



Statement of Qualifications | Contract Nos. 4400035420, 4400035421, and 4400035422

IDIQ Contracts for Bridge Preservation Services Statewide

SUBMITTED BY:

Hardesty & Hanover, LLC

3850 N. Causeway Blvd, Suite 1625

Metairie, LA 70002

T: 504.962.9212

SUB-CONSULTANTS:

APS Engineering & Testing, LLC

Bridge Diagnostics, Inc.

Survey & Mapping, LLC

Providence Engineering and Environmental Group LLC

Urban Systems, Inc

KTA-Tator, Inc.

Moffit & Nichol Inc.

June 2026



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Louisiana Department of Transportation and Development
Consultant Contracts Services

June 26, 2026

Re: Contract Nos. 4400035420, 4400035421, and 4400035422 IDIQ Contracts for Bridge Preservation Services Statewide

Dear Selection Committee Members:

Hardesty & Hanover (H&H) is submitting our qualifications to DOTD to provide bridge preservation services under this IDIQ contract. We are proud of our long history working in Louisiana, dating back to 1896 with the historic Waddell A-Truss Bridge over Cross Bayou in Shreveport. As a leader in engineering, our firm brings a legacy of providing engineering excellence for 139 years. H&H has the full capability, availability, and extensive engineering experience to perform all contract services required. We have identified a large pool of qualified engineers and inspectors that will meet project schedule and achieve the goals of each Task Order assigned under this IDIQ. Our extensive experience will aid in maintaining safe, reliable, and sustainable infrastructure for our fellow Louisiana residents and stakeholders.

Proven Bridge Engineering Services: H&H's proven team of qualified bridge engineers and inspectors are capable, local, experienced, professional, and readily available. Our team of highly experienced specialists have provided departments of transportation with decades of comprehensive bridge engineering services for all types of fixed and movable bridges. From complex design, in-depth inspection, special assessments, and repair design services to peer review, emergency response, and O&M manuals development, we've dedicated our careers to maintaining and building bridge facilities that are reliable, efficient, and meet our clients' best interests and all applicable codes.

Subconsultants: The H&H Team includes subconsultants with extensive experience in their specialty areas. APS Engineering & Testing, LLC providing geotechnical services; Bridge Diagnostics, Inc. providing non-destructive testing; SJB Group, L.L.C (now Survey and Mapping, LLC (SAM)) providing surveying services; Providence Engineering and Environmental Group LLC providing environmental engineering and permitting; Urban Systems, Inc providing traffic engineering services; KTA-Tator, Inc. providing protective coating assessments; and Moffit & Nichol providing any underwater inspections. We have successfully delivered projects in partnerships with these subconsultants.

DOTD Experience: Our team brings comprehensive experience using DOTD standards and specifications with several team members working at DOTD for over 25 years and/or working on prior DOTD projects. Our thorough familiarity with DOTD procedures and design standards enables us to work accurately and efficiently. Together, we bring proven engineering services; successful delivery of similar, concurrent projects on time and on budget; resources that exceed the MPR requirements; and a roster of qualified professionals in all disciplines with availability to begin work immediately. H&H appreciates the opportunity to work with DOTD on this IDIQ contract. Please do not hesitate to contact us if additional information on our extensive qualifications is needed.

Sincerely,

A handwritten signature in black ink that reads "Babak Naghavi".

Babak "Bobby" Naghavi, PE, PH, PhD
Project Manager and Point of Contact
504.605.7940
bnaghavi@hardestyhanover.com

DOTD FORM: 24-102

PROPOSAL TO PROVIDE CONSULTANT SERVICES

(Revised August 11, 2025)

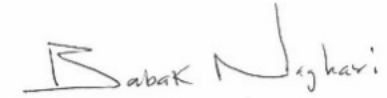
Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 23 can be removed but do not remove Section title and number.

