemented with new laser scans were used for coding bridges and culverts. Extensive model calibration and validation was performed. Numerous infrastructure projects were assessed including concept projects for the **modification of roadway embankments and bridges.** At the time, the project was the largest implementation of a detailed 2D HEC-RAS model in Louisiana and guided many of the technical approaches and software used for the Louisiana Watershed Initiative.
11/12 - 11/12	**Greater New Orleans, La Hurricane, Storm Damage, Risk Reducation System (HSDRRS):** Project Engineer. Seth led the updating and calibration of the **interior drainage analysis using HEC-HMS and HEC-RAS** following the completion of the HSDRRS construction. This incorporated new surge barriers and pump stations to redelineate floodplains. Additionally, tasks included updating of **FEMA Flood Insurance Rate Maps t**o accurately reflect the flood risk in the five parishes through the FEMA Physical Map Revision Process (PMR) which is a more complex process used when map revision is too large to go through the **FEMA LOMR** process.
01/19 - 12/19	**FEMA LOMR 19-06-21114P:** HEC-RAS modeler for a LOMR in Ruston, LA. This involved the **updating of FEMA HEC-RAS models to accurately model flood risk for Interstate 20** and downstream drainage features. The LOMR was successfully adopted by FEMA.

16. STAFF EXPERIENCE



Firm employed by Dewberry Engineers Inc.					
Name	**Matthew Deshotel, PE**			Years of relevant experience with this employer	7
Title	Project Engineer			Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			MS / 2017 / Civil Engineering/Hydrology; BS / 2015 / Civil Engineering		
Active registration number / state / expiration date			PE No. 144458 / TX / 03-31-2026		
Year registered	2022	Discipline	Civil		
Contract role(s) / brief description of responsibilities			Watershed Modeling. SRH2D/SMS, HEC-RAS		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/20 - Present	**Lousiana Watershedd Initiative Region 7/9 Modeling:** Project Engineer (Tangipahoa and Bayou Sarah Thompson Watersheds). This included **advanced calibrated 1D and 2D hydrologic and hydraulic watershed scale modeling** using HEC-DSS, HEC-DSSVUE, HEC-SSP, HEC-MetVUE, HEC- HMS, HEC-RAS (1D/2D) and HEC-FIA. This included modeling of **several hundred roadways** and associated embankments, culverts, and bridges in both 1D and 2D.
07/17 – 03/19	**Amite River Basin Numerical Model:** Project Engineer for development of **watershed modeling tools** to assess hydrology, hydraulics, and consequences using **HEC-HMS, HEC-RAS (1D/2D)** and HEC-FIA. DOTD bridge plans supplemented with new laser scans were used for coding bridges and culverts. Extensive model calibration and validation was performed. Numerous infrastructure projects were assessed including concept projects for the **modification of roadway embankments and bridges.** At the time, the project was the largest implementation of a detailed 2D HEC-RAS model in Louisiana and guided many of the technical approaches and software used for the Louisiana Watershed Initiative.
09/20 - 03/24	**NCDOT Dock Road Over the Waccamaw River:** Project Engineer for the development of a **SRH2D model** developed within **SMS** for the design and replacement of a **35-foot Span Bridge with three additional 72-inch culverts** to result in no-rise conditions. No-rise certification was provided to comply with FEMA Regulations 44CFR §60.3.
08/17 - 09/23	**NCDOTD I-440/US 1 Interchange with US 70 (Glenwood Avenue):** Project Engineer for the development of parallel HEC-RAS 2D and **SRH2D models (using SMS)** for Crabtree Creek incorporating **three major bridge structures** to support the design and construction of highway/bridge improvements.
06/16 - 06/21	**DOTD CTP Program:** Staff Engineer for the development of HEC-RAS models and **FEMA NFIP programmatic support** including discovery, scoping, modeling, and floodplain mapping to support **FIRM production.**

16. STAFF EXPERIENCE

Firm employed by Dewberry Engineers Inc.					
Name	**Emma Bones, PE**			Years of relevant experience with this employer	10
Title	Associate, Senior Project Manager			Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			MS / 2014 / Civil Engineering; BS / 2012 / Environmental Engineering		
Active registration number / state / expiration date			PE No. 41571 / GA / 12-31-2025; PE No. 97558 / FL / 02-28-2027; PE No. 056881 / NC / 12-31-2025		
Year registered	2016	Discipline	Professional Engineer		
Contract role(s) / brief description of responsibilities			Watershed Modeling, SME (SRH2D/SMS, HEC-RAS, bridge scour, bridge hydraulics, FEMA regulations)		

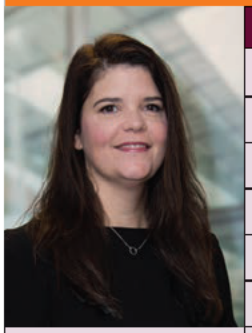
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/20 - Present	**Louisiana Watershed Initiative Region 7/9 Modeling:** Senior H&H Engineer. Quality control and technical support for the **advanced calibrated 1D and 2D hydrologic and hydraulic watershed scale modeling** of eight HUC8's using **HEC- HMS and HEC-RAS (1D/2D).** This included modeling of **several hundred roadways** and associated embankments, culverts, and bridges in both 1D and 2D.
05/24 - 04/25	**Amite River Basin Commission Master Plan:** Quality Control for **watershed scale modeling activities.** This included **updated LWI HEC-HMS and HEC-RAS models** and 1D and **2D HEC-RAS and SRH-2D (Using SMS)** sediment transport/scour models for bridges and floodplains.
10/20 - 12/23	**SCDOT State-wide Scour Assessment: Project Engineer:** Conducted scour field inspections and scour analysis for three **tidally influenced bridges** and plans of action were developed for those determined to be scour critical. **SRH-2D bridge hydraulics models using SMS** were developed and scour results were then extracted directly from SRH-2D into FHWA Hydraulic Toolbox to complete the scour analysis and make a final determination as to the scour criticality of each coastal bridge.
8/19 - 05/20	**Timber Trail Bridge Hydraulic Modeling and Scour Assessment, Richmond Hill, GA:** Project Engineer **developed an SRH-2D model (using SMS)** for the existing and pro-posed conditions for the Timber Trail Bridge. For each proposed option, **a scour analysis was performed in accordance with FHWA guidance in HEC-18 and scour counter-measures were designed following HEC-23** and GDOT guidance.
10/21 - 12/23	**Karlman Lane Culvert Replacement Hydraulic Analysis and Scour Assessment, NC:** Project Engineer for the detailed hydraulic assessment of the existing and proposed culverts under Karlman Lane. The hydrologic analysis was completed using HEC-HMS and the hydraulic analysis was developed using **SRH-2D (using SMS).** Additionally, a **scour analysis was performed following the procedures outlined in HEC-18 and sup-plemented by the guidance in HEC-25** for tidally influenced structures. **Scour coun-termeasures were designed in accordance with HEC-23** and NCDOT standards to pro-tect the structures from scour.
09/20 - 03/24	**NCDOT Dock Road Over the Waccamaw River:** Technical Lead for the development of a **SRH2D model** developed within **SMS** for the design and replacement of a **35-foot Span Bridge with three additional 72-inch culverts** to result in no-rise conditions. No-rise certification was provided to comply with FEMA Regulations 44CFR §60.3.
08/17 - 09/23	**NCDOTD I-440/US 1 Interchange with US 70 (Glenwood Avenue):** Technical Lead for the development of parallel HEC-RAS 2D and **SRH2D models (using SMS)** for Crabtree Creek incorporating **three major bridge structures** to support the design and construction of highway/bridge improvements.

16. STAFF EXPERIENCE

Firm employed by Dewberry Engineers Inc.					
Name	**Lani Orgeron, PE**			Years of relevant experience with this employer	4
Title	Project Engineer			Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			BS / 2020 / Civil Engineering		
Active registration number / state / expiration date			PE No. 49203 / LA / 03-31-2027		
Year registered	2024	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Watershed Modeling, FEMA NFIP 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 years of experience specified in the applicable MPR(s).
06/20 - Present	**DOTD Louisiana Watershed Initiative Region 7 Modeling**: Project Engineer (multiple watersheds). This included **advanced calibrated 1D and 2D hydrologic and hydraulic watershed scale modeling** using HEC-DSS, HEC-DSSVUE, HEC-SSP, HEC-MetVUE, HEC- HMS, HEC-RAS (1D/2D) and HEC-FIA. This included modeling of **several hundred roadways** and associated embankments, culverts, and bridges in both 1D and 2D.
07/17 - 03/19	**DOTD Amite River Basin Numerical Model**: Project Engineer for development of **watershed modeling tools** to assess hydrology, hydraulics, and consequences using **HEC-HMS, HEC-RAS (1D/2D)** and HEC-FIA. DOTD bridge plans supplemented with new laser scans were used for coding bridges and culverts. Extensive model calibration and validation was performed. Numerous infrastructure projects were assessed including concept projects for the **modification of roadway embankments and bridges**. At the time, the project was the largest implementation of a detailed 2D HEC-RAS model in Louisiana and guided many of the technical approaches and software used for the Louisiana Watershed Initiative.
05/24 - 04/25	**Amite River Basin Commission Master Plan**: Staff Engineer for **watershed scale modeling activities.** Included leveraging and updating **LWI HEC-HMS and HEC-RAS models** including break-out models for the assessment of multiple infrastructure projects including major reservoirs, levees, and pump stations.
06/23 - 04/25	**St. John the Baptist Parish Comprehensive Floodplain and Stormwater Master Plan:** Staff Engineer for a comprehensive floodplain and stormwater master plan. This included **detailed hydrologic and hydraulic modeling of roadway infrastructure** and project alternatives designed to reduce flooding. **LWI models were updated** to incorporate new developments, infrastructure and provide more detail. Additionally, the performance of the West Shore Lake Pontchartrain Project, currently under construction was assessed to validate adequate interior drainage infrastructure.
06/24 - 01/25	**Old Mill Settlement Road Safety Improvemets, Livingston Parish, LA:** Staff Engineer for the updating of DOTD and **LWI HEC-RAS hydraulic models** to refine detail and model **proposed roadway improvements** and cross drains to reduce flood frequency for improved ingress and egress safety. This included ensuring no-rise conditions were met in support of **FEMA NFIP** and grant requirements.

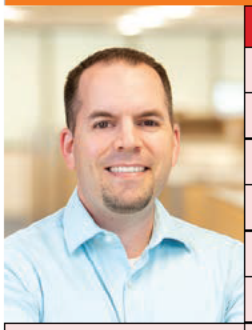
16. STAFF EXPERIENCE



Firm employed by Dewberry Engineers Inc.					
Name	**Jerri Daniels, CFM**			Years of relevant experience with this employer	15
Title	Associate Vice President, Department Manager			Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization			MS / 2000 / Geography; BS / 1998 / Biology-Environmental Science		
Active registration number / state / expiration date			CFM No. 02666 / US / 07/31-2025		
Year registered	2007	Discipline	Certified Floodplain Manager		
Contract role(s) / brief description of responsibilities			FEMA/NFIP Subject Matter Expert **MPR 5**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/20 - Present	**DOTD Louisiana Watershed Initiative Region 7 Modeling Contract:** Stakeholder Engagement Lead. Leading all stakeholder engagement activities which includes communicating technical results from **HEC-HMS and HEC-RAS models** to community officials. Assisting in the collection and analysis of technical data including GIS and terrain data.
06/18/ - 02/19	**Amite River Basin Numerical Model Version 1:** HEC-FIA Lead and Stakeholder Engagement for the project. Met with local stakeholders in the basin to collect data upon project initiation. This included existing models and survey data. Collected additional data to establish the **HEC-Flood Impact Assessment** (HEC-FIA) model for consequence modeling. Created scenarios for the August 2016 and 100-year event as established by the **FEMA Base Level Engineering** model delivered to LA DOTD during the CTP Discovery project.
05/24 - 04/25	**Amite River Basin Commission Master Plan:** FEMA/NFIP, Stakeholder Engagement Lead. This included detailed analysis of **watershed scale modeling** leveraging and **updating LWI HEC-HMS and HEC-RAS models** and the performance of analytics to compare to effective FEMA Flood Insurance Studies and Flood Insurance Rate Maps and make programmatic recommendations for approaches to updating the FEMA flood maps to potentially remove over 30,000 structures from the regulatory floodplain.
07/1/ - 10/18	**LA FEMA CTP Discovery and Modeling Projects in LWI Modeling Contract Region No. 7:** Project Manager. Conducted FEMA Region VI Phase 1 Discovery Projects for four HUC8 watersheds in **LWI Region 7:** Bayou Sara-Thompson, Tickfaw, Amite, Liberty Bayou Tchefuncte. This included updates to **FEMA and LA DOTD CTP** contract managers. Discovery is the process of gathering data on each watershed, creating a comparison of newly created Flood Risk information to compare to **historic Flood Insurance Rate Map** data and conducting meetings to discuss those results with all community officials in each watershed. This also includes congressional briefings and data deliveries to the communities. Recommendations were made to identify the flood risk more accurately through the **LOMR/Physical Map Revision Process.**
01/19 - 12/19	**FEMA LOMR 19-06-21114P:** Programmatic Advisor for a LOMR in Ruston, LA. This involved the **updating of FEMA mapping, using the results of updated HEC-RAS models to accurately map flood risk for Interstate 20** and downstream drainage features. The LOMR was successfully adopted by FEMA.
06/23 - 04/25	**St. John the Baptist Parish Comprehensive Floodplain and Stormwater Master Plan:** Stakeholder Engagement Lead for a comprehensive floodplain and stormwater master plan. Review of FEMA mapping and development of programmatic recommendations to **LOMR/Physical Map Revision** needs.
10/18 - 02/19	**West Feliciana Parish Phase 2:** Project Manager for the project. Managed **FEMA CTP Phase 2 watershed modeling** for successful flood map update of all streams in West Feliciana Parish as a result of the Discovery Process in previous years. The community asked for **updated engineering and mapping.** We met and worked with the Parish Engineer to detail the scope of work and prepare recommendations for needs to FEMA.

16. STAFF EXPERIENCE



Firm employed by Freese and Nichols, Inc.			
Name	**Mat Leclair, PE, CFM**	Years of relevant experience with this employer	5
Title	Associate, Senior Project Manager	Years of relevant experience with other employer(s)	12

Degree(s) / Years / Specialization			BS / 2008 / Civil Engineering; MEng / 2009 / Civil Engineering
Active registration number / state / expiration date			PE No. 113033 / TX / 9-30-2025; Certified Floodplain Manager #1893-10N / national certification / 12/31/2025
Year registered	2012	Discipline	Civil
Contract role(s) / brief description of responsibilities			NFIP/FEMA Analysis Task Lead **MPR 5**

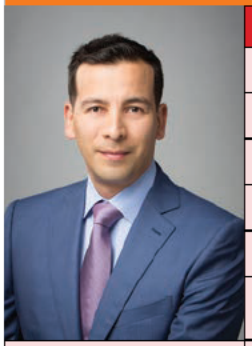
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/23 – 02/25	**HCFCD Model and Map Management (M3) Program (LOMR Delegation) | Harris County Flood Control District | QA/QC:** FNI reviewed all floodplain studies submitted by engineering consultants and assisted with the review of local developer submittals for consistency and conformity with District criteria, as part of the District's Model and Map Management (M3) Program. FNI also provided a comprehensive technical review of LOMRs and CLOMRs on behalf of FEMA to confirm adherence to federal regulations and documentation requirements. Mat performed QA/QC services for this project.
09/21 – Ongoing	**Risk MAP Production and Technical Services, Eastern U.S. | FEMA | Staff Engineer:** As a member of the Advancing Resiliency in Communities (ARC) Joint Venture, FNI is providing production and technical services in support of FEMA's Risk Mapping, Assessment and Planning (MAP) Program. Services included generating and evaluating flood hazard and risk information and support for the development and implementation of mitigation, planning, flood mapping and modeling activities for Zone 1 for FEMA's Risk MAP Program.
02/19 – 12/21	**MAAPnext Flood Risk Analyses and Mapping | Harris County Flood Control District | Technical Advisor:** FNI completed modeling and mapping activities for the Addicks Reservoir and Cypress Creek watersheds, including the watershed-scale HEC-HMS and unsteady 1D/2D HEC-RAS models with a combined footprint of 503 square miles and 286 stream miles. The study areas involved numerous complexities, such as overflows between watersheds, rapid development, dams and a levee. FNI applied novel approaches and methodologies that will serve as a template for future Risk MAP projects nationally.
05/21 – 01/24	**2023 Region 4 Sabine Regional Flood Plan | Sabine Region RFPG | Project Manager:** FNI supported Region 4 with the development of its 2023 Regional Flood Plan. The project included gathering and analyzing data, identifying existing and future flood risks, evaluating floodplain management practices, and recommending evaluations, strategies, and projects intended to reduce flood risk.
05/21 – 01/24	**2023 Region 5 Neches Regional Flood Plan | Neches Regional Flood Planning Group | Technical Advisor:** FNI supported Region 5 with the development of its 2023 Regional Flood Plan. The project included the gathering and analysis of data, identification of existing and future flood risks, evaluation of floodplain management practices, and the recommendation of evaluations, strategies, and projects intended to reduce flood risk.
04/21 – 03/24	**2023 San Jacinto Regional Flood Plan | San Jacinto Region RFPG | Technical Advisor:** FNI assisted the County with gathering and analyzing data, identifying existing and future flood risks, evaluating floodplain management practices, and recommending 540 evaluations, strategies, and projects totaling more than $33.7 billion to better understand and reduce flood risk. The study resulted in a regional flood plan made available for public and stakeholder review and input.
0824 – 11/24	**Flood Infrastructure Fund Application Review Assistance | Texas Water Development Board | Assistant Project Manager:** FNI assisted TWDB in reviewing Abridged Applications for compliance against regional flood plans for stormwater projects across the state in alignment with the Flood Infrastructure Fund as part of the Statewide Intended Use Plan.
Career History	Mat Leclair is skilled in stormwater management, H&H modeling, drainage studies, stormwater design, GIS, floodplain management, regulatory submittals and scour/erosion assessment, and mentoring junior engineering staff.