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 Contracts for Bridge Preservation Services Statewide
2. Contract Number(s) as shown in the advertisement	4400035420, 4400035421, and 4400035422
3. State Project Number(s), if shown in the advertisement	N/A
4. Prime consultant name (name must match <u>exactly</u> as registered with the Louisiana Secretary of State (SOS) where such registration is required by law; including punctuation; <u>include screenshot from SOS at the end of Section 20</u>)	Hardesty & Hanover, LLC
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.0005124
6. Prime consultant mailing address	3850 N. Causeway Blvd. Ste. 1625 Metairie, LA 70002
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	3850 N. Causeway Blvd. Ste. 1625 Metairie, LA 70002
8. Name, title, phone number, and email address of prime consultant's contract point of contact	Babak "Bobby" Naghavi, PE, PH, PhD, Regional Manager 504.605.7940 bnaghavi@hardestyhanover.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	Babak "Bobby" Naghavi, PE, PH, PhD, Regional Manager 504.605.7940 bnaghavi@hardestyhanover.com

10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.

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:

June 30, 2026

Date:

11. If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.

Firm(s):

No DBE goal has been set for this contract

Firm(s)' %:

12. Discipline Table:

Discipline(s)	% of Overall Contract	Prime: H&H	APS Eng. & Testing	Bridge Diagnostics	SAM, LLC, formerly SJB Group	Providence Eng. & Env. Group	KTA-Tator	Urban Systems	Moffit & Nichol	Each Discipline must total to 100%
Road	2%	100%								100%
Bridge	86%	93%		5%			1%		1%	100%
Geotech	3%		100%							100%
Survey	3%				100%					100%
Traffic	2%							100%		100%
Environmental	4%					100%				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%	82%	3%	4%	3%	4%	1%	2%	1%	
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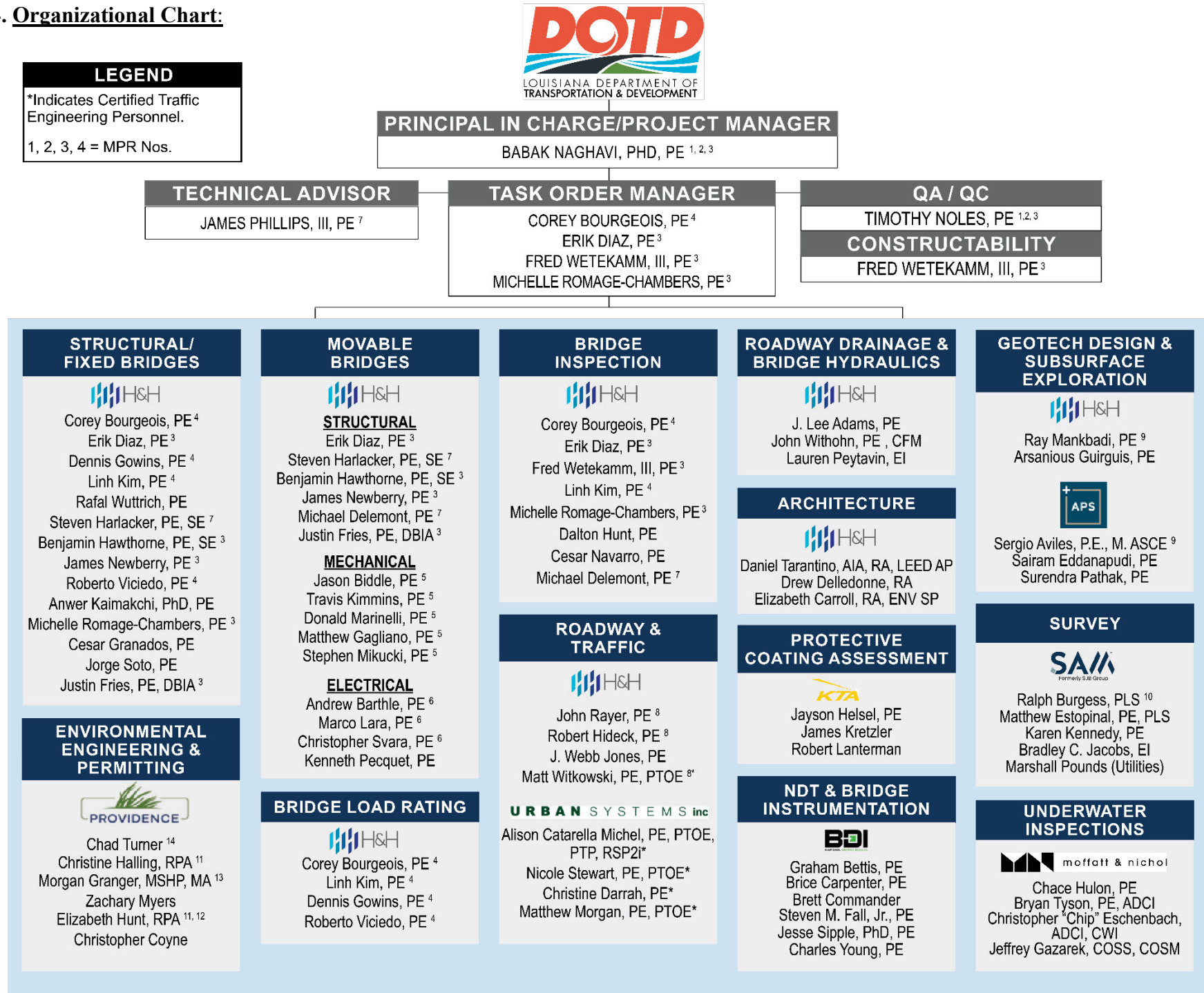
13. Team Size:

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
Hardesty & Hanover, LLC 	Principal	3	5
	Supervisor - Eng	12	16
	Engineer	18	30
	Engineer - Other	5	10
	Engineer Intern	6	12
	Supervisor - Architect	1	2
	Architect	2	3
	Administrative	1	2
APS Engineering & Testing, LLC 	Engineer	2	3
	Engineer Intern	1	1
	CADD Technician	1	2
	Senior Technician	2	3
	Inspector	1	1
	Clerical	1	2
Bridge Diagnostics, Inc. 	Accountant	2	3
	Administrative	1	1
	Clerical	2	2
	Computer Analyst	3	3
	Engineering-Aide	3	3
	Engineer Intern	3	8
	Engineer	3	3

	Engineer - Other	3	7
	Principal	1	2
	Professional	2	4
	Senior Technician	4	4
	Supervisor - Eng	2	2
	Supervisor - Other	4	12
	Technician	3	5
SAM, LLC formerly SJB Group, LLC 	Surveyor	2	5
	Technician	2	5
	Party Chief	2	5
	Instrument Man	2	5
	CADD Drafter	1	6
	Rodman	1	1
	Supervisor - Other	2	2
	Senior Technician	2	5
	Project Office Manager	1	1
	CADD Technician	2	2
	CADD Operator	2	2
	Principal	1	1
Providence Engineering and Environmental Group LLC 	Environmental Manager	1	2
	Biologist/Wetlands	1	4
	Archaeologist	2	4
	Archaeologist-Tech	1	2
	Supervisor - Eng	2	2

Urban Systems, Inc U R B A N S Y S T E M S inc.	Engineer	1	2
	Engineer Intern	2	3
	CADD Technician	1	2
	Inspector	0	1
	Engineering-Aide	2	3
KTA-Tator, Inc. 	Supervisor - Other	2	10
	Principal	1	2
	Clerical	1	4
Moffit & Nichol Inc.  moffatt & nichol	Principal	1	7
	Administrative	1	4
	CADD Technician	1	15
	Engineer	2	39
	Engineer Intern	3	10
	Inspector - Bridge	6	35
	Senior Technician	1	13
	Supervisor - Eng	2	11

14. Organizational Chart:



15. Minimum Personnel Requirements:

MPR No. Do not insert wording from ad	Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR/ certification & number (Ex: PE # - Civil)	State of license	License / certification expiration date
1	Babak Naghavi, PE, PH, PhD	Hardesty & Hanover, LLC	PE #20745 – Civil Engineer, Environmental Engineer	LA	09/30/2026
1	Timothy Noles, PE	Hardesty & Hanover, LLC	PE #31675 – Civil Engineer	LA	09/30/2027
2	Babak Naghavi, PE, PH, PhD	Hardesty & Hanover, LLC	PE #20745 – Civil Engineer, Environmental Engineer	LA	09/30/2026
2	Timothy Noles, PE	Hardesty & Hanover, LLC	PE #31675 – Civil Engineer	LA	09/30/2027
3	Babak Naghavi, PE, PH, PhD	Hardesty & Hanover, LLC	PE #20745 – Civil Engineer, Environmental Engineer	LA	09/30/2026
3	Timothy Noles, PE	Hardesty & Hanover, LLC	PE #31675 – Civil Engineer	LA	09/30/2027
3	Frederick Wetekamm, III, PE	Hardesty & Hanover, LLC	PE #25369 – Civil Engineer, Environmental Engineer	LA	03/31/2028
3	Michelle Romage-Chambers, PE	Hardesty & Hanover, LLC	PE #50677 – Civil Engineer	LA	03/31/2028
3	Erik Diaz, PE	Hardesty & Hanover, LLC	PE #37712 – Civil Engineer	LA	09/30/2027
3	Benjamin Hawthorne, PE, SE	Hardesty & Hanover, LLC	PE #44620 – Civil Engineer, Structural Engineer	LA	09/30/2026
3	James Newberry, PE	Hardesty & Hanover, LLC	PE #45742 – Structural Engineer, Civil Engineer	LA	09/30/2027
3	Justin Fries, PE, DBIA	Hardesty & Hanover, LLC	PE #41405 – Civil Engineer	LA	09/30/2027
4	Linh Kim, PE	Hardesty & Hanover, LLC	PE #47527 – Civil Engineer	LA	09/30/2027
4	Dennis Gowins, PE	Hardesty & Hanover, LLC	PE #24468 – Civil Engineer	LA	09/30/2027
4	Corey Bourgeois, PE	Hardesty & Hanover, LLC	PE #42362 – Civil Engineer	LA	09/30/2026