16. STAFF EXPERIENCE

Firm employed by Freese and Nichols, Inc.					
Name	**Nick Boardman, PE, CFM**			Years of relevant experience with this employer	6
Title	Stormwater Engineer			Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization			BS / 2018 / Civil Engineering		
Active registration number / state / expiration date			PE No. 148172 / TX/ 03-31-2026; Certified Floodplain Manager #3677-19N / national certification / 12/31/2025		
Year registered	2023	Discipline	Civil		
Contract role(s) / brief description of responsibilities			NFIP/FEMA Analysis Engineer		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/23 – 2/25	**HCFCD Model and Map Management (M3) Program (LOMR Delegation) | Harris County Flood Control District | Project Manager:** FNI reviewed all floodplain studies submitted by engineering consultants and assisted with the review of local developer submittals for consistency and conformity with District criteria, as part of the District's Model and Map Management (M3) Program. FNI also provided a comprehensive technical review of LOMRs and CLOMRs on behalf of FEMA to confirm adherence to federal regulations and documentation requirements. Nick reviewed technical material as a trusted advisor of client.
02/22 – 03/25	**Regional Watershed Study | Jefferson County Drainage District No. 6 | Task Leader:** FNI led a comprehensive drainage study of the Taylors Bayou, Hillebrandt Bayou and Pine Island Bayou watersheds, covering 1,200 square miles and approximately 1,000 stream miles between the three bayous' main stems and tributaries, to identify large-scale regional flood reduction solutions that address flood damages and prepare a path for implementation of the flood mitigation alternatives. Extreme events, such as Hurricane Harvey and Tropical Storm Imelda, produced unprecedented amounts of rainfall, resulting in significant out-of-bank flooding throughout the study area. As the Technical Lead, Nick developed the modeling process/approach for the production team to follow to determine the sizing of open channel and detention flood mitigation projects for the Pine Island Bayou watershed. In addition to providing guidance to staff and helping to make sure the project stays on schedule and budget, Nick is also working in a production capacity.
04/21 – 03/24	**2023 San Jacinto Regional Flood Plan | San Jacinto Region RFPG | QA/QC:** FNI assisted the County with gathering and analyzing data, identifying existing and future flood risks, evaluating floodplain management practices, and recommending 540 evaluations, strategies, and projects totaling more than $33.7 billion to better understand and reduce flood risk. The study resulted in a regional flood plan made available for public and stakeholder review and input.
05/21 – 01/24	**2023 Region 5 Neches Regional Flood Plan | Neches Regional Flood Planning Group | QA/QC:** FNI supported Region 5 with the development of its 2023 Regional Flood Plan. The project included the gathering and analysis of data, identification of existing and future flood risks, evaluation of floodplain management practices, and the recommendation of evaluations, strategies, and projects intended to reduce flood risk.
05/21 – 01/24	**2023 Region 4 Sabine Regional Flood Planning Group | Sabine River Authority of Texas | QA/QC:** FNI supported Region 4 with the development of its 2023 Regional Flood Plan. The project included gathering and analyzing data, identifying existing and future flood risks, evaluating floodplain management practices, and recommending evaluations, strategies, and projects intended to reduce flood risk.
02/22 – 03/25	**2028 Region 8 (Lower Brazos) Regional Flood Plan | Lower-Brazos Region RFPG | Project Manager:** As a subconsultant, FNI is providing services to assist with the identification and characterization of proposed or ongoing major infrastructure and flood mitigation projects in the Flood Planning Region (FPR). FNI will provide input on the best prioritization of available data for incorporation into the existing condition flood hazard analyses. FNI will also assist with the QC of flood inundation maps and associated data, as well as analyze existing conditions exposure and vulnerability.
Career History	Nick Boardman has experience with H&H modeling (1D and 2D combined) in urban and rural environments. He has worked with multiple Southeast Texas municipal clients, including HCFCD, Harris County, Fort Bend County, City of Pearland, City of College Station, Sabine River Authority and many drainage districts. Nick's experience includes review of floodplain studies, CLOMRs and LOMRs for compliance with FEMA regulations.

16. STAFF EXPERIENCE



Firm employed by Freese and Nichols, Inc.					
Name	**Hector Olmos, PE, CFM**			Years of relevant experience with this employer	20
Title	Principal/Vice President | National Technical Specialist			Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			BS / 2002 / Civil Engineering; MS / 2004 / Water Resources		
Active registration number / state / expiration date			PE No. 101213 / TX / 03-31-2026; Certified Floodplain Manager #1596-09N / national certification / 12/31/2025		
Year registered	2008	Discipline	Civil		
Contract role(s) / brief description of responsibilities			QA/QC		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
12/12 – 01/23	**HCFCD Model and Map Management (M3) Program (LOMR Delegation) | Harris County Flood Control District | Senior Advisor:** FNI reviewed all floodplain studies submitted by engineering consultants and assisted with the review of local developer submittals for consistency and conformity with District criteria, as part of the District's Model and Map Management (M3) Program. FNI also provided a comprehensive technical review of LOMRs and CLOMRs on behalf of FEMA to confirm adherence to federal regulations and documentation requirements. Nick reviewed technical material as a trusted advisor of client.
04/19 – 03/21	**San Jacinto Watershed Study | Harris County Flood Control District | Deputy Project Manager:** As a subconsultant, FNI conducted a comprehensive flood mitigation drainage master plan for the San Jacinto River Watershed's major streams (600 miles), which identified 16 regional flood mitigation projects including regional detention structures, channel improvements and sediment management. Hector served as Deputy Project Manager. He was responsible for project management as well as providing technical guidance to the production team that involved advising on technical approaches, ensuring the completion of QA/QC of H&H models and deliverables, and identifying flood mitigation strategies.
02/19 – 09/22	**MAAPnext Flood Risk Analyses and Mapping | Harris County Flood Control District | Senior Advisor:** FNI completed modeling and mapping activities for the Addicks Reservoir and Cypress Creek watersheds, including the watershed-scale HEC-HMS and unsteady 1D/2D HEC-RAS models with a combined footprint of 503 square miles and 286 stream miles. The study areas involved numerous complexities, such as overflows between watersheds, rapid development, dams and a levee. FNI applied novel approaches and methodologies that will serve as a template for future Risk MAP projects nationally. Hector provided technical recommendations to the team.
01/19 – 01/24	**Countywide Drainage Study | Fort Bend County Drainage District | Project Manager:** FNI developed 1D/2D hydraulic models for 162 river miles of the Brazos River from US-290 to Brazoria County through the creation of new H&H models using HEC-HMS and HEC-RAS. These models were successfully calibrated to all the major recent floods with the goal of understanding how the Brazos River behaves during floods. Multiple deliverables were developed to define the current flood risk, anticipated flood risk during future floods, improve flood forecasting, update discharge rating curves at the Richmond and Sugar Land streamflow gages, and ultimately, be better prepared for future flood events on the Brazos River.
Career History	As FNI's National Technical Specialist for H&H modeling, Hector brings more than 20 years of hands-on experience in advanced H&H modeling and planning. He has implemented a culture of innovation and quality across the stormwater management practice and has served as Senior Advisor on projects of varied scale and goals. Hector is experienced in sizing drainage structures for roadways, channels, dams, levees and pump stations, identifying flood risk and developing mitigation strategies of various magnitude, and mitigating impacts from new infrastructure. His background includes advanced hydraulic modeling, calibration of H&H models, forensic analysis after major storms, supporting 408 permit applications, preparing drainage master plans, conducting dam/levee breach analyses, Probable Maximum Flood (PMF) development, and developing gate operation plans for dams.

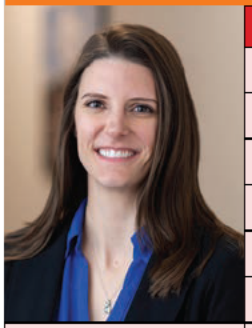
16. STAFF EXPERIENCE

Firm employed by Freese and Nichols, Inc.			
Name	**Jeremy Dixon, PE, CFM**	Years of relevant experience with this employer	13
Title	Associate, Senior Project Manager	Years of relevant experience with other employer(s)	0

Degree(s) / Years / Specialization			BS / YEAR / Civil Engineering
Active registration number / state / expiration date			PE No. 47617 / LA / 09-30-2025; Certified Floodplain Manager, #2416-13N / national certification / 12/31/2025
Year registered	2023	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Watershed Modeling Engineer

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
08/21 – 07/24	**Louisiana Watershed Initiative Region 2 Modeling, Series I | Louisiana Department of Transportation and Development | Task Leader:** FNI developed and calibrated 1D/2D HEC-RAS models for use in consequence and risk assessment that informs the implementation of flood risk reduction projects via watershed coalitions in coordination with parish, state and federal entities. Jeremy initially served as a Technical Advisor for all Series I watersheds. As the project team evolved, he served as a Watershed Leader for Bayou D'Arbonne, Bayou Bartholomew, and Lower Ouachita-Bayou De Loutre.
01/22 – 06/24	**Louisiana Watershed Initiative Region 2 Modeling, Series II | Louisiana Department of Transportation and Development | Task Leader:** FNI provided Louisiana Watershed Initiative Series II H&H modeling for Region Two HUC8's. Jeremy led the development of the Dugdemona River HUC8 and served as a Technical Advisor for the engineers responsible for the other HUC8 watersheds.
01/13 – 12/14	**Model and Map Management (M3) Program | Harris County Flood Control District | Stormwater Engineer:** FNI reviewed all floodplain studies submitted by engineering consultants and assisted with the review of local developer submittals for consistency and conformity with District criteria, as part of the District's Model and Map Management (M3) Program. FNI also provided a comprehensive technical review of LOMRs and CLOMRs on behalf of FEMA to confirm adherence to federal regulations and documentation requirements. Jeremy was part of the initial team (2013-2014) and developed several checklists and procedures to verify submittal compliance with the District's regulations.
07/24 – 06/26 (estimated)	**Transportation and Stormwater Infrastructure Hydrologic and Hydraulic Assessment | North Central Texas Council of Governments | Project Manager:** FNI is conducting a planning study to increase flood risk awareness and resiliency in the TSI West study area, which includes parts of subbasins of the Upper West Fork Trinity and Lower West Fork Trinity. The study includes data collection and analysis, stakeholder engagement, hydrologic and hydraulic assessment, transportation infrastructure assessment, environmental planning and flood warning system analysis.
02/19 – 12/21	**MAAPnext Flood Risk Analyses and Mapping | Harris County Flood Control District | Task Leader:** FNI completed modeling and mapping activities for the Addicks Reservoir and Cypress Creek watersheds, including the watershed-scale HEC-HMS and unsteady 1D/2D HEC-RAS models with a combined footprint of 503 square miles and 286 stream miles. The study areas involved numerous complexities, such as overflows between watersheds, rapid development, dams and a levee. FNI applied novel approaches and methodologies that will serve as a template for future Risk MAP projects nationally. Jeremy served as the Production Leader for the Cypress Creek analysis. He was responsible for Lower Cypress Creek, including the management of production engineers, quality review and SME. He developed hydrology procedures and GIS processes for automation/standardization.
Career History	Jeremy Dixon is a career-long hydrologic and hydraulic (H&H) modeler, experienced with 1D and 2D, riverine and urban flood modeling, and provides clients with a working understanding of their system's strengths, weaknesses and opportunities. He regularly works with clients to develop and update stormwater system models, as well as assist them with software selection and training. Jeremy is proficient in HEC-RAS, HEC-HMS, InfoWorks ICM, XP-SWMM, EPA-SWMM and GIS applications. With a wide range of software experience and understanding client needs, Jeremy can identify the appropriate tool for the project. If there are deficient aspects in a software, he has developed useful scripts to achieve project goals efficiently.

16. STAFF EXPERIENCE



Firm employed by Freese and Nichols, Inc.			
Name	**Bethany Fleitman, PE, CFM**	Years of relevant experience with this employer	8
Title	Associate, Project Manager	Years of relevant experience with other employer(s)	0

Degree(s) / Years / Specialization			BS / 2015 / Environmental Engineering; MS / 2016 / Environmental Engineering
Active registration number / state / expiration date			PE No. 45485 / LA / 09/03/2025; Certified Floodplain Manager, #3357-17N / national certification / 12/31/2025
Year registered	2021	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Watershed Modeling Engineer

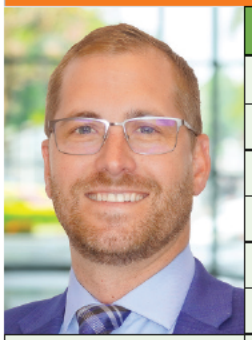
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
08/21 – 07/24	**Louisiana Watershed Initiative Region 2 Modeling, Series I | Louisiana Department of Transportation and Development | Assistant Project Manager:** FNI developed and calibrated 1D/2D HEC-RAS models for use in consequence and risk assessment that informs the implementation of flood risk reduction projects via watershed coalitions in coordination with parish, state and federal entities. Bethany sets deadlines, assigns responsibilities, monitors and summarized progress of the project, accomplishes project goals, lead project meetings, coordinates the collection and dissemination of information, and manages many aspects of the project, including the subconsultants.
01/2022 – 06/24	**Louisiana Watershed Initiative Region 2 Modeling, Series II | Louisiana Department of Transportation and Development | Assistant Project Manager:** FNI provided Louisiana Watershed Initiative Series II H&H modeling for Region Two HUC8's. Bethany sets deadlines, assigns responsibilities, monitors and summarized progress of the project, accomplishes project goals, lead project meetings, coordinates the collection and dissemination of information, and manages many aspects of the project, including the subconsultants.
08/24 – 03/25	**Louisiana Watershed Initiative Region 2 Modeling Task Order 4 | Louisiana Department of Transportation and Development | Project Manager:** FNI is performing a Design Storm Simulation and Consequence Analysis, along with development of Proof of Concept mitigation projects.
02/20 – 04/21	**Environmental Services | Coastal Protection and Restoration Authority, LA | Stormwater Engineer:** FNI performed H&H modeling to improve emergency response and post-disaster recovery through Dynamic Flood Inundation Mapping of compound flooding for the Coastal Protection and Restoration Authority of Louisiana. The updated model provided information on timing, duration and extent of flooding and included provisions to address the uncertainties in flood inundation forecasting throughout the Lake Pontchartrain/Lake Maurepas watershed. Bethany served as production staff, which included modeling and evaluating the area.
09/21 – 03/25	**Base Level Engineering: Flood Risk Mapping | Texas Water Development Board | Engineering Support:** FNI is providing technical flood risk analysis and related mapping activities. The project's main objectives are to develop flood hazard data in support of both state flood planning and FEMA's Risk MAP program.
02/19 – 12/21	**MAAPnext Flood Risk Analyses and Mapping | Harris County Flood Control District | Stormwater Engineer:** FNI completed modeling and mapping activities for the Addicks Reservoir and Cypress Creek watersheds, including the watershed-scale HEC-HMS and unsteady 1D/2D HEC-RAS models with a combined footprint of 503 square miles and 286 stream miles. The study areas involved numerous complexities, such as overflows between watersheds, rapid development, dams and a levee. Bethany served as a modeler for the risk analysis.
Career History	Bethany Fleitman has substantial experience with H&H analyses for a variety of stormwater projects, including open channels, complex storm drains, flood control studies, bridges, culverts, scour analyses, ponds, pump stations, levees and dams. She is proficient with many different software packages, including HEC-RAS (1D and 2D), HEC-HMS, ICPR, XP-SWMM and ArcGIS. She is an efficient project manager able to effectively oversee multiple disciplines over various offices. She has specific expertise in complex and large-scale studies, conducting flood mitigation feasibility studies, developing conceptual design alternatives, preparing adverse impacts assessments, managing future growth and development, and FEMA coordination (CLOMR/LOMRs).

16. STAFF EXPERIENCE

Firm employed by Freese and Nichols, Inc.					
Name	**Jim Keith, PE, CFM**			Years of relevant experience with this employer	12
Title	Principal/Vice President | Coastal Resilience Leader			Years of relevant experience with other employer(s)	12
Degree(s) / Years / Specialization			BS / 2000 / Hydrology and Water Resources		
Active registration number / state / expiration date			PE No. 105043 / TX / 09/30/2025; Certified Floodplain Manager #0608-04N / national certification / 12/31/2025		
Year registered	2009	Discipline	Other (Hydrology and Hydraulics)		
Contract role(s) / brief description of responsibilities			QA/QC		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
07/20 – 07/21	**Louisiana Watershed Initiative Region 2 Modeling | Louisiana Department of Transportation and Development | Project Manager:** FNI worked with Region 2 and developed large-scale H&H models to create a statewide watershed-based floodplain management program. The five-year, $18 million contract involved the development of calibrated 1D/2D HEC-RAS models for use in consequence and risk assessment, ultimately informing the implementation of flood risk reduction projects via watershed coalitions in coordination with parish, state and federal entities. Jim oversaw a robust team, including five watershed team leads and seven subconsultants to deliver the modeling under an aggressive schedule.
11/24 – 03/25	**Statewide Transportation Resilience Improvement Plan | Louisiana Department of Transportation and Development | Senior Advisor:** FNI is developing a Statewide Transportation Resilience Improvement Plan (STRIP) in accordance with the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program Implementation Guidance.
08/20 – 03/25	**Central Region Flood Studies | Texas General Land Office | QA/QC:** FNI is assisting 20 Hurricane Harvey impacted counties and municipalities in identifying and funding flood risk reduction strategies and mitigation projects that reduce disaster suffering and increase community resiliency. This project involves a data management solution to support the Texas Disaster Information System, customized stakeholder outreach, large-scale H&H 1D and 2D modeling, alternatives analysis, identifying eligible projects for state and federal grant and loan programs, and community technical assistance. Jim provided independent technical reviews of project guidance and standard operating procedures.
09/22 – 03/25	**FEMA PTS Risk MAP Regional Production Task Orders | Federal Emergency Management Agency | Senior Advisor:** As a joint venture partner, FNI is providing architectural and engineering services under FEMA's Production and Technical Services contract. This includes efforts involving 2D modeling and engineering, flood risk product development, preliminary and post-preliminary production activities, and levee support. Jim served as the Levee Subject Matter Expert supporting Levee Analysis and Mapping Procedure (LAMP) projects.
08/24 – 03/25	**Louisiana Watershed Initiative Region 2 Modeling Task Order 4 | Louisiana Department of Transportation and Development | Senior Advisor:** FNI is performing a Design Storm Simulation and Consequence Analysis, along with development of Proof of Concept mitigation projects.
02/20 – 04/21	**Environmental Services | Coastal Protection and Restoration Authority, LA | Senior Advisor:** FNI performed H&H modeling to improve emergency response and post-disaster recovery through Dynamic Flood Inundation Mapping of compound flooding for the Coastal Protection and Restoration Authority of Louisiana. The updated model provided information on timing, duration and extent of flooding and included provisions to address the uncertainties in flood inundation forecasting throughout the Lake Pontchartrain/Lake Maurepas watershed. Jim supported both the project team and the client, providing overall quality assurance.
Career History	Jim Keith has extensive technical and managerial experience in water resources planning and design projects, including flood risk management, dam and levee evaluation, and flood warning systems. He is experienced in project and program management having led large-scale watershed planning efforts in coastal and riverine environments. Jim has a proven track record of working collaboratively with local communities, regional and state agencies, FEMA, and USACE to identify flood risk and implement resilient flood mitigation projects. Jim is a FNI Principal/Vice President and serves as the Coastal Resilience Leader for the firm.