4	Roberto Vicedo, PE	Hardesty & Hanover, LLC	PE #36533 – Civil Engineer	LA	03/31/2028
5	Stephen Mikucki, PE	Hardesty & Hanover, LLC	PE #44849 – Mechanical Engineer	LA	03/31/2027
5	Travis Kimmins, PE	Hardesty & Hanover, LLC	PE #43676 – Mechanical Engineer	LA	03/31/2028
5	Don Marinelli, PE	Hardesty & Hanover, LLC	PE #43538 – Mechanical Engineer	LA	09/30/2027
5	Jason Biddle, PE	Hardesty & Hanover, LLC	PE #43431 – Mechanical Engineer	LA	09/30/2027
5	Matthew Gagliano, PE	Hardesty & Hanover, LLC	PE #37500 – Mechanical Engineer	LA	03/31/2027
6	Andrew Barthle, PE	Hardesty & Hanover, LLC	PE #34062 – Electrical Engineer	LA	03/31/2027
6	Chris Svara, PE	Hardesty & Hanover, LLC	PE #44080 – Electrical Engineer	LA	03/31/2028
6	Marco Lara, PE	Hardesty & Hanover, LLC	PE #44115 – Electrical Engineer	LA	03/31/2028
7	James Phillips III, PE	Hardesty & Hanover, LLC	PE #25091 – Civil Engineer	LA	03/31/2027
7	Steven Harlackner, PE, SE	Hardesty & Hanover, LLC	PE #37057 – Civil Engineer; Structural Engineer	LA	09/30/2026
7	Michael Delemont, PE	Hardesty & Hanover, LLC	PE #43170 – Structural Engineer	LA	09/30/2027
8	John Rayer, PE	Hardesty & Hanover, LLC	PE #47089 – Civil Engineer	LA	03/31/2027
8	Rob Hideck, PE, DBIA	Hardesty & Hanover, LLC	PE #41953 – Civil Engineer	LA	03/31/2028
8	Matt Witkowski, PE	Hardesty & Hanover, LLC	PE #41787 – Civil Engineer	LA	09/30/2027
9	Ray Mankbadi, PE	Hardesty & Hanover, LLC	PE #41609 – Civil Engineer	LA	09/30/2027
9	Sergio Aviles, P.E., M. ASCE	APS Engineering & Testing	PE #33571 – Civil Engineer	LA	03/31/2028
10	Ralph Burgess, PLS	SAM LLC, previously SJB	PLS 5040 – Professional Land Surveyor	LA	09/30/2026

11	Elizabeth Hunt, RPA	Providence Engineering and Environmental Group LLC	RPA# 17020		
11	Christine Halling, RPA	Providence Engineering and Environmental Group LLC	RPA# 34906365		
12	Elizabeth Hunt, RPA	Providence Engineering and Environmental Group LLC	RPA# 17020		
13	Morgan Granger	Providence Engineering and Environmental Group LLC	N/A		
14	Chad Turner	Providence Engineering and Environmental Group LLC	N/A		

16. Staff Experience:

	Firm Employed by	Hardesty & Hanover, LLC		
	Name	Babak Naghavi, PhD, PE, PH	Years of relevant experience with this employer	9
	Title	Regional Manager	Years of relevant experience with other employer(s)	35
Degree(s) / Years / Specialization		PhD / 1993 / Civil Engineering / Louisiana State University MS / 1982 / Civil Engineering / Louisiana State University BS / 1979 / Civil Engineering / Louisiana State University		
Active registration number / state / expiration date		Professional Engineer: 20745 / LA / 9/30/2026 Professional Hydrologist: 95-H-1121 Certifications: Maintenance and Rehabilitation of Historic Bridges (LADOTD); NEPA Transportation Decision Making Workshop; Work Zone Traffic Control Supervisor/Flagger; NHI 130053 Safety Inspection of In-Service Bridges Refresher; NHI 133091 Underwater Bridge Inspection; NHI 130099A Bridge Inspection Nondestructive Evaluation		
Year registered	1983	Discipline	Civil and Environmental Engineering	
Contract role(s) / brief description of responsibilities		Principal in Charge / Project Manager – Meets MPR 1, 2, and 3		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Project Manager for inspection, scoping, design, and construction-related engineering services (CRES) for five movable bridges in the LADOTD Movable Bridge Rehabilitation Program. Managed full structural, mechanical, electrical, and architectural rehabilitation to extend service life, improve load capacity, and bring systems into current code compliance. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior’s Standards. Services included NBIS inspections, load ratings, NDT, strain gage testing, scope and report development, environmental and geotechnical coordination, TMP development, PS&E production, permit coordination, construction cost estimating, shop drawing and RFI review, on-call construction support, and full mechanical/electrical system testing and commissioning.			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Project Manager for the movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects include Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Tech Swing Bridge. Bobby oversaw design coordination, project meetings, plans/specifications production, bid support, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			
06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Project Principal supervising inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller’s Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.			
01/19 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Project Principal for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Blvd to provide a facility carrying three lanes of traffic in each direction. The new bridge is constructed as an independent structure adjacent and north of the existing bridge with a new operator house. The project includes rehabilitation of the existing four-lane			

	bridge with three lanes of traffic and a new pedestrian/bike lane. In addition to the new bridge design, all roadway approaches and intersections in the bridge vicinity (eastbound and westbound) will be redesigned to accommodate the new structure. Scope includes development of a Traffic Control Plan.
01/20 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Project Manager for the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Ave Bridge, a movable Strauss-heel trunnion bridge that crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H's 2019 assessment of the circa-1920 bascule bridge involved a structural inspection of the fracture critical steel, primary and secondary steel members, an electrical inspection of the electrical systems and controls, and a mechanical inspection of the machinery. The assessment revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. The road design services included a new alignment for the connecting road, along with all associated drainage structures. Additional remedial efforts along Almonaster Ave Bridge also included the improvement or replacement of the original fixed roadway approach spans. The sharp curve that existed on westbound Almonaster Ave was demolished, and a new road was constructed on an improved alignment. H&H developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.
03/18 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Project Manager for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.
11/24 – Present	SR 33 Bridge Replacements, Franklin County, MS – Mississippi DOT Project Manager for the Phase A Final Right-of-Way (ROW) Plans for roadway design and roadway hydraulic design for four bridge replacements along SR 33 (Bridge Nos. 31.9, 34.6, 34.9, and 35.3). The project scope includes roadway realignment, roadway hydraulic design, preliminary ROW design, and final ROW design. H&H is providing the realignment of the roadway to run parallel to the existing and redesigning of one intersection at the end of the project. A hydraulic study and report are to be completed to resize the existing pipes, if necessary, and to verify sizing for a reinforced box culvert. A set of preliminary ROW plans are to be created following MDOT guidelines and using the approved alignment from MDOT. Final right-of-way plans will be delivered after hydraulic design and roadway design have been finalized and a plan set has been created.
06/17 – Present	H.002798.6 Bayou Teche Movable Bridge at Oaklawn, St. Mary Parish, LA – LADOTD Project Manager responsible for design, calculations, and plan preparation of the bridge power distribution and relay-based control system for this movable bridge located in St. Mary Parish, LA. The new through steel girder swing-span rotates with hydraulically actuated slewing (push-pull) cylinders. H&H is currently providing construction phase services for the project.
05/13 – 02/17	Glen Oaks Dr (Plank Rd to McClelland Dr) – Baton Rouge DPW Project Manager for the \$10M engineering design and construction of a three-lane concrete curb and gutter roadway with sidewalks and subsurface drainage on Glen Oaks Dr from Plank Rd to McClelland Drive. Glen Oaks Dr was a one-mile existing Urban Collector roadway. The project also included improvements to several intersections, full topographic survey, subsurface drainage system and outfalls, and hydrologic & hydraulics analysis for the outfalls.
01/09 – 08/10	USACE Contract. W912P8-07-D-0055: Causeway Blvd Overpass Complex – USACE Project Manager for this project that involved the design of north and south roadway approaches for the overpass structures at Causeway Blvd located at Jefferson Parish, LA. The scope of work included precast concrete piles; cast-in-place pile bent caps and concrete decks; approach slabs; and a storm-water drainage pumping station. This project was designed to LADOTD specifications.