16. STAFF EXPERIENCE



Firm employed by CSRS, Inc.			
Name	**Stokka Brown, MS, PE, CFM**	Years of relevant experience with this employer	7
Title	Principal	Years of relevant experience with other employer(s)	8

Degree(s) / Years / Specialization			MS / 2010 / Civil and Environmental Engineering; BS / 2009 / Civil Engineering
Active registration number / state / expiration date			PE No. 38148 / LA / 09-30-2025
Year registered	2013	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Water Resources and Coastal Engineering **MPR 5**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/18 – 06/19	**City of Central Drainage Master Plan:** The City of Central engaged CSRS to develop its first-ever Drainage Master Plan and to guide the City in funding and management decisions related to the 1,000-year flood that catastrophically impacted the City and its citizens in August 2016. Mr. Brown developed and calibrated 2-D high resolution hydrodynamic models for all watersheds in the City of Central, which he has utilized to understand the hydraulic system of canals, identify problem areas and simulate and develop proposed solutions. These models were the foundation for developing a flood forecasting system and support the city's continued effort in floodplain management and drainage maintenance.
09/19 – Present	**City of Central Technical Assistance and Stormwater Management:** CSRS is continuing to assist the City of Central in comprehensive stormwater management. The Stormwater Management Framework encompasses living data and hydraulic model management, stormwater system maintenance, stormwater system improvements, funding strategy/grant applications, regulatory improvements, community engagement and education, a flood warning system, and the FEMA Community Rating System (CRS).
11/17 – 04/22	**East Baton Rouge Stormwater Master Plan:** Mr. Brown developed and calibrated a regional, conceptual-level hydrodynamic model of the Lower Amite River Basin in the HEC-RAS 2D modeling software. He utilized this model to understand the hydraulic system of rivers, bayous, and canals, identify problem areas and potential projects, and simulate and develop proposed solutions. This model was the foundation for the more detailed hydrodynamic models that were utilized in the next phase of the Stormwater Master Plan. In Phase II, Mr. Brown assisted in the review of all current stormwater ordinances, development guidance, and checklists, including meeting with Parish officials to understand current review procedures and assisted in drafting recommendations to the parish to update ordinances, guidance material, and checklists to ensure the consistency of standards and requirements.
02/25 – Present	**EarlyFloWS:** CSRS developed a groundbreaking flood warning system (EarlyFloWS). EarlyFloWS provides real-time flood forecasting, automated forecasted rainfall, 2D hydraulic models, and full coverage forecasted flood depth. This gives residents, emergency responders, and local governments the critical heads-up they need to save lives and reduce damages. Mr. Brown was the thought leader behind and continues to enhance EarlyFloWS.
10/19 – Present	**Louisiana Watershed Initiative:** The Louisiana Watershed Initiative (LWI) is primarily funded with $1.2 billion in CDBG-Mitigation funding allocated to Louisiana. CSRS is the state's primary program manager for developing regional watershed coalitions and plans and managing the CDBG-MIT grant. Mr. Brown was responsible for the development of 2-pager documents to demonstrate and explain how the H&H models being developed could be used by the public and private sector.

03/23 – Present	**City of Gretna Stormwater Master Plan:** CSRS provides a range of planning, engineering, and grants support to the City of Gretna. CSRS is in the process of completing a Stormwater Master Plan for the City and just received notice of award for a $51.8 Million FEMA Flood Mitigation Assistance grant including green infrastructure. CSRS developed, calibrated and validated a 1D-2D PC-SWMM model for the Gretna Stormwater Master Plan utilizing a comprehensive survey of the stormwater infrastructure and latest LiDAR elevations. Mr. Brown serves as the Principal-in-Charge.
10/17 – 09/22	**Ascension Parish Floodplain Management Plan:** As a subconsultant to HNTB on the Ascension Parish Floodplain Management Plan, CSRS was tasked with data collection of the channels and structures to support the development of Parish-wide 2-dimensional (2D) HEC-RAS models. CSRS developed the Marvin Braud watershed 2D HEC-RAS model using the latest high-resolution LiDAR and recently collected survey data. These models identified the level of service for the channels and structure and estimated the annualized flood damage costs for existing conditions. Using a project-developed toolbox of flood risk reduction project types, the team simulated proposed projects to understand how and when the parish should move forward with the projects to mitigate flood damages now and in the future. Mr. Brown served as the project manager for CSRS.
04/18 – 08/23	**CPPJ Regional Watershed Planning Project:** CSRS was a subconsultant to C.H. Fenstermaker on the Regional Watershed Planning Project for the Calcasieu Parish Police Jury. Mr. Brown led a team of engineers to conduct data gap analyses for multiple watersheds throughout the parish and to develop and calibrate one- and two-dimensional hydraulic models to evaluate the existing drainage system and their level of protection, identify problem areas, and assess proposed project benefits.
09/21 – Present	**Lafayette Consolidated Government Comprehensive Stormwater Plan:** LCG selected CSRS through a competitive selection to develop an accurate and complete understanding of the Parish's drainage infrastructure and potential solutions to drainage issues. Phase 1 is complete and included data gathering, development of a GIS platform, cataloging recent, current, and future drainage, performing a Flood hazard risk assessment, and conducting a project prioritization. Phase 2 is underway and is focused on the development of advanced, 2-dimensional (2D) hydrologic and hydraulic models throughout the Parish including identification and collection of channel and structure surveys. These models will be used to perform a comprehensive evaluation of the public drainage system, identify problem areas, evaluate flood mitigation projects, and prioritize them based on their effectiveness at reducing flood risk. Mr. Brown is the Senior Project Manager for this project.
Career History	Mr. Brown is a highly experienced professional with expertise in water resources and coastal engineering. He holds a Louisiana Professional Engineer license and is a Certified Floodplain Manager. He has extensive experience in numerical modeling and analysis of estuarine, coastal, and stormwater systems, particularly in the Amite River Basin. Mr. Brown has used 2D hydrodynamic models to understand the intricate nature of drainage systems, identify issues, and develop effective solutions through his knowledge of hydraulics and hydrology and the effects of changes to natural systems. He has also used these models to assist in the development of projects and cost-benefit analyses to support grant funding applications. He is able to effectively communicate the complexities of a drainage system in an easy-to-understand manner through the use of 2D model output and GIS systems.

16. STAFF EXPERIENCE

Firm employed by CSRS, Inc.			
Name	**Spencer Johnson, PE, CFM**	Years of relevant experience with this employer	4
Title	Water Resources Practice Lead	Years of relevant experience with other employer(s)	14

Degree(s) / Years / Specialization			BS / 2019 / Civil Engineering BS / 2006 / Petroleum Engineering
Active registration number / state / expiration date			PE No. 48016 / LA / 09-30-2025
Year registered	2023	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Water Resources Practice Lead

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
09/19 – Present	**City of Central Technical Assistance and Stormwater Management:** CSRS is continuing to assist the City of Central in comprehensive stormwater management. The Stormwater Management Framework encompasses living data and hydraulic model management, stormwater system maintenance, stormwater system improvements, funding strategy/grant applications, regulatory improvements, community engagement and education, a flood warning system, and the FEMA Community Rating System (CRS).
11/17 – 04/22	**East Baton Rouge Stormwater Master Plan:** The East Baton Rouge City Parish selected HNTB Corporation with its partner CSRS to assist in developing a Parish Stormwater Master Plan. CSRS assisted with establishing design criteria and methodology for developing and applying 2D HEC-RAS models. Our team created 2D HECRAS models to estimate flood damage costs for existing conditions and proposed projects to understand how and when the parish should move forward to mitigate flood damages. The CSRS team led efforts to evaluate and update the City-Parish's ordinances and codes, including coordinating and meeting with stakeholders to update development standards to reduce flood risk and include more sustainable solutions. Mr. Johnson assisted in developing Floodplain Conveyance Zones for all watersheds within the Parish. Additionally, he modeled proposed projects and reviewed the results using H&H models for two watersheds in EBR.
04/18 – 08/23	**CPPJ Regional Watershed Planning Project:** CSRS was a subconsultant to C.H. Fenstermaker (CHF) on the Regional Watershed Planning Project for the Calcasieu Parish Police Jury. At the onset of the project, CSRS engaged a variety of stakeholders to set overall goals for the planning process and prioritize the 10 regional watersheds in Calcasieu Parish for planning. CSRS also performed an asset inventory throughout the Parish and conducted data gap analyses for several watersheds to identify additional survey needs to develop hydraulic models. Mr. Johnson developed the English Bayou 1D-2D HEC-RAS model and served as Project Manager overseeing Proposed Project Identification.
02/25 – Present	**EarlyFloWS:** CSRS developed a groundbreaking flood warning system (EarlyFloWS). EarlyFloWS provides real-time flood forecasting, automated forecasted rainfall, 2D hydraulic models, and full coverage forecasted flood depth. This gives residents, emergency responders, and local governments the critical heads-up they need to save lives and reduce damages. Mr. Johnston manages this program from a weekly perspective.
Career History	Mr. Johnson serves as the Water Resources Practice Lead at CSRS with nearly a decade of experience in water resources and hydraulic & hydrologic engineering and over a decade of experience in oil and gas drilling operations. He is responsible for developing hydraulic and hydrologic models, analyzing model output data using computer methods, developing stormwater management plans, developing drainage system maintenance plans, and mapping outcomes using GIS software, all in service of project deliverables and time constraints. Further, he is responsible for project management and client communication.

16. STAFF EXPERIENCE

Firm employed by CSRS, Inc.					
Name	**Brandon Campo, PE, CFM**			Years of relevant experience with this employer	6
Title	Engineer			Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			BS / 2019 / Civil Engineering		
Active registration number / state / expiration date			PE No. 0048006 / LA / 09-30-2025		
Year registered	2023	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities			Water Resource / H&H Engineering		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
06/19 – 04/22	**East Baton Rouge Stormwater Master Plan:** The East Baton Rouge City-Parish selected HNTB Corporation with its partner CSRS to assist in developing a Parish Stormwater Master Plan. Mr. Campo assisted in the review of all current stormwater ordinances, development guidance, and checklists. He helped draft recommendations to the Parish to update ordinances, guidance material, and checklists to ensure all standards and requirements are consistent. In addition, he assisted in developing MATLAB scripts for obtaining, processing, and plotting data from all USGS gauge stations within the Parish. Mr. Campo helped to develop 2D HEC-RAS v6.0 models for four watersheds in the Parish. Upon completion, the team utilized them to identify the level of service for the system, identify problem areas, and design and assess mitigation projects.
10/19 – Present	**Louisiana Watershed Initiative:** The Louisiana Watershed Initiative (LWI) is primarily funded with $1.2 billion in CDBG-Mitigation funding allocated to Louisiana. CSRS is the state's primary program manager for developing regional watershed coalitions and plans and managing the CDBG-MIT grant. Mr. Campo leads the project management of the effort for CSRS under a senior engineer's guidance, assists in reviewing draft deliverables, and ensures adherence to the project schedule.
06/19 – 09/22	**Ascension Parish Floodplain Management Plan:** HNTB, with its partner CSRS, was engaged to implement a parish-wide floodplain management plan. CSRS was responsible for research, data collection, review, and assessment of all documentation related to the Parish's flooding history, risk assessments, floodplain recommendations, and implementation strategies. Mr. Campo managed the development of the Marvin Braud hydraulic model, assisted in the review of draft deliverables, and ensured adherence to the project schedule.
03/23 – Present	**City of Gretna Stormwater Master Plan:** CSRS provides a range of planning, engineering, and grants support to the City of Gretna. CSRS is in the process of completing a Stormwater Master Plan for the City and just received notice of award for a $51.8 Million FEMA Flood Mitigation Assistance grant including green infrastructure. CSRS developed, calibrated and validated a 1D-2D PC-SWMM model for the Gretna Stormwater Master Plan utilizing a comprehensive survey of the stormwater infrastructure and latest LiDAR elevations. Mr. Campo serves as the project manager.
Career History	Mr. Campo is a Louisiana licensed Engineer at CSRS with experience in water resources and hydraulic and hydrologic engineering. He is responsible for developing hydraulic and hydrologic models, analysis of model output data using computational methods, and mapping outcomes using GIS software, all in service of project deliverables and time constraints.

16. STAFF EXPERIENCE

Firm employed by CSRS, Inc.			
Name	**Henry McCall, EI**	Years of relevant experience with this employer	2
Title	Engineer Intern I	Years of relevant experience with other employer(s)	0

Degree(s) / Years / Specialization			BS / 2023 / Civil Engineering
Active registration number / state / expiration date			EI No. 35487 / LA / 09-30-2025
Year registered	2023	Discipline	Civil Engineer Intern
Contract role(s) / brief description of responsibilities			Water Resource / H&H Engineering

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
05/23 – Present	**City of Central Technical Assistance and Stormwater Management:** CSRS is continuing to assist the City of Central in comprehensive stormwater management. The Stormwater Management Framework encompasses living data and hydraulic model management, stormwater system maintenance, stormwater system improvements, funding strategy/grant applications, regulatory improvements, community engagement and education, a flood warning system, and the FEMA Community Rating System (CRS).
02/25 – Present	**EarlyFloWS:** CSRS developed a groundbreaking flood warning system (EarlyFloWS). EarlyFloWS provides real-time flood forecasting, automated forecasted rainfall, 2D hydraulic models, and full coverage forecasted flood depth. This gives residents, emergency responders, and local governments the critical heads-up they need to save lives and reduce damages. Mr. McCall is the lead software developer for the program.
Career History	Mr. McCall is an Engineering Intern I at CSRS with experience in water resources and H&H engineering. He assists senior engineers with developing hydraulic and hydrologic models, analyzing model output data using computer methods, and mapping outcomes using GIS software, all in service of project deliverables and time constraints.

16. STAFF EXPERIENCE

Firm employed by La Terre Engineering LLC			
Name	**Seneca Toussant, P.E.**	Years of relevant experience with this employer	4
Title	Principal/Civil Engineer	Years of relevant experience with other employer(s)	20

Degree(s) / Years / Specialization	BS / 1999 / Biological Engineering
Active registration number / state / expiration date	PE No. 36080 / LA / 09-30-2025
Year registered 2011 Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities	Hydraulic Support

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
3/24– Ongoing	**BATON ROUGE METROPOLITAN AIRPORT TAXIWAY F RECONSTRUCTION, NO. 22-ES-BTR-012: Baton Rouge, LA**. Project Engineer– Mr. Toussant is lead civil engineer responsible for the drainage improvements required for the Baton Rouge Metropolitan Airport Taxiway F Reconstruction project. The project will widen and reconstruct the existing segment of Taxiway F and includes subsurface drainage improvements. The drainage design will be analyzed as per FAA AC 150/5320-5D Airport Drainage Design.
10/21 – 08/23	**STEEP BAYOU WATERSHED FLOOD PREVENTION PLAN: Rayville, LA.** Project Manager–Mr. Toussant was the project manager responsible for preparing a hydrologic and hydraulic analysis for alternatives as part of the Watershed Plan and EA for the Steep Bayou Watershed Flood Prevention Plan for storm water runoff calculations and HEC RAS for required channel improvements.
02/22 – 02/24	**LOUISIANA WATERSHED INITIATIVE WHITE CASTLE CANAL DRAINAGE IMPROVEMENTS: White Castle, LA**. Project Manager–Mr. Toussant is the lead engineer and project manager for the H&H study and determining required improvements to the White Castle Canal in Iberville Parish. He is responsible for preparation of preparation of preliminary and final construction documents for channel improvements.
04/20 – 06/20	**UPPER DELTA SOIL CONSERVATION DISTRICT WATERSHED PLAN: Pointe Coupee Parish, LA**. Project Manager - Mr. Toussant was the project manager responsible for preparing the hydrologic and hydraulic analysis as part of the Watershed Plan and EA for the Upper Terrebonne Basin Watershed using HEC HMS for storm water runoff calculations and HEC RAS for required channel improvements. The total flood protection project area encompasses seven HUC 12 watersheds totaling approximately 225,072 acres.
02/20 – 06/20	**BAYOU STUMP WATERSHED PHASE 1: West Baton Rouge Parish, LA**. Project Manager -Mr. Toussant was the project manager preparing a hydrologic and hydraulic analysis for the Bayou Stumpy Watershed using HEC HMS for storm water runoff calculations and HEC RAS for required channel improvements for the approximately 13 mile long channel that drains a significant portion of northwestern West Baton Rouge Parish.
06/20 – 12/22	MO**VEBR CAPACITY PROGRAM MANAGEMENT: Baton Rouge, LA.** Project Manager-Mr. Toussant served as project manager for specialty contracts for the MoveBR Capacity program management team. He was responsible for the specialty contracts program which include environmental services, geotechnical services, surveying, lighting design and landscaping services. His responsibilities included coordination meetings, project reporting, stakeholder engagement and outreach, preparing project scopes, soliciting proposals, contract negotiations, submittal coordination and submittal reviews.

03/20 – 06/20	**WEST BATON ROUGE EMERGENCY BAYOU EVALUATION: West Baton Rouge Parish, LA**. Project Manager -Mr. Toussant was project manager for this project, which includes performing emergency mapping, consisting of high-resolution aerial imagery mapping, high-resolution video inspection, and select topographic survey along Little Stumpy Bayou, Stumpy Bayou, and named drainage laterals located in the northern portion of West Baton Rouge Parish. The information obtained will be utilized to identify any obstructions or drainage restrictions and recommendations for improvements to alleviate existing and potential flooding.
2020	**ELLIOT JONES CANAL DRAINAGE CONVEYANCE & PUMP STATION: Gibson, LA**. Project Manager - Mr. Toussant was the project manager and lead design engineer for the Eliot Jones Pump Station project which consisted of the design of a 1,000 cfs drainage pump station to reduce flooding due to excessive rainfall. Mr. Toussant was responsible for all H&H, pump station design and civil design, including site design of the pump station and the hydraulic calculations of the conveyance channel.
2019	**PETIT CAILLOU PUMP STATION : Chauvin, LA**. Project Manager -Mr. Toussant was project manager responsible for the preparation of the Hydrologic and Hydraulic Study for the Petite Drainage Basin in Terrebonne Parish. He was responsible for the final design for the 450 CFS pump station including the conveyance channel and all civil site related improvements.
2018	**CHACAHOULA-GIBSON DRAINAGE RESILIENCY PROJECT: Gibson, LA**. Project Manager -Mr. Toussant was the project manager and lead design engineer for the preparation of the Chacahoula Pump Station in Terrebonne Parish. He was responsible for all civil and site design for the 1000 CFS pump station including the conveyance channel and all civil site related improvements.
2015	**NAVAL AIR STATION (NAS), JOINT RESERVE BASE (JRB), BASIN 1 DRAINAGE IMPROVEMENTS: Belle Chase, LA.** Project Manager-Mr. Toussant was responsible for the preparation of construction documents for required drainage improvements to Basin 1 at the Naval Air Station, Joint Reserve Base in Belle Chasse Louisiana. He was also responsible for the preparation of the hydrologic and hydraulic analysis for the required improvements of closed drainage and open channel drainage system. The hydrologic and hydraulic analysis included the review of existing drainage basin boundary delineations, storm water modeling and runoff calculations to properly size closed drainage system and open drainage channels within the base property. He was responsible for preparing the construction documents in conformance with Naval Facilities Engineering Command design standards and applicable La DOTD design standards.
2013	**CAMERON LNG: Cameron and Calcasieu Parishes, LA.** Project Manager-Mr. Toussant was responsible for the preparation of a hydrologic and hydraulic analysis for the proposed facility located in Cameron and Calcasieu Parishes. He determined and prepared existing and proposed drainage boundaries and prepared predevelopment and post development storm water runoff calculations in order to request a Drainage Impact Analysis Waiver from the Parishes.
2013	**IBERVILLE PARISH CHANNEL AND DRAIN RESTORATION, PRICE STREET: Plaquemine, LA**. Project Engineer-Mr. Toussant was responsible for the preparation of a drainage impact analysis for review and approval by LADOTD for the Price Street Canal for Iberville Parish. He prepared drainage calculations and delineated drainage areas to properly size required conveyance channel improvements for the project in accordance with the LADOTD Hydraulics Manual. He prepared design calculations and construction documents, including specifications and plans for construction.
2012	**IBERVILLE PARISH CHANNEL AND DRAIN RESTORATION, SHADY LANE AND FRANCISE STREET: White Castle, LA**. Project Engineer-Mr. Toussant was responsible for the preparation of a drainage impact analysis for review and approval by LADOTD for the Shady Lane and Francise Street Canal for Iberville Parish. He prepared drainage calculations and delineated drainage areas to properly size storm drain pipe as required for the project in accordance with the LADOTD Hydraulics Manual. He prepared design calculations and construction documents, including specifications and plans for Shady Lane and Francise Street Project.
Career History	Seneca Toussant has almost 25 years of civil engineering experience including roadways, water and wastewater treatment, drainage and utilities, as well as traffic control and signage matters. Mr. Toussant has successfully completed construction management, contract administration, inspection, and documentation for projects with construction budgets as small as $50K to larger and more complex improvements of up to $20M.