	Firm Employed by Hardesty & Hanover, LLC			
	Name	Timothy Noles, PE	Years of relevant experience with this employer	42
	Title	Principal	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		B.S. / 1984 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 31675 / LA / 9/30/2027		
Year registered	2005	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Quality Assurance / Quality Control Manager (QA/QC) – Meets MPR 1, 2, and 3		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
12/19 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Technical Advisor / Quality Control Manager for the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Ave Bridge, a movable Strauss-heel trunnion bridge that crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H’s 2019 assessment of the circa-1920, eligible for the National Register of Historical Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. Developed necessary design plans to replace the span drive and span lock machinery, operating strut, guide assembly, live load bearings, counterweight trunnion pin, and bushing.			
07/16 – 9/21	SR A1A North Bridge Replacement, Fort Pierce, FL – Florida DOT Technical Advisor for the planning and design of a new high-level fixed bridge carrying SR A1A and the East Coast Greenway over the Intracoastal Waterway, FEC Railroad, and Old Dixie Highway. Scope included staged construction to maintain traffic, elimination of at-grade rail crossing, design of new roadway alignments and access roads, and integration of an observation deck. H&H coordinated extensively with utilities, FEC Railroad, adjacent businesses, and permitting agencies. The project also included geotechnical, drainage, hydrogeology, lighting, signals, signage, and maintenance of traffic for both vehicular and marine users.			
01/19 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Technical Advisor for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Blvd to provide a facility carrying three lanes of traffic in each direction. The new bridge is constructed as an independent structure adjacent and north of the existing bridge with a new operator house. The project includes rehabilitation of the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane. Scope includes improvements to bridge and roadway approaches for eastbound and westbound traffic as well as development of a Traffic Control Plan.			
04/17 – Present	I-395 Segmental Bridges, Miami, FL – Florida DOT Project Manager for the design of the superstructure and performing the load ratings. H&H is designing seven new precast segmental bridges that are a part of the SR 836 / I-95 / I-395 corridor upgrade. This design-build project is being constructed by the Archer Western-De Moya Joint Venture. The overall construction value of the project is \$800 million, and the segmental bridges have a deck area of 700,000 square feet (approximately \$200 million). Construction is scheduled to be completed in late 2027.			
08/16 – 06/18	I-75 SB Exit Design from S of Bypass Canal to EB/WB, Tampa, FL – Florida DOT Technical Advisor responsible for project oversight of plans preparation and engineering documentation. This two-mi. roadway improvement project included the addition of a new auxiliary lane for southbound I-75 from south of the Bypass Canal to the southbound off-ramp and widening the I-75 southbound off-ramp from one to two lanes. A unique aspect of the design approach was the incorporation of this design into a long-term buildout of the interchange. This project was expedited for construction based on no right of way acquisition or impacts to Florida Gas Transmission lines.			

08/20 – Present	H.001498.6; LA 24 and LA 16 Company Canal Vertical Lift Bridge, Bourge, LA – LADOTD Technical Advisor / Quality Control Manager ensuring consistent performance by the construction engineering and inspection staff throughout the term of the project, including services for a new vertical lift bridge and operator's house. Monitoring construction activities; reviewing construction engineering inspection field records and reports; determining compliance with field testing methods and results; maintaining records of contractual operations, pay estimates and progress reports; preparing final estimate packages; conducting construction progress meetings; and construction close-out.
02/08 – 12/10	SR-5/US-1 Parker Bridge over ICWW, Palm Beach, FL – Florida DOT Principal-in-Charge/Lead Design Engineer for construction management at-risk project which included in-depth inspection, condition report with load ratings, and rehabilitation recommendations. The project also included preparation of structural, architectural, mechanical, and electrical plans to rehabilitate this Hopkins Trunnion twin double-leaf bascule span bridge. The \$8 million rehabilitation included hydraulic machinery retrofit, electrical system improvements, control house 2nd story addition, bridge widening, as well as roadway and embankment improvements.
01/15 – 03/17	Broad Causeway Bridge over ICWW, Bay Harbor Islands, FL – City of Bay Harbor Islands Principal-in-Charge for the project involving construction inspection for three bridges including a 1630-foot bascule span bridge. Scope included maintenance of traffic, roadway work, and bascule span rehabilitation including cathodic protection for the approach bridges substructure for \$14 million.
09/07 – 01/09	SR-814/Atlantic Boulevard Bridge, Pompano Beach, FL – Florida DOT Principal-in-Charge/Lead Design Engineer for this \$5 million Construction Management Risk to rehabilitate a Hopkins Trunnion double-leaf bascule span bridge. The project included hydraulic machinery retrofit; electrical system improvements, control house modifications, and bascule span structural steel rehabilitation and bridge railing replacement.
04/12 – 04/16	Boca Grande Causeway Swing Bridge Replacement, Placida, FL – Gasparilla Island Bridge Authority Technical Advisor/Quality Control Manager for the design of the replacement of a structurally deficient swing span bridge located on the Boca Grande Causeway. The fixed portion of the bridge utilized Florida I-beam girders founded on hammerhead pier caps and cast in place footings with 24-inch precast concrete piles. The project also included the installation of a permanent steel sheet pile bulkhead wall with cast in place concrete caps. Construction of critical temporary sheet pile walls required for phased construction, and a total of 0.24 miles of roadway construction.
01/19 – 12/24	SR 605 Movable Bascule Bridge Rehabilitation, Ocean Springs, MS – Mississippi DOT Technical Advisor / Quality Control Manager for the assessment, design, plan review, and quality control of SR 605 double-leaf bascule bridge, as a task-order to the IDIQ Master Bridge Contract which included developing standard and special bridge services, statewide for MDOT. Work included inspection and rehabilitation of structural, mechanical, and electrical bridge components, roadway approaches and development of maintenance and repair plans. All designs were in accordance with AASHTO, FHWA and MDOT guidelines and specs.
08/10 – 08/19	Bayou Teche Bridge at Oaklawn, St. Mary Parish, LA – LADOTD Principal-in-Charge providing inspection, engineering design, and post-design services for new Bayou Teche Bridge at Oaklawn project. Built in 1941 to carry LA Route 323 over Bayou Teche, the original bridge is being replaced with a new hydraulically operated swing bridge. H&H provided the electrical design for the bascule bridge in line with LADOTD's design requirements and standard design details. This bridge replacement project included new traffic signals, gates, and a barrier system design which were provided by LADOTD's roadway, structural, and mechanical designers.
08/08 – 08/13	Judge Seeber Vertical Lift Bridge, New Orleans, LA – LADOTD Technical Advisor /Quality Control Manager overseeing the task order involving the replacement of the vertical life bridge's entire electrical system, counterweight ropes, counterweight guides, and span locks in addition to miscellaneous structural repairs. Design work for this eligible for the National Register of Historic Places bridge was completed within three months to meet the FEMA funding deadline. The electrical system was replaced in-kind using secondary resistance control operated with a drum switch in accordance with LADOTD preference.

	Firm employed by		Hardesty & Hanover, LLC	
	Name	Frederick Wetekamm, III, PE	Years of relevant experience with this employer	8
	Title	Senior Project Engineer	Years of relevant experience with other employer(s)	32
Degree(s) / Years / Specialization			M.E. / 2018 / Construction Management B.S. / 1984 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 25369 / LA / 03/31/2028 Certifications: Maintenance and Rehabilitation of Historic Bridges (LADOTD); ATSSA Traffic Control Supervisor and Flagger; FHWA NHI #139005, FHWA NHI Course #130053 Bridge Inspection Refresher Training, Driven Pile Foundations – Construction Monitoring	
Year registered	1993	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Constructability Reviewer & Task Order Manager - Meets MPR 3	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Constructability Reviewer & Senior Project Engineer for the inspection, evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements.			
03/18 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Constructability Reviewer & Senior Project Engineer for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.			
06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Project Manager for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller's Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Constructability Reviewer & Senior Project Engineer supporting movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			