16. STAFF EXPERIENCE

Firm employed by La Terre Engineering LLC			
Name	**Lyle Tynes, EI**	Years of relevant experience with this employer	4
Title	Civil Engineer	Years of relevant experience with other employer(s)	.5

Degree(s) / Years / Specialization	BS / 2020 / Civil Engineering
Active registration number / state / expiration date	EI No. 35128 / LA / 09-30-2026
Year registered 2022 Discipline	Civil Engineer Intern
Contract role(s) / brief description of responsibilities	Hydraulic Support

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/24– Ongoing	**BATON ROUGE METROPOLITAN AIRPORT TAXIWAY F RECONSTRUCTION: Baton Rouge, LA.** Project Engineer-Mr. Tynes is design civil engineer responsible for the drainage improvements required for the Baton Rouge Metropolitan Airport Taxiway F Reconstruction project. The project will widen and reconstruct the existing segment of Taxiway F and includes subsurface drainage improvements. The drainage design will be analyzed as per FAA AC 150/5320-5D Airport Drainage Design.
02/23 – Ongoing	**GRAND BAYOU FRESHWATER REINTRODUCTION PROJECT: Baton Rouge, LA.** Project Engineer-Mr. Tynes prepared HEC RAS models and performed scour analysis for an existing LADOTD Bridge for various flow scenarios for the proposed freshwater reintroduction pump station.
09/22 – Ongoing	**ADAPT -ASCENSION DRAINAGE ASSISTANCE PROGRAM TEAM: Baton Rouge, LA**. Project Engineer-Mr. Tynes is part of the program management team for Ascension Parish and his responsibilities include overseeing the quality of construction documents, coordinating and documentation for the parish, interface with the end users and other stakeholders as required by Ascension Parish and the program management team.
08/22 – Ongoing	**LOUISIANA WATERSHED INITIATIVE LA 22 GAPPING PROJECT: Maurepas, LA**. Project Engineer-Mr. Tynes is part of the grant administration team for the project and his responsibilities include construction administration assistance, site inspections, review of contractor invoices and construction monitoring for the LA 22 gapping project.
10/21 – 08/23	**STEEP BAYOU WATERSHED FLOOD PREVENTION PLAN: Rayville, LA**. Project Engineer-Mr. Tynes was responsible for the hydrologic and hydraulic modeling of Steep Bayou using HEC-RAS for the NRCS Watershed flood prevention plan. He is leading alternative analysis efforts and is responsible for preparing probable opinions of construction cost and benefit cost analysis for each alternative.
08/21 – 12/22	**MOVEBR CAPACITY MANAGEMENT PROGRAM: Baton Rouge, LA**. Project Engineer-Mr. Tynes provided drafting and permit drawing support for required USACE permitting for roadway improvement projects as part of the capacity management program for the City of Baton Rouge's MoveBR Capacity Program.
02/22 – 02/24	**LOUISIANA WATERSHED INITIATIVE WHITE CASTLE CANAL DRAINAGE IMPROVEMENTS: White Castle, LA**. Project Engineer-Mr. Tynes was responsible for the preparation of preliminary and final construction documents for channel improvements for the White Castle Canal.
Career History	Mr. Tynes is a graduate of Louisiana State University in Civil Engineering and his experience includes roadway and drainage design, preparing design and construction documents for a wide range of projects. Mr. Tynes is proficient in using AutoCAD Civil 3D program and his experience includes compiling specification packages for a wide range of projects, preparing drawings and other construction documents, and coordinating with clients. At LTE, Mr. Tynes routinely performs hydrology calculations, creates stormwater-related reports including H&H studies and Stormwater Pollution Prevention Plans (SWPPP).

16. STAFF EXPERIENCE

Firm employed by La Terre Engineering LLC					
Name	**Roman Hundley**			Years of relevant experience with this employer	1.5
Title	Engineering Technician			Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			BS / 2020 / Biological Engineering		
Active registration number / state / expiration date			N/A		
Year registered	N/A	Discipline	Engineering Technician		
Contract role(s) / brief description of responsibilities			Hydraulic Support		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
02/24 – Ongoing	**WARD CREEK AT SIEGEN LANE CHANNEL IMPROVEMENTS: Baton Rouge, LA**. Engineering Technician – Mr. Tynes is assisting in the preparation of construction documents for channel improvements for Ward Creek in Baton Rouge, Louisiana. His responsibilities also include preparation of permits and permit figures.
05/24 – Ongoing	**BREC MULTIPLE PARK PAVING PROJECT: Baton Rouge, LA.** Engineering Technician – Mr. Hundley assisted in the preparation of construction documents for the pavement rehabilitation at three BREC facilities, including the Lovett Road park entrance drive and parking, the Howell Community Park access drive and the Anna T. Jordan access road and parking areas. His responsibilities include civil engineering design, plan preparation and cost estimates.
08/23 – Ongoing	LOUISIANA WATERSHED INITIATIVE TOWN OF MARINGOUIN IMPROVEMENTS: Maringouin, LA. Engineering Technician -Mr. Hundley assisted in the preparation of preliminary and final construction documents for drainage improvements for the Town of Maringouin Drainage Improvements project. His responsibilities include preparation of cost estimates, bidding and construction documents.
03/24 – Ongoing	**BATON ROUGE METROPOLITAN AIRPORT TAXIWAY F RECONSTRUCTION: Baton Rouge, LA.** Engineering Technician –Mr. Hundley is assisting in the drainage improvements required for the Baton Rouge Metropolitan Airport Taxiway F Reconstruction project. The project will widen and reconstruct the existing segment of Taxiway F and includes subsurface drainage improvements. The drainage design will be analyzed as per FAA AC 150/5320-5D Airport Drainage Design.
08/23 – 02/24	**LOUISIANA WATERSHED INITIATIVE WHITE CASTLE CANAL DRAINAGE IMPROVEMENTS: Baton Rouge, LA**. Engineering Technician –Mr. Hundley was responsible for the construction administration phase of the project. His responsibilities include biweekly site visits, review and approval of pay applications, engineering during construction and project closeout.
01/23 – Ongoing	**SHARP ROAD (FLORIDA BLVD TO OLD HAMMOND HWY):Baton Rouge, LA.** Engineering Technician –Mr. Hundley is supporting roadway design for the project, including existing and proposed drainage maps, subsurface drainage design and preparation of preliminary and final plans, including typical sections for enhancements for pedestrian and bicycle users.
Career History	Mr. Hundley is a graduate of Louisiana State University in Biological Engineering. Mr. Hundley's experience includes roadway design, ADA access design, drainage design, utility coordination, compiling construction packages, including preparing drawings, specifications and other construction documents. Mr. Hundley's responsibilities also include construction administration for various projects for our clients

Section 17

Contract No. 4400031035

IDIQ CONTRACT FOR HYDRAULICS SECTION SUPPORT

PROJECT EXPERIENCE MATRIX

	Hydraulic Manual Revisions	Watershed Modeling (HEC 1D & 2D)	LWI Hydraulic Modeling	NFIP No Rise/LOMR/CLOMR	NFIP Regulatory Mapping	2D Bridge Analysis/Scour (SRH2D)	Scour Countermeasure Design	General Hydrologic & Hydraulic Analysis	Roadway Hydraulics	Model Maintenance & Updating
Neel-Schaffer, Inc.										
GDOT Master	●	●		●	●	●	●	●	●	
MDOT Master		●		●	●	●	●	●	●	
TDOT Continuing Services	●	●		●	●	●	●	●	●	
SCDOT Scour						●	●	●	●	
LADOTD IDIQ for Road Design Projects								●	●	
Dewberry Engineers Inc.										
Louisiana Watershed Initiative Region 7 Modeling Contract		●	●					●	●	●
Louisiana Cooperating Technical Partners Program		●	●			●		●	●	●
Amite River Basin Commission 2025 Master Plan		●		●	●			●	●	●
Freese and Nichols, Inc.										
Louisiana Watershed Initiative Modeling Contract Region 2		●	●					●	●	●
HCFCD Model and Map Management (M3) Program (LOMR Dele	●	●		●	●			●	●	●
Transportation and Stormwater Infrastructure Hydrologic and Hydraulic Assessment		●				●		●	●	
CSRS, LLC										
City of Central Drainage Master Plan		●						●		
City of Central Technical Assistance and Stormwater Management	●	●						●		●
East Baton Rouge Stormwater Master Plan	●	●						●		
La Terre Engineering, LLC										
East Baton Rouge Stormwater Master Plan		●					●	●		
Grand Bayou Freshwater Reintroduction Project*		●						●		
Louisiana Watershed Initiative White Castle Drainage Improvements*		●						●		

17. FIRM EXPERIENCE

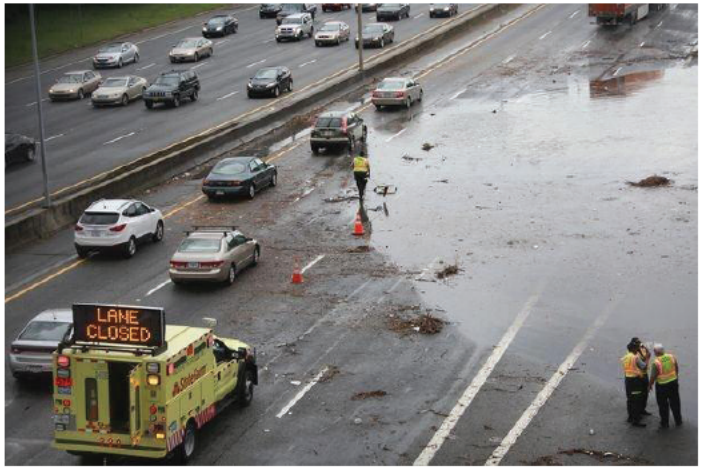
Firm Name	**Neel-Schaffer, Inc.**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**GDOT Statewide On-Call Services – Special Drainage Studies**	Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	Georgia Department of Transportation
Project location	Georgia Statewide	Owner's Project Manager	Drew Martin, PE
Owner's address, phone, email	600 W Peachtree St NW, Atlanta, GA 30308 | 404.631.1625 | dmartin@dot.ga.gov		
Services commenced by this firm (mm/yy)	2014	Total consultant contract cost ($1,000's)	$7.000 (4 Contracts)
Services completed by this firm (mm/yy)	2025	Cost of consultant services provided by this firm ($1,000's)	$4,000

The Georgia Department of Transportation Office of Design Policy and Support (GDOT) NSI to perform Special Drainage Studies for four consecutive on-call IDIQ contracts. Services have included performing drainage complaint field investigations, performing **specialized hydrologic and hydraulic modeling** analyses, developing **Drainage Manual and policy updates,** developing special drainage structure and bridge deck drain designs, performing field surveys, performing pipe video inspections, developing technical reports, developing concept designs, and developing final designs and construction plans to solve drainage and flooding problems along interstates and state routes throughout Georgia. Since 2014, NSI has been selected for four consecutive 3-year IDIQ contracts to perform Special Drainage Studies throughout Georgia.

Scope consisted of:

- Drainage Manual and Policy Updates
- Comprehensive Field Investigations;
- Complex Hydrologic and Hydraulic Modeling;
- Field Inventory and Data Collection;
- Storm Sewer Inspections and Analysis;
- Drainage/Flood Improvement Recommendations
- Remediation of Junction Box Failure
- Special Structural Design of Drainage Infrastructure
- Culvert/Cross Drain Design
- Closed System Analysis/Design
- Sinkhole Repair
- Lawsuit / Mediation Assistance
- Special Drainage/Flood Study Reviews
- Construction Revisions
- Environmental Permitting
- Dam Safety Work
- Concept Designs
- Final Construction Plans

Firm Members: Michael Phillips, David Maclean, Jay Coleman, Hannah Richardso



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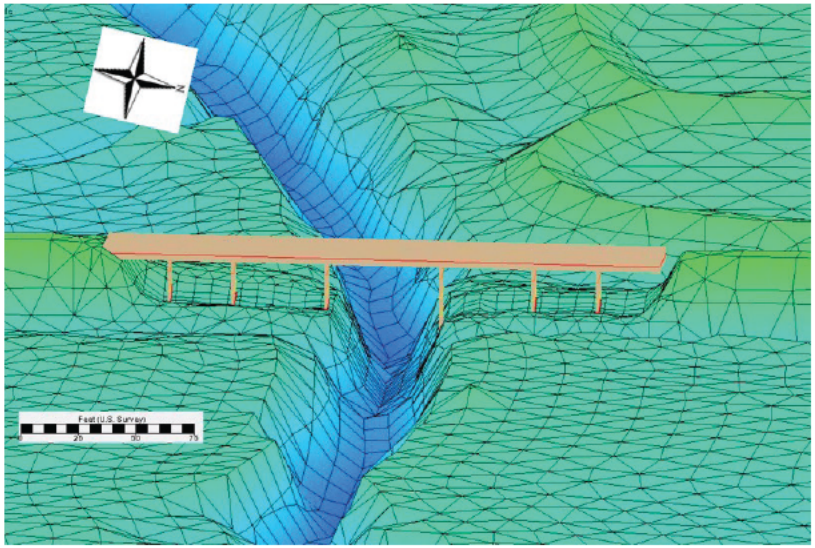
Project Relevance:

- ✓ DOT Hydraulic On-Call Experience
- ✓ Drainage Manual and Policy Updates
- ✓ 1D and 2D Watershed Modeling
- ✓ Bridge Modeling and Scour Design
- ✓ General Hydraulics

17. FIRM EXPERIENCE

Firm Name	**Neel-Schaffer, Inc.**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**TDOT Hydraulic Engineering On-Call Services Contract**	Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	Tennessee Department of Transportation
Project location	Tennessee Statewide	Owner's Project Manager	Wesley Peck
Owner's address, phone, email	James K. Polk Building, Suite 1100, 505 Deaderick Street Nashville, TN 37243, 615.741.3574, wesley.peck@tn.gov		
Services commenced by this firm (mm/yy)	01/24	Total consultant contract cost ($1,000's)	$3,000
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm ($1,000's)	$650

The Tennessee Department of Transportation Office of Hydraulic Design selected NSI to perform on-call special hydraulic engineering services in 2024. Services related to the contract include performing specialized hydrologic and hydraulic modeling and scour analyses using both 1- dimensional (HEC-RAS) and **2-dimensional (SMS/SRH-2D)** modeling software, developing special drainage structure and bridge deck drain designs, developing technical reports, developing preliminary bridge hydraulic layout drawings, developing **updates to standards** such as Low Impact Development (LID) practices such as bioretention swales/ponds, **preparing No Rise Certifications** or FEMA MT-2 applications for Map Revisions, and performing third-party reviews of hydraulic reports. To date, five work orders have been issued including one or all of the following services:



Hydraulic Design Projects Designed Under These Contract Include:

- Big Sewee Road Bridge Replacement Over Sewee Creek, Meigs County
- SR-28 Bridge Replacements (3 Structures) Over Flatwood Branch and Overflows, Bledsoe County
- SR-196 Bridge Replacements (3 Structures) Over Little Cypress Creek and Overflows, Fayette County
- SR-163 Bridge Replacement Over Conasauga Creek, McMinn County
- SR-163 Bridge Replacement Over Chestuee Creek, McMinn County

Work Orders Have Included the Following Services:

- Bridge site hydraulic assessments
- Scour analysis / counter-measure design
- Hydraulic design / studies including one-dimensional hydraulic design using HEC-RAS
- Hydraulic design / studies including two-dimensional hydraulic design using SMS/SRH
- QA/QC Third-party reviews,
- Deck drain placement and spread analysis.
- Field surveying
- Technical document or standard preparation
- Preparation of "No Rise Certification"
- Preparation of FEMA Conditional Letter of Map Revision applications for FEMA impacts
- Other related technical services

Project Relevance:

- ✓ DOT Hydraulic On-Call Experience
- ✓ Drainage Design Policy/Standards Revisions
- ✓ 2D (SMS/SRH2D) Bridge Modeling
- ✓ No-Rise Applications for Road & Bridge Projects
- ✓ General Hydraulics.

Firm Members: Michael Phillips, Kyle Grantham, Sarah McEwen, Sahar Haddadian, Abigail Richardson, Hannah Prater

17. FIRM EXPERIENCE

Firm Name	**Neel-Schaffer, Inc.**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**MDOT Hydraulics IDIQ Master Contract**	Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	Mississippi Department of Transportation
Project location	Mississippi Statewide	Owner's Project Manager	Mandy Farmer, PE, CFM
Owner's address, phone, email	401 North West St., Jackson, MS 39201 | 601.359.7352 | mnfarmer@mdot.ms.gov		
Services commenced by this firm (mm/yy)	06/21-	Total consultant contract cost ($1,000's)	$1,200
Services completed by this firm (mm/yy)	06/24	Cost of consultant services provided by this firm ($1,000's)	$1,200

NSI holds a 3-year IDIQ Master Contract with the Mississippi Department of Transportation to provide Hydraulic and Hydrologic Engineering services as requested.

The contract runs from July 21, 2021, to June 30, 2024, and is capped at $2 million for life of the contract. Under this contract, Neel-Schaffer has or is performing the following tasks:

- Phase I and II Bridge Scour Evaluations for US 84 at Tallahala Creek and Relief (Bridge Nos. 151.5 and 151.7) and, SR 15 at Tallahala Creek and Relief (Bridge Nos. 80.1 and 80.4) in Jones County and I-22 at Pechahalee Creek (Bridge Nos. 46.9 A and B) and Oaklimeter Creek (Bridge Nos. 49.2 A and B) in Benton County.
- Phase A Bridge Hydraulic Design and Recommendations for SR 172 Bridge Replacement (Bridge No. 3.8) in Tishomingo County.

Bridge Scour Evaluations at Tallahala Creek, Pechahalee Creek and Oaklimeter Creek: As part of this effort, NSI Project Manager, Sarah McEwen, provided training to staff on 2D bridge hydraulic modeling and scour analysis using **Aquaveo's SMS software**. As part of the Phase I and II Evaluations the potential for scour at each bridge site is reviewed in accordance with the FHWA HEC manuals and standards. For Phase I, data including all available historic bridge information, geotechnical, land use, stream conditions, and survey was collected to perform a geomorphic assessment. In Phase II, **SRH2D** was used to evaluate the riverine impacts for the appropriate AEPs. Scour analysis was conducted and compared with any observed scour to assess risk and develop the total scour profile. Then if applicable a recommendation made to develop a Phase III and Phase IV Plan of Action. This project is ongoing. As of August, 2023, work includes completion of Phase I reporting and analysis as well as Phase II modeling. Ongoing activities include the scour analysis and Phase II reporting.

SR 172 Bridge Hydraulic Design: Phase A tasks include pre-design and data gathering, including collection of all pertinent data necessary for hydraulic assessment such as permits, watershed characteristics, stream reach data, utilities, easements, hydrologic and meteorological data, land use, floodplain limits, and floodplain topography. Bridge Hydraulic Design and Recommendation including assessment of flood hazards meeting floodplain management requirements, assess risk to highway users and damage to the bridge and roadway approaches, evaluation of regulatory FEMA requirements and impacts, geomorphic behavior of a reach, evaluation of flow patterns, constructability, and bridge scour of proposed foundations. Conceptual Plans, Preliminary Plans, and Right-of-Way plans includes the development of structural plans with respect to the recommended hydraulic design, to include span arrangements, pier/foundation schematics, shoring requirements, typical sections, finish grade profiles, retaining walls, and hydraulic revetment or countermeasures such as guide banks and riprap.

Firm Members: Abigail Richardson, Sahar Haddadian, Kyle Grantham, Sarah McEwen, David McLean, Amber Cutcliff, Vaishali Kandpal, Colby Curtus, Jay Coleman, Mike Phillips

Project Relevance:

- ✓ DOT Hydraulic On-Call Experience
- ✓ 2D Bridge Modeling using SRH2D
- ✓ Bridge Scour and Countermeasure Design

17. FIRM EXPERIENCE

Firm Name	**Neel-Schaffer, Inc.**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**SCDOT Scour Program**	Firm responsibility (prime or sub?)	Sub
Project number	N/A	Owner's name	South Carolina Department of Transportation
Project location	South Carolina Statewide	Owner's Project Manager	Thomas Knight
Owner's address, phone, email	955 Park Street, Columbia, SC | 803.737.4906 | knighttp@scdot.gov		
Services commenced by this firm (mm/yy)	01/21	Total consultant contract cost ($1,000's)	$1,700
Services completed by this firm (mm/yy)	03/23	Cost of consultant services provided by this firm ($1,000's)	$1,700

NSI was selected in 2020 by the South Carolina Department of Transportation as part of a team of consultants to perform bridge scour site inspections, scour calculations/assessments, and develop Plans of Action for bridges throughout the state of South Carolina. Work was completed in March 2023 for the following categories:

- **Scour Site Inspections – 276 bridge sites:** NSI's hydraulic engineers visited bridge sites and collected data related to scour conditions using a mobile database application, including sketches, photos, notes, and other information useful for scour calculations.
- **Scour Assessments (Type 1) – 98 bridge sites:** NSI's hydraulic engineers performed calculations utilizing existing plans, site inspection data, and USGS envelope curves to determine if the bridges are scour critical.
- **Scour Assessments (Type 2) – 46 bridge sites:** NSI's hydraulic engineers performed calculations utilizing existing HEC-RAS (1D) and SRH-2D models, along with site inspection data and USGS envelope curves, to determine if the bridges are scour critical.
- **Scour Assessments (Type 3) – 22 bridge sites:** NSI's hydraulic engineers performed calculations utilizing survey, new HEC-RAS (1D) and SRH-2D models, along with site inspection data and FHWA's HEC-18 equations, to determine if the bridges are scour critical. Riverine and Coastal sites were part of this analysis, with the 2D modeling focused on coastal and tidal mechanisms.
- **Plans of Action (POA) – 187 bridge sites:** NSI's hydraulic and structural engineers developed POAs for every bridge determined to be scour critical or with unknown foundations.

The final product for each bridge site included a completed scour inspection report with notes, tape-down measurements, photos, and information related to current scour conditions and susceptibility for future scour. Also, calculations were developed **using HEC-RAS software (1D models), SRH-2D software (2D models) for streams within FEMA-defined waterways and/or in coastal areas**. Plans of Action included written directives to provide guidance to SCDOT for inspectors and engineers to be implemented before, during, and after flood events to protect the traveling public. POAs included sketches of proposed scour countermeasures developed with HEC-23 procedures, bridge monitoring plans, and closure/detour plans. Written scour reports and POAs were submitted to and approved by the Program Manager (CDM Smith) and SCDOT.

Firm Members: Michael Phillips, Kyle Grantham, Chance Shuckrow, David MacLean, Jay Coleman, Abigail Richardson, Amber Cutcliff

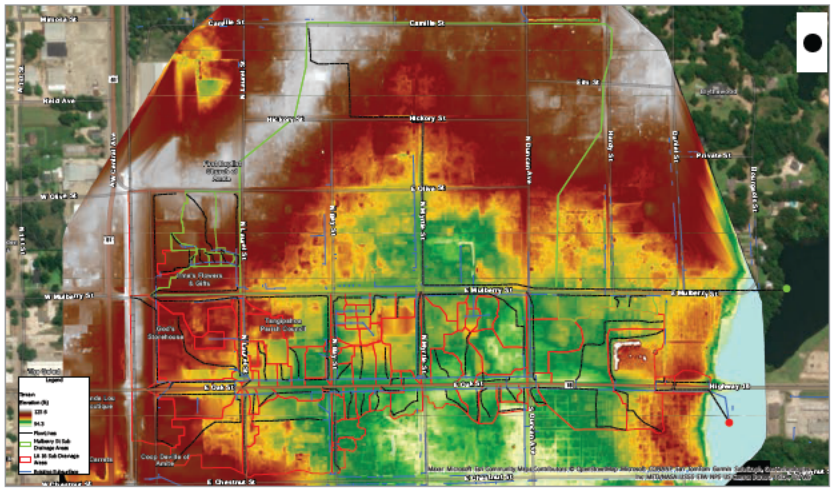
Project Relevance:

- ✓ DOT Hydraulic On-Call Experience
- ✓ 1D and 2D Bridge Modeling

17. FIRM EXPERIENCE

Firm Name	**Neel-Schaffer, Inc.**	Past Performance Evaluation Category(ies)*	Road, Planning, Other (Hydrology & Hydraulics)
Project name	**LADOTD IDIQ for Road Design Projects**	Firm responsibility (prime or sub?)	Prime
Project number	H.0144366, H.015226	Owner's name	LADOTD
Project location	Calcasieu and Ascension Parishes	Owner's Project Manager	Cathy Masin, Mohammad Nur
Owner's address, phone, email	P.O. Box 94245, Baton Rouge, LA 70804; 225-379-1652; Catherine.Mastin@la.gov; Mohammad.Nur@la.gov		
Services commenced by this firm (mm/yy)	03/23	Total consultant contract cost ($1,000's)	$5,000
Services completed by this firm (mm/yy)	03/28	Cost of consultant services provided by this firm ($1,000's)	$1,215

NSI was selected for the IDIQ contract with DOTD to conduct Roadway Design Services. These Roadway Design Services include roadway plan development and traffic engineering design services. NSI will provide all services required to complete the construction plan set. These services include traffic design, traffic control design, traffic signal analysis and design, **hydraulic analysis and design**, transportation management plans. In addition to standard roadway hydraulic analysis using HYDROWIN software, many of these efforts have required more in-depth H&H modeling.



The task orders under this contract are as follows:

1.) **US 90: Roundabout a LA 101 (Calcasieu) (SPN. H.015226);** This project includes the design for a roundabout with high-speed approaches. The design avoids impacts to a gas station, and other development at the intersection. NSI completed all roadway hydraulics associated with the design. Additionally, to allow for minimum right of way taking on the project, **NSI evaluated the existing detention capacity of nearby ponds and performed analysis to recommend proposed detention requirements. .**

2.) **LA 621: Realignment @ LA 73 (Ascension) (SPN. H.014366);** This project will widening LA 73 and realign LA 621 to near its existing intersection with LA 73 to relieve congestion and improve safety. This project includes the design of a multilane roundabout and all associated drainage.

3.) **LA 16: N 2nd Street to LA 445 (Tangipahoa Parish) SPN. H.009425.5;** The scope of this project includes **hydraulic analysis** and development of construction plans for the **rehabilitation of the existing subsurface drainage system** to improve drainage along LA 16 from US 51 to approximately 1000'east of Duncan Avenue. The existing drainage system appears to be undersized, damaged, and impacted by sedimentation at multiple locations due to head losses caused by the system's configuration. For evaluation of the existing subsurface system, NSI is developing a detailed PCSWMM model.

Firm Members: Dishili Young, Chance Shuckrow, Nick Ferlito, Leah Selcer, Colby Curtis

Project Relevance:

- ✓ Roadway Hydraulics
- ✓ LADOTD On-Call Experience
- ✓ LADOTD Hydraulics Manual Familiarity

17. FIRM EXPERIENCE

Firm Name	**Dewberry Engineers Inc.**	Disciplines*	Other (Hydrology & Hydraulics)
Project name	**DOTD Louisiana Watershed Initiative Region 7 Modeling Contract**	Firm responsibility (prime or sub?)	Prime
Project number	4400017093	Owner's name	LA DOTD
Project location	LWI Region 7	Owner's Project Manager	Edward Knight, PE
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 | 225.379.3007 | Edward.Knight@LA.GOV		
Services commenced by this firm (mm/yy)	06/20	Total consultant contract cost ($1,000's)	$15,513
Services completed by this firm (mm/yy)	05/25	Cost of consultant services provided by this firm ($1,000's)	$11,136

Following the August 2016 flood as a precursor to this LWI modeling contract, DOTD tasked Dewberry to develop the Amite River Basin Numerical Model (ARBNM) as a pilot study for LWI. This included LiDAR collection, survey, outreach, and development of a detailed **watershed scale hydrologic (HEC-HMS), Hydraulic (HEC-RAS) and economic & life safety model (HEC-FIA).** Following completion, Dewberry was selected to develop similar tools for seven additional HUC8 watersheds throughout Region 7 in addition to substantial updates and upgrades to the original ARBNM model.

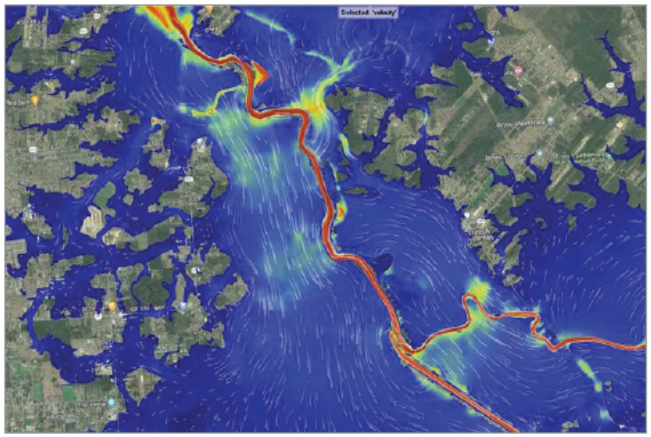
The **Region 7 LWI modeling** included: advanced calibrated **1D and 2D hydrologic and hydraulic watershed scale modeling** for the Bayou Sarah Thompson, Lake Maurepas, Tickfaw, Tangipahoa, Liberty Bayou Tchefuncte, Bogue Chitto, and Lower Pearl HUC8 watersheds. This included modeling of **several hundred roadways** and associated embankments, culverts, and bridges in both 1D and 2D. This involved **major bridge crossings on Interstates 10, 12, 55, 59 and 110** where bridge hydraulics were carefully reviewed and calibrated against observed data to ensure that models are defensible when used for future infrastructure improvements projects.

The Amite River Basin Numerical Model previously developed by Dewberry for DOTD was **maintained and updated** to a newer version of HEC-RAS and **LWI technical guidance** and included the **full incorporation of bridges and culverts for roadway projects** into the 2D mesh to ensure models are up-to-date.

Several proof-of-concept projects were demonstrated which included: **new roadway improvements** such as culverts, bridges and channelization. Additionally concept regional major reservoirs, local detention facility concepts and major pump station projects were studied to prove how models can use implemented for flood risk reduction. This included demonstration of projects in combination to prove **no-rise conditions.**

Additionally, Dewberry served as an Independent Technical Reviewer for Regions 1 and 6 demonstrating our breadth of knowledge throughout the state.

Firm Members: Sam Crampton, Seth Bradley, Jerri Daniels, Matt Deshotel, Emma Bones, Lani Oubre



LWI HEC-RAS 2D MODEL for the Amite basin is a compressive, high detailed flood model for the entire basin. The models proven performance is ideally suited to perfor assessing alternatives including roadway and other infrastructure improvements.

- ✓ LWI Model Development
- ✓ Model Maintenance and Updates
- ✓ Roadway Hydraulics
- ✓ Watershed Scale Hydrology and Hydraulics
- ✓ No-rise Analysis
- ✓ General H&H Analysis

17. FIRM EXPERIENCE

Firm Name	**Dewberry Engineers Inc.**	Disciplines*	Other (Hydrology & Hydraulics)
Project name	**State of Louisiana Cooperating Technical Partners Program**	Firm responsibility (prime or sub?)	Prime
Project number	4400008293	Owner's name	LADOTD
Project location	Statewide, LA	Owner's Project Manager	Susan Veillon
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 | 225.379.3005 | susan.veillon@la.gov		
Services commenced by this firm (mm/yy)	05/16	Total consultant contract cost ($1,000's)	$6,600
Services completed by this firm (mm/yy)	09/19	Cost of consultant services provided by this firm ($1,000's)	$6,600

Dewberry was selected as a Cooperating Technical Partners (CTP) consultant by DOTD to implement the **FEMA NFIP Risk MAP program** with various task orders related to **NFIP program planning, watershed scale modeling,** and **NFIP regulatory mapping** throughout the state in support of the CTP agreement between LA DOTD and FEMA Region 6. This contract also included the development of the **Amite River Basin Numerical Model (ARBNM)**, a precursor to the Louisiana Watershed Initiative. Services included:

FEMA NFIP CTP Project Planning:

- **FEMA NFIP programmatic support** including business planning, scoping, development of GIS platform, monitoring and ensuring Risk MAP metrics are met to ensure the success of the state CTP program.
- Discovery facilitation for 10 HUC-8 watersheds throughout the state. This included BLE data training and collaboration with FEMA Region 6 staff
- Developed the Flood Information Guide (FIG). Featured by FEMA Region VI as a Best Practice, this hard copy map series was intended to support communities where the internet was unreliable or non-existent in implementing floodplain management regulations in Zone A areas

Waterscale Scale 1D and 2D Modeling:

- Development of parish-wide **HEC-HMS and HEC-RAS** models for Allen, LaSalle, and West Feliciana Parishes which included **NFIP Regulatory Mapping.** These models incorporated critical features including channels, cutoff berms, **roadways, culverts, bridges, and diversion structures.** Allen Parish included FIRM development, preliminary issuance, and post-preliminary activities through the **Physical Map Revision Process (PMR)** which is a large-scale **FEMA Letter of Map Revision (LOMR).** This included review and incorporation of existing **FEMA LOMR's and no-rise analysis** for roadway projects including **bridge and culvert hydraulics.**

Amite River Basin Numerical Model, LWI Model Pilot Project

- Development of highly detailed **watershed scale modeling tools** to assess hydrology, hydraulics, and consequences using **HEC-HMS, HEC-RAS (1D/2D)** and HEC-FIA. DOTD bridge plans supplemented with new laser scans were used for coding **bridges and culverts to support hydraulic analysis.** Extensive model calibration and validation was performed. Numerous infrastructure projects were assessed including concept projects for the **modification of roadway embankments and bridges.** At the time the project was the largest implementation of a detailed 2D HEC-RAS model in Louisiana and guided many of the technical approaches and software used for the Louisiana Watershed Initiative.

Firm Members: Sam Crampton, Seth Bradley, Jerri Daniels, Matt Deshotel, Emma Bones

- ✓ Model Development (LWI precursor)
- ✓ Model Maintenance and Updates
- ✓ Roadway Hydraulics
- ✓ Watershed Scale Hydrology and Hydraulics
- ✓ NFIP Regulatory Mapping and Revisions through the Physical Map Revision Process (large scale LOMR)
- ✓ General H&H Analysis

17. FIRM EXPERIENCE

Firm Name	**Dewberry Engineers Inc.**	Disciplines*	Other (Hydrology & Hydraulics)
Project name	**Amite River Basin Commission 2025 Master Plan**	Firm responsibility (prime or sub?)	Prime
Project number	23-001	Owner's name	Amite River Basin Drainage & Water Conservation District
Project location	Amite River Watershed, LA	Owner's Project Manager	Paul Sawyer, Executive Director
Owner's address, phone, email	3535 S. Sherwood Forest Blvd, Suite 135, Baton Rouge, LA 70816 | 225.333.9398 | psawyer@amitebasin.org		
Services commenced by this firm (mm/yy)	05/24	Total consultant contract cost ($1,000's)	$3,270
Services completed by this firm (mm/yy)	04/25	Cost of consultant services provided by this firm ($1,000's)	$1,800

OBJECTIVE OF SCOPE

Dewberry as prime consultant and La Terre Engineering lead the development of the Amite River Basin Drainage & Water Conservation District 2025 Master Plan. Development of the plan included: comprehensive planning, **watershed scale hydrologic and hydraulic modeling**, flood risk assessment, flood risk reduction concept development, erosion and scour considerations and review of FEMA NFIP considerations.

FLOOD RISK ASSESSMENT INCLUDING HYDROLOGY, HYDRAULICS, ECONOMICS AND LIFE SAFETY

LWI watershed scale hydrologic and hydraulics models developed by Dewberry under LWI were used as the baseline for investigating flood risk. The **LWI HEC-HMS and HEC-RAS models** were updated to determine future no-action flood risk for the year 2050. These high detailed coupled **1D and 2D models** included multiple flood return periods and both riverine inflows and coastal wind driven boundaries. All major bridges were included within the hydraulic models. The models were also used to assess project conditions which included an array of projects and alternatives which included levee systems, reservoirs, pump stations, dredging, and gates.

SEDIMENT TRANSPORT MODELING FOR EROSION, SCOUR, AND SEDIMENT MANAGEMENT

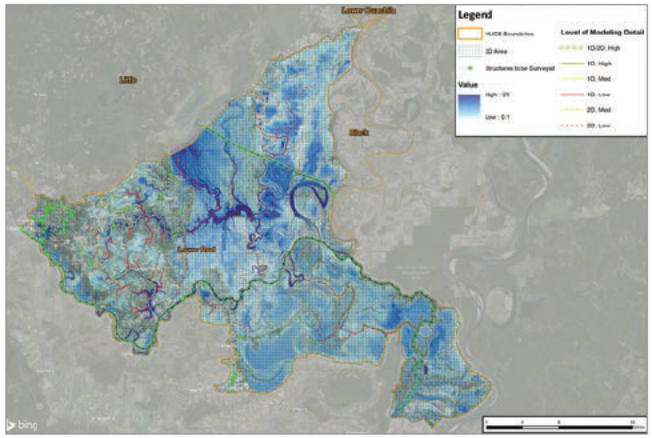
A detailed **watershed scale 1D HEC-RAS hydraulic sediment transport model** was developed for the Amite River from the Mississippi State line to Lake Maurepas. Over 90 sediment samples were collected and analyzed throughout the basin to support the model inputs. The model was calibrated for a 1985-2025 hindcast period and then used to **forecast erosion and sedimentation** throughout the river to the year 2050 for both no-action and several projects aimed to stabilize the Amite River. All major **bridges were included to simulate channel erosion, scour and deposition** processes. Additionally, localized **HEC-RAS 2D** and **SRH2D sediment transport models** using **SMS** were developed to validate the 1D HEC-RAS model results which included the **2D sediment transport with scour modeling around a major bridge** and abandoned gravel pits.

Firm Members: Sam Crampton, Seth Bradley, Lani Orgeron, Emma Bones, Jerri Daniels, Matthew Deshotel

- ✓ LWI Model Maintenance and Updates
- ✓ Roadway Hydraulics
- ✓ Watershed Scale Hydrology and Hydraulics (1D and 2D)
- ✓ 2D Bridge Scour Using SRH-2D (SMS)
- ✓ Review of NFIP Regulatory Mapping and comparison with effective FIRMs
- ✓ Project Assessment to Ensure No-Rise Conditions
- ✓ General H&H Analysis

17. FIRM EXPERIENCE

Firm Name	**Freese and Nichols, Inc.**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**Louisiana Watershed Initiative (LWI) Modeling Contract**	Firm responsibility (prime or sub?)	Prime
Project number	4400017068	Owner's name	LADOTD
Project location	Baton Rouge, Louisiana	Owner's Project Manager	Billy Williamson, PE
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 | 225-379-3023 | billy.williamson@la.gov		
Services commenced by this firm (mm/yy)	10/2020	Total consultant contract cost ($1,000's)	$18,000 (cumulative)
Services completed by this firm (mm/yy)	07/2025 estimated	Cost of consultant services provided by this firm ($1,000's)	$11,000



In 2016, Louisiana experienced two historic rain events and devastating floods. To address these flood problems and prepare for the future, Louisiana launched the Louisiana Watershed Initiative (LWI) in 2018, with an initial focus on improving H&H watershed models to more effectively reduce flood risk through improved decision-making.

FNI is working with the Louisiana Department of Transportation and Development (DOTD) for the LWI Modeling Contract encompassing Region 2. The five-year, $18 million contract involves the development of calibrated 1D/2D HEC-RAS models for use in consequence and risk assessment, ultimately informing the implementation of flood risk reduction projects via watershed coalitions in coordination with parish, state and federal entities and includes analyzing more than 9,500 square miles in HEC-HMS for hydrology, 975 miles of 1D HEC-RAS and approximately 1,500 miles of 2D stream centerline in HEC-RAS for multiple recurrence intervals (2-, 5-, 10-, 25-, 50-, 100-, 100+-, 500- and 1,000-year events).

FNI's innovative project management approach is centered around the community, leveraging accurate watershed data and facilitating regional continuity of the H&H model development. FNI fully integrated stakeholders throughout the watershed and adjacent regions via the discovery process by conducting public meetings, developing surveys and public-facing interactive web maps, and presenting to external organizations on behalf of the LWI. The FNI team secured buy-in from local, parish, state and federal partners through accurate, complete, transparent and accessible data to provide a comprehensive floodplain management approach.

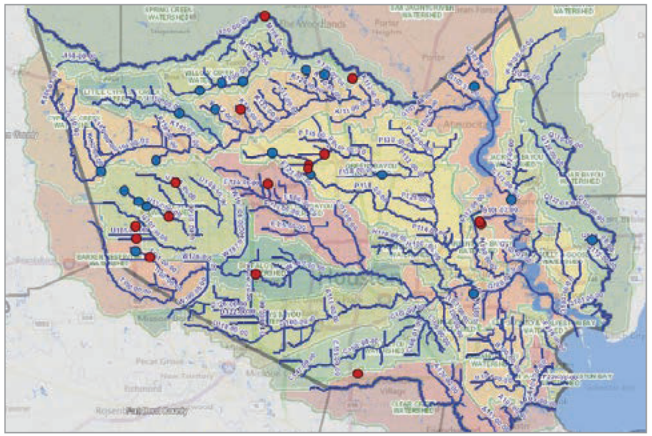
Key Project Benefits/Features/Innovative Solutions

- Multiple FNI watershed teams across geographies analyze multiple areas concurrently, substantially compressing the total project duration required for analysis
- Multiple watershed teams realize efficiencies in building familiarity and continuity working within the same area over the duration of the study, building a trusted working relationship with regional stakeholders
- Accurate models and data empower communities and local governments to meet the demands of changing flood risk, supported by training and education for all stakeholders
- Survey capacity strength included three survey crews ready to mobilize and mitigate survey capacity risk
- Watershed-based modeling is driven by identifying flood reduction measures for local communities as a first priority, not as a regulatory update to the Flood Insurance Rate Maps (FIRM)

Firm Members: Jim Keith, Bethany Fleitman, Jeremy Dixon, Hector Olmos

17. FIRM EXPERIENCE

Firm Name	**Freese and Nichols, Inc.**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**HCFCD Model and Map Management (M3) Program (LOMR Delegation)**	Firm responsibility (prime or sub?)	Prime
Project number	HCFCD Project ID: Z100-00-00-P013	Owner's name	Harris County Flood Control District
Project location	Harris County, TX	Owner's Project Manager	Todd Ward
Owner's address, phone, email	9900 Northwest Freeway, Houston, TX 77093 | 713-316-4858 | todd.ward@hcfcd.hctx.net		
Services commenced by this firm (mm/yy)	12/2012	Total consultant contract cost ($1,000's)	$2,360
Services completed by this firm (mm/yy)	2/2025	Cost of consultant services provided by this firm ($1,000's)	$2,360



FNI has been assisting HCFCD with its M3 Program, which includes reviewing CLOMRs and LOMRs at a local and federal level, providing support for continuous updates to their system, and GIS technical support.

FNI has supported HCFCD by reviewing floodplain studies submitted by engineering consultants. FNI confirmed that all supporting documentation regarding the project was submitted and that requesters have adhered to HCFCD's Hydrology and Hydraulic Guidance Manual and GIS Data Format Standard for Deliverables. The main focus of the local reviews is to verify that a proposed or constructed project will not cause any negative impacts to the effective conditions. To streamline the review process, FNI has developed GIS tools, as well as detailed checklists. In support of local review, FNI has also facilitated discussion with developers regarding review comments and concerns. These services have been provided with staff working at HCFCD offices. Once a project has received a local review approval, it enters the federal review stage.

The federal review process consists of performing a detailed and comprehensive technical review of LOMRs and CLOMRs on behalf of FEMA. FNI's review confirms that the project submittal adheres to the all federal regulations and documentation requirements. As part of the federal review process, FNI is in charge of preparing the draft determination documents required for issuance of LOMRs and CLOMRs, which includes the creation of annotated FIRM panels. Additionally, FNI prepares and uploads the final engineering models and GIS data for developer submittals. FNI's assistance in the LOMR Delegation Program has helped promote the active management of engineering models and floodplain maps through the coordination of adjacent and recently approved LOMRs/CLOMRs and has provided continuous updates to HCFCD's M3 System as projects are federally approved.

Firm Members: Nick Boardman, Hector Olmos, Jeremy Dixon, Mat Leclair

17. FIRM EXPERIENCE

Firm Name	**Freese and Nichols, Inc.**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**Transportation and Stormwater Infrastructure Hydrologic and Hydraulic Assessment**	Firm responsibility (prime or sub?)	Prime
Project number	NCTCOG Contract Number: TRN7428	Owner's name	North Central Texas Council of Governments
Project location	Arlington, TX	Owner's Project Manager	Kate Zielke
Owner's address, phone, email	Centerpoint III, 600 Six Flags Drive, Arlington, TX 76011 | 817-695-9227 | kzielke@nctcog.org		
Services commenced by this firm (mm/yy)	07/2024	Total consultant contract cost ($1,000's)	$975
Services completed by this firm (mm/yy)	06/2026 estimated	Cost of consultant services provided by this firm ($1,000's)	$560

FNI is supporting NCTCOG with its Transportation and Stormwater Infrastructure (TSI) project by performing a variety of Hydrologic and Hydraulic (H&H) modeling tasks within the West study region. This project is very broad in scope and is a pilot study to determine a methodology for integrating the planning of Transportation and Stormwater Infrastructure to reduce the cost and impact of both.

FNI's scope includes adding detail to the Trinity Watershed Hydrology Assessment (WHA) to improve the resolution of the rainfall-runoff response and evaluate existing and future hydrologic conditions. FNI also added detail to the Base Level Engineering (BLE) hydraulic models, such as adding bathymetry data, updating land cover data, refining breaklines, and, most notably, adding hundreds of bridge and culvert structures. FNI will use these enhanced BLE models to determine the hydraulic effects of the existing and future flow conditions and help the TSI partners consider 1) how existing and future land use will affect transportation infrastructure and 2) How those changes in flood risk can be mitigated by integrated planning of transportation and stormwater infrastructure.

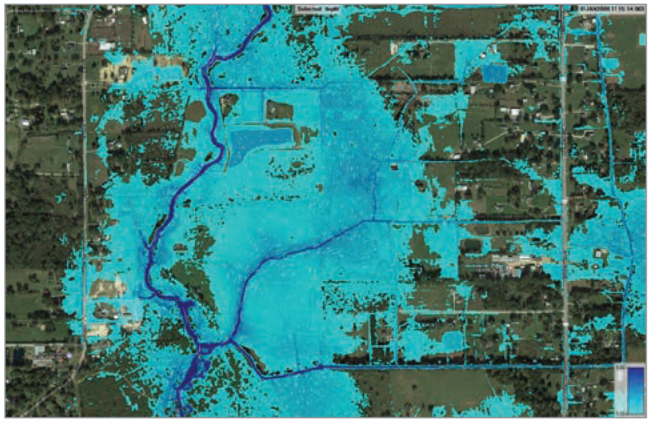
This project also includes the scope of evaluating data input/output requirements for the models, system response under shifted storm events, and potential use of these models to inform or enhance a real-time flood warning system.

Finally, this project includes developing Flood Management Evaluations (FMEs) and Flood Management Projects (FMPs) in accordance with the Texas State Flood Planning process. Proposed FMEs and FMPs will be evaluated against the 20+ flood risk metrics defined in the Texas Water Development Board (TWDB) "Technical Guidelines for Regional Flood Planning."

Firm Members: Jeremy Dixon

17. FIRM EXPERIENCE

Firm Name	**CSRS, LLC**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**City of Central Drainage Master Plan**	Firm responsibility (prime or sub?)	Prime
Project number	219104	Owner's name	City of Central
Project location	Central, LA	Owner's Project Manager	Wade Evans
Owner's address, phone, email	13421 Hooper Road, St. 8, Central, LA 70818 | 225.261.5988 | wade.evans@central-la.gov		
Services commenced by this firm (mm/yy)	03/18	Total consultant contract cost ($1,000's)	$1,100
Services completed by this firm (mm/yy)	06/19	Cost of consultant services provided by this firm ($1,000's)	$1,000



The City of Central, Louisiana, experienced extremely heavy rains and catastrophic flooding during August of 2016. Following the disaster, the City of Central began its recovery efforts and sought opportunities to improve its resiliency during the re-building process. Being a newly formed community, Central never conducted a comprehensive Drainage Master Plan and selected CSRS to lead its flood recovery efforts and develop a comprehensive Drainage Master Plan.

For the recovery efforts, CSRS conducted stream assessments to identify storm damage in the six named streams within the city limits. The work included the identification, collection, temporary staging, and managing the removal and disposal of all disaster- related debris impeding the flow and/or velocity of stormwater through the impacted open channels.

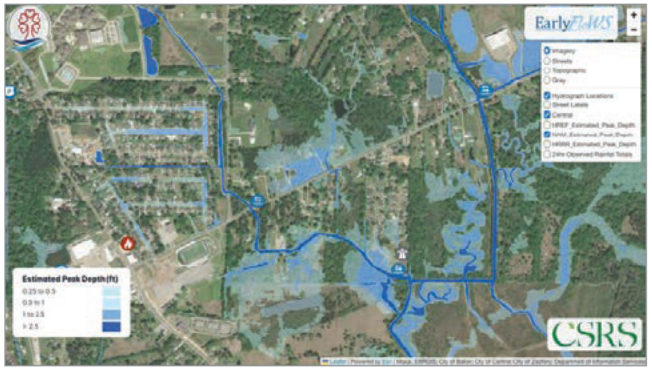
For the Drainage Master Plan, CSRS developed and calibrated two-dimensional (2D) hydraulic models for the 6 watersheds with enhanced graphical capability to better understand the hydraulic system of existing streams and structures, identify problem areas, and to simulate and develop proposed solutions to the problems. These recommended solutions were utilized to develop a capital improvements program to reduce flood impacts to structures and property. CSRS performed a prioritization of the projects and identified appropriate funding sources after performing benefit-cost analyses.

Firm Members: Stokka Brown

17. FIRM EXPERIENCE

Firm Name	**CSRS, LLC**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**City of Central Technical Assistance and Stormwater Management**	Firm responsibility (prime or sub?)	Prime
Project number	223166	Owner's name	City of Central
Project location	Central, LA	Owner's Project Manager	Wade Evans
Owner's address, phone, email	13421 Hooper Road, St. 8, Central, LA 70818 | 225.261.5988 | wade.evans@central-la.gov		
Services commenced by this firm (mm/yy)	09/19	Total consultant contract cost ($1,000's)	$1,100
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm ($1,000's)	$1,000

In October 2017, the City invested $1 million in developing its first-ever Master Drainage Plan (MDP), developing state-of-the-art 2-dimensional (2D) hydraulic models, flood risk assessments, flood mitigation strategies, regulatory improvements, and a flood forecasting system. The creation of the MDP and models vaulted the city to prominence because it possesses a powerful tool that gives it an advantage in accessing competitive funding sources and guiding the future management of its development and stormwater and floodplain initiatives.



CSRS implemented a comprehensive stormwater management system for the City of Central, delivering:

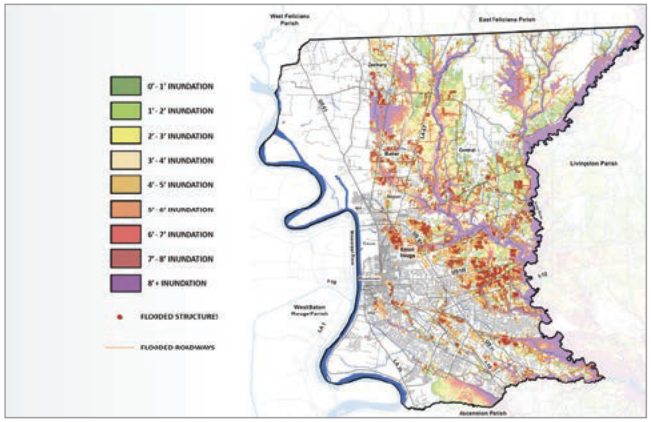
- **Flood Risk Mitigation Solutions and Grant Funding** – Proposed and analyzed cost-effective flood mitigation solutions, including Benefit-Cost Analysis (BCA). Submitted and secured over $60 million in grant funding for constructing critical stormwater infrastructure improvements within the City.
- **FEMA Community Rating System (CRS) Flood Insurance Discounts** – Identified over 1200 FEMA Community Rating System points, improving CRS Class from 7 to 5, now providing its residents with a 25% discount on flood insurance, a saving nearly $1 million/year.
- **Flood Risk Identification and Communication** – Identified key flood risks and vulnerabilities within the City. Developed online GIS interactive maps and conducted Bi-Annual Drainage Summits to communicate information and updates and built trust with residents.
- **Regulatory Improvements for Effective Floodplain Management** – Developed more accurate flood hazard areas and elevations to promote flood-smart development. Developed an Offsite Drainage Assessment (ODA) tool using the 2D hydraulic models to ensure new development and construction activities do not increase flood risks.
- **Flood Forecasting System for Emergency Preparedness** – Created a real-time, fully automated flood forecasting system (EarlyFloWS) using stream gauges, weather radar, and hydraulic models to predict flooding with street-level precision viewable through online GIS. Provides officials, emergency responders, and the community with detailed advanced warnings to enhance emergency response capabilities, reduce damages, and save lives.
- **Living Data and Hydraulic Model Management** – Maintain GIS database to track infrastructure improvements. Maintain GIS database to track infrastructure improvements. Continuous management and update of the 2D hydraulic models based on the Offsite Drainage Assessment Program, infrastructure improvements, and updated LiDAR.

Firm Members: Stokka Brown, Spencer Johnson, Henry McCall

17. FIRM EXPERIENCE

Firm Name	CSRS, LLC	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**East Baton Rouge Stormwater Master Plan**	Firm responsibility (prime or sub?)	Sub
Project number	217102	Owner's name	HNTB Corporation
Project location	East Baton Rouge Parish, LA	Owner's Project Manager	Melissa Kennedy, PE
Owner's address, phone, email	450 Laurel Street Suite 1200 Baton Rouge, LA | 225.368.2845 | makennedy@hntb.com		
Services commenced by this firm (mm/yy)	12/17	Total consultant contract cost ($1,000's)	$1,000
Services completed by this firm (mm/yy)	04/22	Cost of consultant services provided by this firm ($1,000's)	$1,000

The 2016 widespread flooding in East Baton Rouge Parish exposed the need to address flooding on a local as well as regional basis. The City of Baton Rouge and Parish of East Baton Rouge selected HNTB Corporation with its partner CSRS to assist in the development of a Parish Stormwater Master Plan.



The Stormwater Master Plan has identified and evaluated the existing drainage system, prioritized improvements to the system, developed concept level designs, and estimated capital and operational costs. The master plan also addressed modifications or additions to the stormwater system necessary to improve water quality.

CSRS worked with HNTB to develop design criteria and methodology to support the development and application of the 2D HEC-RAS models. CSRS led a team of engineers which developed 2D HEC-RAS models and used them to perform high-level and detailed benefit cost analyses (BCAs) to understand how and when the parish should move forward with projects to mitigate flood damages now and in the future.

Additionally, CSRS led the teams' efforts in evaluating and updating the City- Parish's ordinances and codes, including coordinating and meeting with stakeholders to update development standards to reduce flood risk and include more sustainable solutions. The recommended updates included Updated Rainfall Design Depths, Floodplain Conveyance Zones, Floodplain Fill Mitigation Updates, Updated Finished Floor Elevation, Through-site Drainage Overland Flow Conveyance Check, Internal Drainage Overland Flow Conveyance Check, Multi- stage Detention, First Flush, and Stream Setbacks. As part of this effort, CSRS developed 2 mapping products. The Community Defined Flood Elevation which more accurately identifies flood risk and design elevation compared to the FEMA models and the Floodplain Conveyance Zone which requires development within these areas to under an advanced analysis using the 2D hydraulic models to ensure the proposed development creates no off-site drainage impacts.

Firm Members: Stokka Brown, Spencer Johnson, Brandon Campo

17. FIRM EXPERIENCE

Firm Name	**La Terre Engineering LLC**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**Grand Bayou Freshwater Reintroduction Project**	Firm responsibility (prime or sub?)	Sub
Project Number	N/A	Owner's Name	Lafourche Parish Government
Project Location	Gray, LA	Owner's Project Manager	Morgan Degruise, PE (Prime)
Owner's address, phone, email	197 Elysian Drive, Houma, LA | 985.219.1062 | mdegruise@gisy.com		
Services commenced by this firm (mm/yy)	02/23	Total consultant contract cost ($1,000's)	$750
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm ($1,000's)	$100

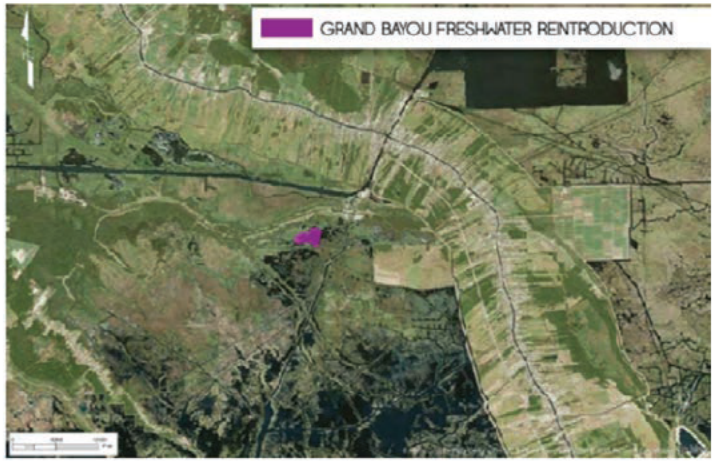
The Grand Bayou Freshwater Introduction Phase II and III aims to increase the flow of fresh water from the Atchafalaya River down to the Grand Bayou Canal via the Gulf Intracoastal Waterway. This increase in freshwater flow will reduce salinity in the Grand Bayou and surrounding marsh areas and preserve the integrity of essential marsh habitats in the region. The project will increase the flow of freshwater, redirect freshwater from Grand Bayou Canal into the marshes east and west of Grand Bayou Canal; creating 112 acres of fresh marsh; and nourish an additional 14 acres of intermediate marsh west of Grand Bayou Canal near Highway 24. LTE is part of the design team responsible for Phase II and Phase III of the project. Phase II and III includes the following:

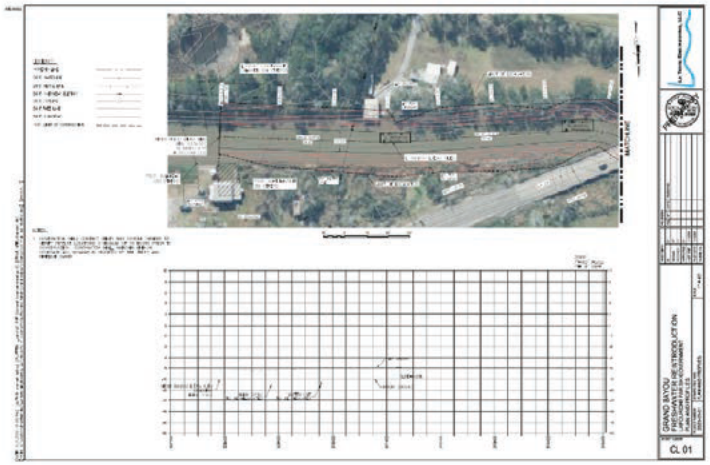
- Assist with hydrologic modeling: Including development of model scenarios needed for delineation of marsh areas of interest, hydraulic boundaries, proposed dredging and spoil placement and identifying water control structures.
- Data collection and analysis.
- Develop model geometry.
- Perform scour analysis and revetment recommendations
- Prepare 100% engineering and design package

Relevance to Project Scope:

- Hydraulic and Hydrologic Analysis
- Scour Analysis

Firm Members: Seneca Toussant, Lyle Tynes, Roman Hundley





17. FIRM EXPERIENCE

Firm Name	**La Terre Engineering LLC**	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**Steep Bayou Watershed Flood Prevention Plan**	Firm responsibility (prime or sub?)	Sub
Project Number	N/A	Owner's Name	Boeuf River Soil and Water Conservation District
Project Location	Rayville, LA	Owner's Project Manager	Andy Newman (Prime)
Owner's address, phone, email	1905 Aldrich Street, Austin, TX 78723 | andy.newman@stantec.com		
Services commenced by this firm (mm/yy)	10/21	Total consultant contract cost ($1,000's)	Unknown
Services completed by this firm (mm/yy)	08/23	Cost of consultant services provided by this firm ($1,000's)	$43

La Terre Engineering LLC (LTE) is providing engineering and watershed planning services as part of the Environmental Assessment and Watershed Plan development for the Boeuf River Soil and Water Conservation District for the Steep Bayou Watershed Project as part of the NRCS Small Watershed Program. The project consists of evaluating alternatives to increase drainage capacity to Steep Bayou and will include dredging, snagging and streambed rehabilitation to improve drainage into Bouef River for the watershed containing 36,400 acres. LTE tasks include developing hydrologic and hydraulic modeling, development of alternatives, alternative cost estimates and preparation of benefit cost analysis

Relevance to Project Scope:

- Hydraulic and Hydrologic Analysis
- Flood Control Structure Analysis

Firm Members: Seneca Toussant, Lyle Tynes

17. FIRM EXPERIENCE

Firm Name	La Terre Engineering LLC	Discipline(s)*	Other (Hydrology & Hydraulics)
Project name	**Louisiana Watershed Initiative White Castle Drainage Improvements** |	Firm responsibility (prime or sub?)	Prime
Project number	24MTR17702	Owner's Name	Iberville Parish Government
Project location	White Castle, LA	Owner's Project Manager	John Clark
Owner's address, phone, email	58050 Meriam Street, Plaquemine LA, | 225.685.7415 | jclark@ibervilleparish.com		
Services commenced by this firm (mm/yy)	02/22	Total consultant contract cost ($1,000's)	$290
Services completed by this firm (mm/yy)	02/24	Cost of consultant services provided by this firm ($1,000's)	$180

LTE provided engineering and grant preparation services to Iberville Parish for the White Castle Drainage Improvements project. The White Castle Canal serves as major drainage lateral for the rural portion of Iberville Parish and the Town of White Castle. The 4.5 mile canal conveys storm runoff from local residences, farms and businesses to Lake Natchez.

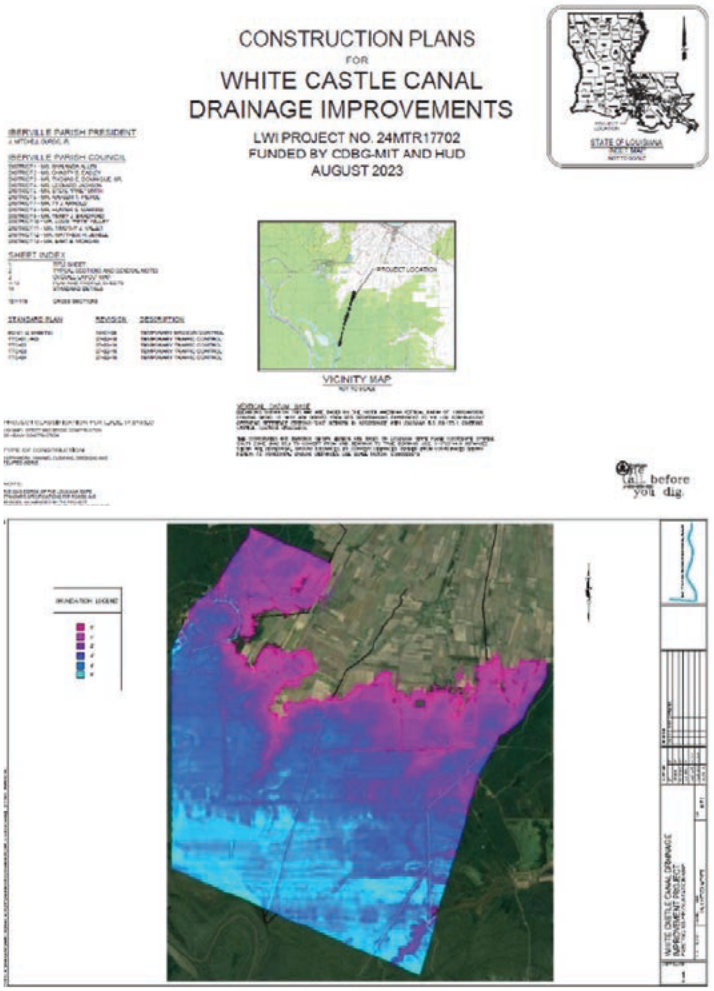
This project consists of the removal of accumulated sediment for approximately 4.5 miles of the channel bottom and immediate adjoining side slope to match historical grade lines. The project includes the removal of siltation above historical channel bottom grade lines and settled eroded materials on the bottom of the channel and the disposal of all excavated soils. LTE's services included the following:

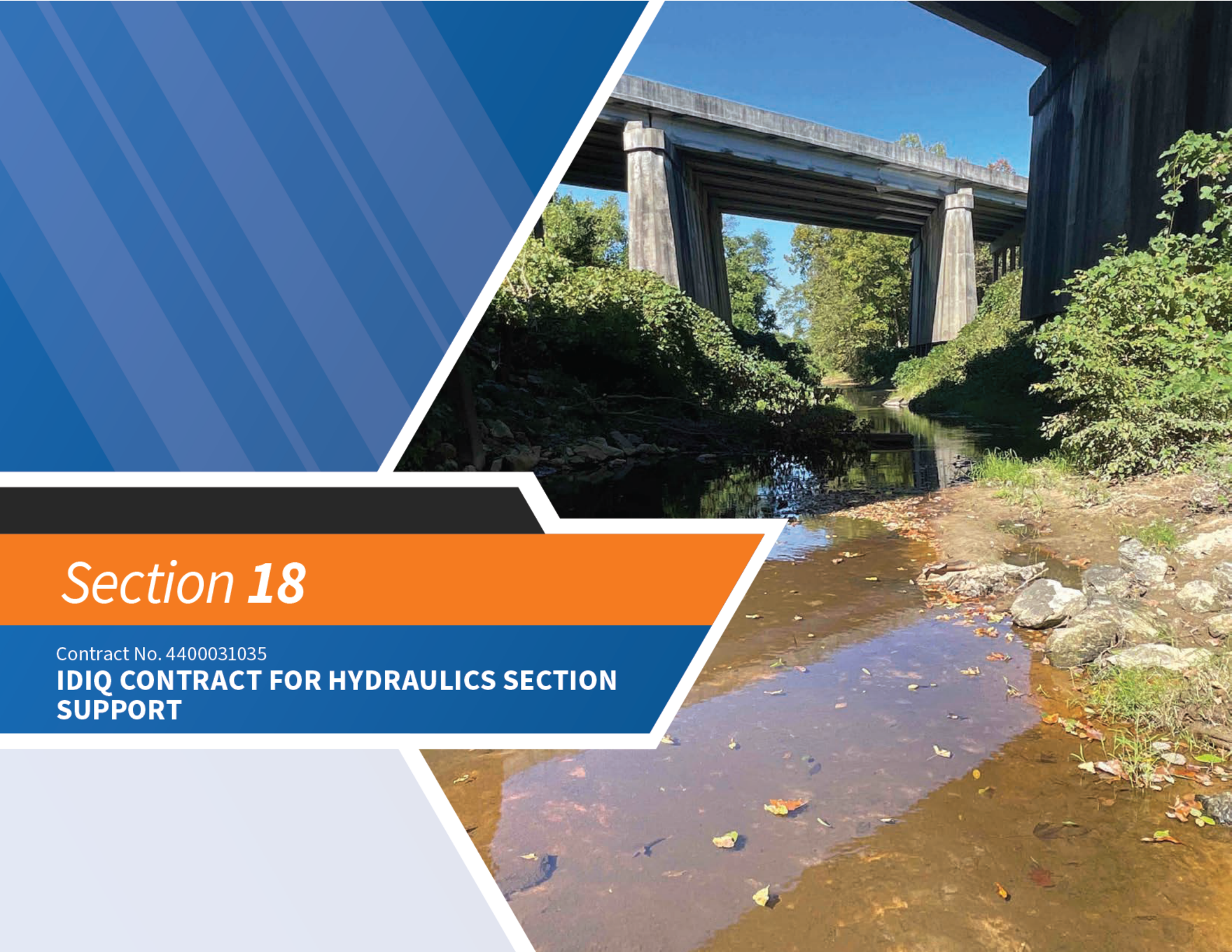
- Hydraulic and Hydrologic Analysis
- Benefit Cost Analysis
- Environmental Review & Permitting
- Preliminary and Final Design
- Construction Administration

Relevance to Project Scope:

- Hydraulic and Hydrologic Analysis
- Preliminary & Final Design
- Construction Administration

Firm Members: Seneca Toussant, Lyle Tynes





Section 18

Contract No. 4400031035

IDIQ CONTRACT FOR HYDRAULICS SECTION SUPPORT

18. APPROACH & METHODOLOGY:

Neel-Schaffer, Inc. (NSI) is a multi-disciplined engineering and planning firm that was founded in 1983 and is today one of the largest private, employee-owned engineering firms in the South, with over 650 employees working out of 40 offices across nine states. *Engineering News-Record* has listed NSI among the nation's Top 500 Design firms for more than two decades, with that ranking reaching 202nd in 2024.

NSI has a long-established strong presence in Louisiana, with offices in Baton Rouge, Lafayette, New Orleans, and Mandeville.

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

NSI is proficient and experienced in a variety of water resources projects. We have provided local and state agencies with expertise and experience in **flood plain management, flood control, storm water management/modeling studies, hydrologic and hydraulic (H&H) analyses, and Flood Insurance Study updates and map revisions**. In the last 30 years, we've built on this experience by investing heavily in talented professionals that are well-versed in H&H modeling, analyses, engineering and design.

Previous Hydraulics work for LADOTD

NSI has a well-established track record in delivering H&H analysis and drainage design for LADOTD. The following project list highlights some of NSI's recent drainage design services for LADOTD projects.

- H.015226: US 90: Roundabout a LA 101 (includes detention design)
- H.013897 I-10 & I-12 College Drive Flyover Ramp Design Build, Baton Rouge, LA
- H.014366: LA 621: Realignment @ LA 73
- H.001779 Jimmie Davis Design Build
- H.009425.5: LA 16: N 2nd Street to LA 445 (includes 2D modeling for subsurface design)
- H.015568.5 LA 44: Pelican Point Roundabout and Widen
- H.004634: LA 1026 (Juban Rd) Widening
- H.010108.1 Independence Phase 2
- H.010616: I-20: LA 544 Overpass Replacement
- H.014366 LA 621: Realignment @ LA 73
- H.011235.5 I-49 South at Verot School Road
- H.009425.5; LA 16: N 2nd Street to LA 445
- H.010616 I-20 at 220 Interchange Improvement & BAFB Design-Build
- H.016158 LA 182: US 90 – Greenwood St. Overpass

Approach & Methodology

Scoping and Execution of Task Orders

NSI utilizes a discipline-led internal structure that promotes work sharing across the company, ensuring qualified professionals are available for each task and providing ongoing coordination and additional capacity for on-call contracts. We have over 600 employees throughout the Southeast, including 35 dedicated water resource engineers and 12 ASFPM Certified Floodplain Managers (CFM).

Our successful hydraulic project and on-call contract experience with LADOTD and DOTs across the Southeast—such as ALDOT, ARDOT, GDOT, MDOT, SCDOT, and TDOT—demonstrates our ability to allocate resources for numerous large-scale task orders, manage multiple subcontractors, deliver consistent, high-quality results, and mitigate schedule risks.

NSI's Project Manager for this contract, Sarah McEwen, will focus on routine communication with LADOTD while managing the scopes, schedules, and budgets. Sarah has proven experience working with the LADOTD Public Works group on complex hydraulics projects through the Louisiana Watershed Initiative. Additionally, she serves on the Transportation Research Board (TRB), Member - Standing Committee on Hydrology, Hydraulics, and Stormwater - AKD50.

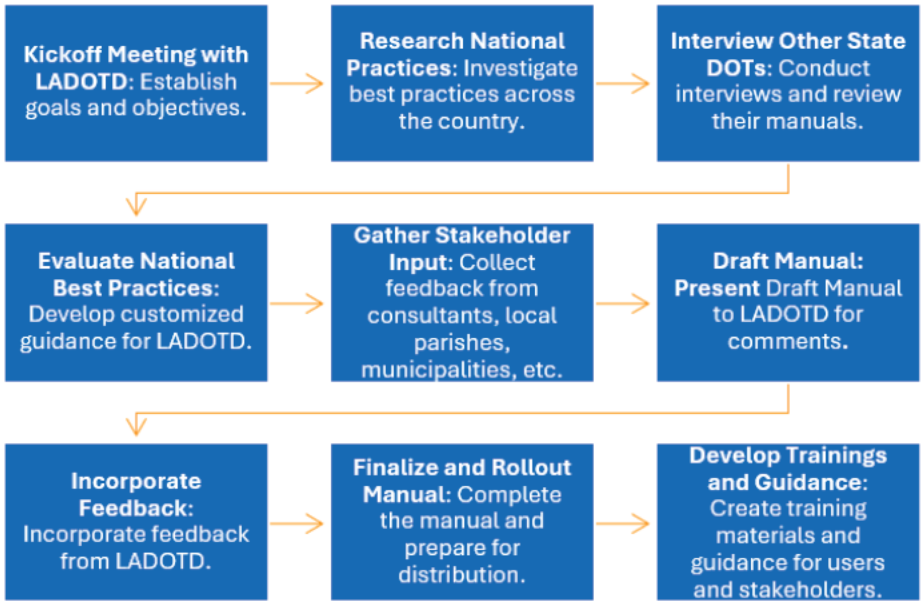
Our Subject Matter Expert (SME) for H&H, Mike Phillips, who has 23 years of H&H engineering experience and serves as NSI's H&H Technical Lead, will oversee all H&H engineering-related assignments. He will coordinate closely with our Project Manager, Deputy Project Manager, supporting staff, and subcontractors to identify appropriate methodologies and personnel needed to address drainage and flooding issues. **Mike has direct experience working with GDOT and TDOT on Drainage Manual Revisions and Policy Updates.**

18. APPROACH & METHODOLOGY:

Hydraulic Manual Revisions

An important task in this contract will be to update the current LADOTD Hydraulics Manual (2011). From our previous experience working with DOTs across the southeast on hydraulics manual revisions, we know that this requires a structured plan that addresses goals, tasks, timelines, resource allocation, and quality standards. NSI is prepared to assist LADOTD with research, policy development, processes, and instructional material for the revisions and related documents.

At the onset of revising the Manual, the NSI Team will collaborate with LADOTD to define the objectives and scope. This includes identifying specific goals such as updating technical content, improving clarity, complying with new regulations, and determining whether the revisions will be comprehensive or targeted updates to specific sections.



Our team of Subject Matter Experts will conduct preliminary assessments to review the existing manual, compare it with desired outcomes, identify and prioritize sections for revision, and evaluate compliance with federal and industry standards. Input will be gathered from the department and users to inform the revision process. We will then develop the content, implement the revision process, and gather feedback on potential improvements.

To accomplish this, NSI has selected key staff and additional resources that have substantial knowledge and experience working on policy, guidelines, and processes, including document management and communication for implementation. Some unique examples of technical writing and document control experience from the NSI Team include: Co-chaired the ADDS Committee that established plan standards and subsequently the development of the Plan Presentation Guide and the Electronic Data Guidelines, GDOT Design Policy Manual, AASHTO Green Book (2011 & 2018 Editions), GDOT Drainage Design for Highways, NPDES and MS4 Guidelines, Construction Standards and Details, Special Provisions, GDOT QC/QA Manual, Practical Design Training Modules (for Roadway Design Disciplines), ACEC/CRC Design Policy Subcommittee (Chapter 13 of DPM), and Processes for Consultant Procurement.

NSI Project Manager Sarah McEwen co-authored Chapter 15, titled "Coastal Hydraulic Design," in the TXDOT Hydraulic Design Manual (2019).

Team member CSRS has worked with local clients to update stormwater design and floodplain management regulations. These include updated rainfall depths in design criteria, new regulatory layers using the updated H&H models, and Offsite Drainage Assessment (ODA) program which requires new development in a conveyance zone to show no impact using the updated H&H models.

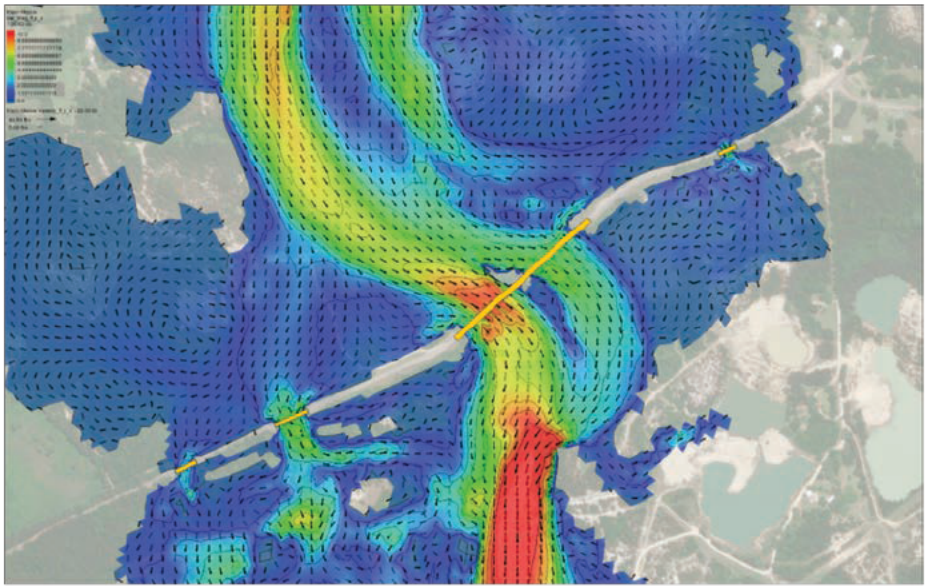
1D & 2D Watershed Modeling

NSI has vast expertise in watershed modeling and analyses for projects of varying sizes and complexities. Moreover, our team members offer LADOTD trusted partnerships, having collaborated on some of the largest watershed modeling projects in the state. Our key partners, Freese and Nichols and Dewberry, successfully led the Louisiana Watershed Initiative (LWI) Modeling Contracts in Regions 2 and 7, respectively, following the August 2016 flood. Prior to this, Dewberry worked with LADOTD to develop the Amite River Basin Numerical Model (ARBNM) which served as a pilot study for LWI.

The Region 2, 7, and Region 9 LWI modeling included advanced calibrated 1D and 2D hydrologic and hydraulic watershed-scale modeling for multiple HUC8 watersheds covering over 11,000 square miles. This included modeling several hundred roadways and associated embankments, culverts, and bridges in both 1D and 2D. In addition to leading the watershed modeling development for Region 7 and Region 9, Dewberry provided quality control reviews for both Region 1 and Region 6, totaling modeling and quality control services for over 40% of the state of Louisiana.

18. APPROACH & METHODOLOGY:

While the approach for 1D and 2D watershed modeling may vary for each project, our team has a deep understanding of the modeling technologies and complexities of the flooding sources within the state. Utilizing the existing LWI HEC-RAS models, our team can update the models to reflect changes in updated topography or new hydraulic structures, and can utilize the models to assess the effectiveness of flood mitigation measures. The models' capabilities have been demonstrated by a series of proof of concept projects evaluated as part of the LWI scope. The proof of concept projects evaluated for LWI include localized detention, drainage improvement projects such as channel and culvert improvements, a regional scale pump station, and regional scale detention on the Upper Amite River. The LWI models and results have also been leveraged for more advanced applications. As an example, our team utilized the Amite River watershed model to assess channel restoration solutions along degraded portions of the Amite River, and incorporated sediment transport modeling for both with and without project conditions.



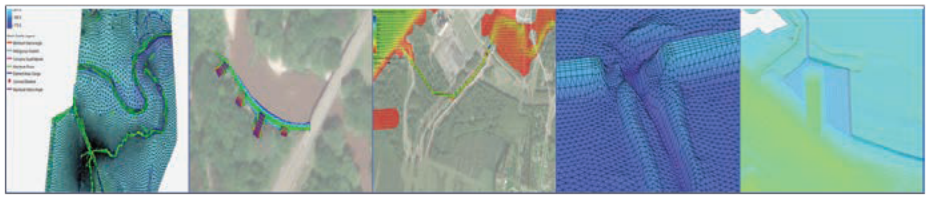
Sediment modeling was conducted along the Amite River in both HEC-RAS and SRH2D to assess channel restoration mitigation measures.

NFIP/FEMA Analysis

NSI's water resource team includes 12 CFMs with extensive expertise in performing and technically reviewing NFIP no-rise applications for local municipalities and other DOTs across the Southeast. Additionally, our team members Dewberry and Freese & Nichols have collaborated directly with LADOTD on previous State of Louisiana Cooperating Technical Partners (CTP) Programs. This hands-on experience in implementing the FEMA NFIP Risk MAP program with LADOTD and FEMA Region 6 enhances the NSI Team's depth and capacity for any task orders related to NFIP or FEMA analyses. NSI conducts an internal CFM course designed to keep all staff updated on the latest guidelines and practices from FEMA and NFIP. By hosting this course internally, NSI ensures that all staff members are not only knowledgeable but also capable of implementing the most current and effective floodplain management practices. This helps maintain high standards of service and compliance within the organization.

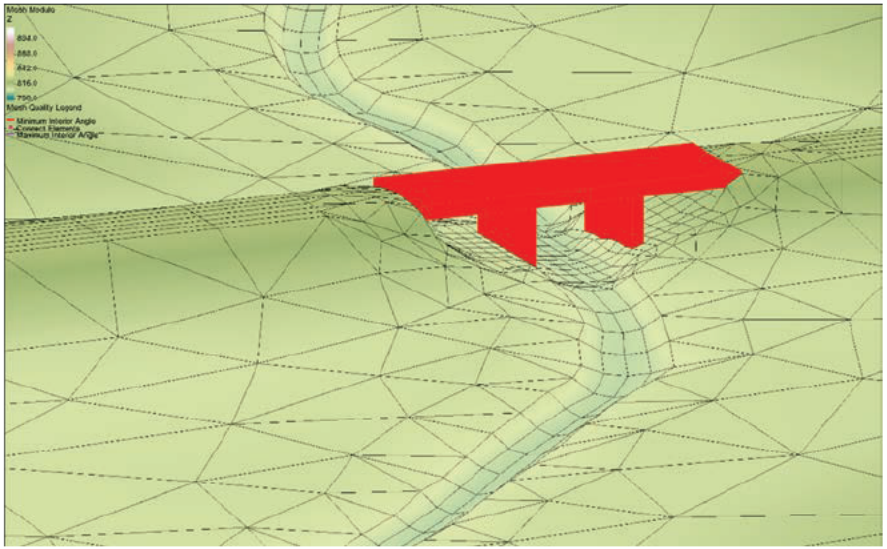
2D Bridge Hydraulic Modeling

NSI is very familiar with the latest techniques employed to analyze bridge hydraulics and scour, including 2D Hydraulic Modeling with SRH-2D/SMS, as well as 1D/2D modeling with HEC-RAS, HEC-18 equations, and standard procedures for evaluating bridges within FEMA Special Flood Hazard Areas that required Conditional Letters of Map Revision. NSI staff have developed custom tools to perform HEC-18 scour calculations, and we are proficient in all the latest hydrologic and hydraulic computer models, including HEC-RAS, HEC-GeoRAS, SMS/SRH-2D, HY-8, HEC-6, CivilStorm, CulvertMaster, PCSWMM, EPA-SWMM, InfoSWMM, MIKE URBAN, HEC-HMS, HEC-GeoHMS, StormCAD, PondPack, FlowMaster, HEC-2, WSPRO, HEC-1, Hydroflow, HYDR Program, and GIS-based applications for hydraulics and hydrology.



SRH-2D Computation Mesh Examples

18. APPROACH & METHODOLOGY:

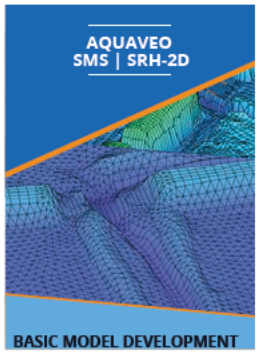


SRH-2D Bridge Model completed by NSI

HEC RAS and SRH-2D take different approaches to how the underlying surface is turned into a computational mesh. HEC RAS uses a "high resolution subgrid model" approach. Within SRH-2D's mesh, the cell faces are all straight lines between the cell vertices and cell areas are constant. Cell elevation values are sampled at the geometric center of the cell. Our understanding of how the underlying terrains are interpreted into the mesh cells ensures that we can convert across software, different calculation methods, and modeling approaches.

Our Project Manager, Sarah McEwen, has led multiple 2D Bridge Hydraulic Modeling projects. **She has also used her expertise to provide training to NSI staff, TXDOT, and MDOT staff in bridge modeling with SRH-2D/SMS.**

In addition, NSI has developed internal Standard Operating Procedures (SOPs) for model development using Aquaveo's SMS/SRH-2D.

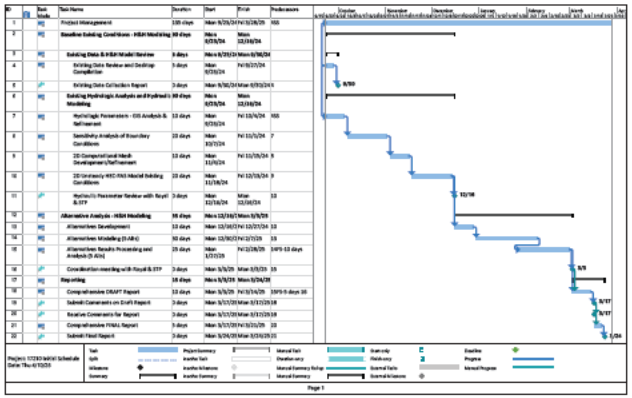


NSI Internal SMS/SRH2D SOP

General Hydraulics

The nature and complexity of drainage-related challenges that arise on LADOTD's roadway system require special expertise, not only in the field of H&H engineering, but also in a wide range of disciplines. The NSI Team has experience modeling the unique conditions of limited topography and tidal influences associated with South Louisiana. Additionally, we have a proven history of providing roadway drainage design services to LADOTD and for Louisiana Parishes.

In order to provide total solutions to these challenges, NSI will call on our additional resources, within our own company and from our subconsultants. NSI's objective is to carefully identify the unique scope of each Task Order that may arise, execute necessary studies, and provide LADOTD with practical solutions as quickly as possible. With this objective in mind, NSI has designed our org chart so that we have experienced engineering leaders and a deep bench of resources available and prepared to work on a wide range of unique scope items related to roadway hydraulics and hydrology, and with the expectation to deliver multiple projects simultaneously.



Example Watershed Modeling Project Schedule.

Client Satisfaction

NSI has been selected repeatedly by LADOTD for on-going retainer contracts over the past twelve years. In addition, NSI has been selected for multiple, consecutive, three-year Engineering Services IDIQ contracts by CPRA. These are prime indicators of our firm's excellent performance on public contracts and NSI's reputation as a consultant of choice by public agencies.

Conclusion

This project approach along with the of key personnel, support staff, and projects presented in this proposal show that our team possesses all the skills, experience, and knowledge to execute the anticipated scope of work included in this contract. Our team has the institutional knowledge, multidisciplinary staff, and support facilities to deliver all the resources necessary to meet and exceed LADOTD's needs. We look forward to the opportunity to show firsthand the quality that our team can provide.

Sections ***19-23***

Contract No. 4400031035

IDIQ CONTRACT FOR HYDRAULICS SECTION SUPPORT

19. WORKLOAD:

Firm(s)	Past Performance Evaluation Discipline(s)*	Contract Number & State Project Number	Project Name	Remaining Unpaid Balance**
Neel-Schaffer, Inc.	Planning	SPN 736-99-1548	Travel Demand Model Support Services Statewide (PRIME)	$47,790
	ITS	4400010428 EWL 3 / H.004774.5 / H.007300	Kansas Lane: Garrett Road Connector and I-20 Improvements (SUB)	$805
	Planning	4400015733 / H.972374.1	Local Public Agency Documented Planning Process, Statewide	$85,032
	Road	4400017293 / H.010616	I-20: LA 544 Overpass Replacement	$26,300
	ITS	440005459 / H.004780.5	Kansas Lane Connector, S.A. #6	$5,234
	ITS	4400016364 / H.013256.6	I-10 ITS Scott to Lake Charles Technical Support Services During Construction	N/A
	ITS	4400016364 / H.011504.5	Alexandria ITS Phase 2	N/A
	Traffic	4400017438 / H.013284	MRB South GBR: LA 1 to LA 30 Connector, Ascension, EBR, Iberville & WBR	$138,585
	Traffic	4400018271 / H.014746.1	LA 383 Corridor Study (on hold and should not count as backlog)	$13,195
	Traffic	4400018271 / H.014746.5 / SA #2	LA 383 Corridor Study (on hold and should not count as backlog)	$59,915
	Planning	4400018271 / H.014746.1	LA 383 Corridor Study (on hold and should not count as backlog)	$94,106
	Planning	4400021094	Update Statewide Transportation Plan and Travel Demand Model	$7,638
	Traffic	4400026458 / H.014710.5	Cedar Street Ext. to LA 22 and Roundabout	$37,151
	Road	4400024927 / H.015226.5	US 90: Roundabout at LA 101	$76,146
	Traffic	4400025299 / H.013421.5	Dist. 02H Flashing Yellow Arrow Part 2	$243,256
	Traffic	4400025299 / H.015645.5	LA 47 Hayne Blvd Safety Improvements	$77,783
	Traffic	4400025299 / H.016168.1	Baton Rouge Northern Bypass Expressway	$641,816
	Road	4400024927 / H.014366.5	LA 621 Realignment at LA 73	$337,398
	Traffic	4400024927 / H.014366.5	LA 621 Realignment at LA 73	$71,101
	Traffic	4400023689 / H.013622.5	LRSP Ardenwood Dr. Road Diet	$43,813
	Planning	4400023689 / H.013622.5	LRSP Ardenwood Dr. Road Diet	$5,318
	Road	4400023689 / H.013622.5	LRSP Ardenwood Dr. Road Diet (awaiting NTP for design and should not count as backlog)	$91,133
	Road	4400024927 / H.009425.5	LA 16: N 2nd St. to E. of Duncan Ave.	$159,175
	Traffic	4400025299 / H.015986.5	I-49 at LA 3233 (Harry Gilbeau Road) Traffic Study	$109,566
	Road	4400028434 / H.015568.5	LA 44: Pelican Point Roundabout and Widen	$153,864
	Traffic	4400023689 / H.015574.5	LCG FYA Signal Improvements Phase 2	$299,434
	Traffic	4400028585 / H.014516.5	Mills Ave & Rees St Intersection IMP	$130,932

19. WORKLOAD:

Firm(s)	Past Performance Evaluation Discipline(s)*	Contract Number & State Project Number	Project Name	Remaining Unpaid Balance**
Dewberry Engineers Inc.	Survey	2000660906 / 2000412071	GIS support for Statewide Topographic Mapping Program	$1,200,000
	Other (Hydrology & Hydraulics)	440001067	LWI Region 1, Task Order 4	$96,000
	Other (Hydrology & Hydraulics)	4400017092	LWI Region 6, Task Order 4	$42,000
	Planning	4400027092 / H.016254.1	LA DOTD Transportation Resilience Improvement Plan (January 2025)	$1,008,175
	Other (Hydrology & Hydraulics)	4400017093 / 2000842889	LWI Region 7, Task Order 4	$1,250,000
Freese and Nichols, Inc.	Other (Hydrology & Hydraulics)	4400017068 / 2000856676	LWI Region 2 Modeling – Task Order 4	$693,368
	Other (Hydrology & Hydraulics)	4400023102 / H.015042.1	TO1 – Bayou Cocodrie Structure Modification	$307,928
	Other (Hydrology & Hydraulics)	4400027092 / H.015869	Vernon Lake Repair	$654
	Other (Hydrology & Hydraulics)	4400027092 / TBD	HHPD Grant Support	$78,928
	Other (Hydrology & Hydraulics)	4400027092 / H.016254.1	Statewide Transportation Resilience Plan	$799,934
	Other (Hydrology & Hydraulics)	4400027092 / 2000894039	LADOTD Response to SCR 79	$14,162
	Other (Hydrology & Hydraulics)	4400027092 / H.016058.5	D'Arbonne Dam Rehabilitation	$247,080
CSRS, LLC	Other (Infrastructure)	4400027182 / H.016012.1	Design of Transportation Alternatives Program TO 1 Order 1	$19,041
	Other (Infrastructure)	4400021094 / N/A	State Transportation Plan & Transportation Travel Demand Model	$375,711
	Other (Resilience)	4400027876 / H.015223.1	Inter-City Rail Program Projects Statewide	$79,585
	Environmental	4400026365 / H.015223.2	BR-NO Passenger Rail Corridor Environmental Study	$92,407
	Other (Infrastructure)	N/A / H.001779	Jimmie Davis Bridge (LA 511) (HBI) Design-Build Project	$297,358
	Right-of-Way	N/A / H.001779	Jimmie Davis Bridge Additional Wetlands Delineation	$27,891
La Terre Engineering LLC	Planning	4400025921 / H.015938	Indefinite Delivery/Indefinite Quantity Contract for Transportation Systems Management and Operations (TSMO) Program	$25,808

19. WORKLOAD:

Firm(s)	Past Performance Evaluation Discipline(s)*	Contract Number & State Project Number	Project Name	Remaining Unpaid Balance**

20. CERTIFICATIONS/LICENSES:

SEE ATTACHED

Certificate of Completion

presented to

Nick Ferlito

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

Nick Ferlito

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

Nick Ferlito

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

Certificate of Completion

presented to

Dishili Young

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
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Certificate of Completion

presented to

Dishili Young

for completing the

Traffic Engineering Analysis Process & Report
Module 2

Date: March 10, 2021
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor

Authorized Instructor

Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Certificate of Completion

presented to

Dishili Young

for completing the

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
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

21. QA/QC PLAN:

N/A

22. SUB-CONSULTANT INFORMATION:

Firm Name (Name must match as registered with Louisiana's Secretary of State)	Address	Point of Contact and email address	Phone Number
Dewberry Engineers Inc.	9026 Jefferson Highway Suite 302 Baton Rouge, LA 70809	Sam Crampton, PE scrampton@dewberry.com	404.308.1286
Freese and Nichols, Inc.	900 Camp St., Suite 354, New Orleans, LA 70130	Jim Keith, PE, CFM Jim.Keith@freese.com	214.217.2372
CSRS, LLC	8555 United Plaza Blvd., Suite 100 Baton Rouge, LA 70809	Stokka Brown, MS, PE, CFM stokka.brown@csrsinc.com	225.761.3648
La Terre Engineering LLC	343 Third Street, Suite 511B Baton Rouge, LA 70801	Seneca Toussant, PE stoussant@laterre-eng.com	228.960.1160

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.