01/20 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Constructability Review Engineer for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Ave Bridge and a new connector road. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H's 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and the connecting roads were required to return this bridge to its full operating capability. The road design services included a new alignment for the connecting road including all drainage structures. H&H also developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design. Coordinated with Entergy New Orleans for ROW use for the new connector roads, USACE for reconstruction of the existing roadway over the floodwall, and CSX railroad for implementing a schedule for track time during construction.
11/15 – 03/18	S.P. No 006196 Wisner Bridge Replacement, Orleans Parish, LA – LADOTD Project Manager in responsible charge for contract administration, supervision of the Project Engineer, and LADOTD Certified Inspectors for construction inspection. This project scope was to replace the 1955 bridge with a new structure. The 1,500-foot-long new bridge consists of prestressed concrete pilings, with a combination of precast prestressed concrete girder spans and steel girder spans over I-610. Also coordinated with the Designer/Engineer of Record, the City of New Orleans, and the LADOTD Program Manager from the inception of the project to provide the most effective design to meet the current needs of the public utilizing the current LADOTD BDEM and LSSRB. The bridge provides a dedicated protected bike lane. The total cost for the project was \$22M.
09/22 – Present	H.013897.6 I-10 & I-12 College Dr Flyover Ramp Design- Build, Baton Rouge, LA – LADOTD Project Manager for design and construction quality control/quality assurance for this road and bridge design-build project which is located at the I-10 West exit to College Drive, in advance of the I-10 & I-12 West merge. H&H serves as Design-Builder's Construction Quality Control Firm (CQCF) and oversees all Design Quality Control and Construction Quality Control activities for the project. Responsibilities include the development and implementation of Comprehensive Quality Plan to ensure the design and construction conforms to all specified requirements. H&H will develop, maintain, and update Contractor Quality Management Plan and provide qualified Inspectors, material sampling, testing, independent testing labs to ensure contractors and off-site fabrication facilities meet project specifications and testing and acceptance of construction materials.
02/23 – Present	H.015028.6 Bayou Barataria Movable Bridge Replacement (CE&I), Phase 1, LA 302, Jefferson Parish, LA – LADOTD Project Engineer responsible for managing construction contract administration and construction engineering and inspection services for the Bayou Barataria Movable Bridge Replacement. This project consists of construction of the movable swing span bridge, operator's house, associated substructure elements, and pier protection system along relocated LA 302 in Jefferson Parish. Phase 2 consists of construction of new roadway alignment for LA45 to tie into LA 302 in Jefferson Parish. Assisted in coordination of utility location and relocations for Entergy, Cox, Jefferson Parish Water Dept. and Alpine Exploration (LNG lines).
01/96 – 12/07	LADOTD Bridge Maintenance Engineer, LADOTD District 2, LA – LADOTD Bridge Maintenance Engineer responsible for managing the program for Bridge Inspection, Operations and Maintenance Program, bridge operators, bridge repair crews, and bridge inspectors. The New Orleans Area has over 950 bridges (32 movable bridges), three tunnels, two navigation locks, and three drainage pumping stations. Was responsible for creating and distributing repair work orders to the appropriate personnel and coordinating the repairs, materials, equipment, labor, media information, and/or traffic control. Wrote major repair requests and generated project plans and specifications for repair projects and accident damages to the bridges for marine, vehicular and environmental damages. Served as the lead coordinator for the projects with LADOTD District and statewide forces, contractors, consultants, public officials, media, property owners, and the bridge maintenance supervisor. Provided construction inspection for his projects. Championed the first Bridge Operator Manual and the first Bridge Maintenance Manual for the movable bridges. Provided technical training to mechanics and electricians on implementing processes in the Manuals that increased the reliability and performance of the bridges. Aided the legal section providing documentation for the collection of reimbursements for repairs from accident damages to the movable and fixed bridges. Provided damage assessments (DIR) for federally reimbursed repairs from hurricanes and tropical storms. Has extensive experience with specialized traffic requirements for the bridge/tunnel couplets, District traffic and marine requirements for temporary bridge closures, and permit load crossings.

	Firm Employed by	Hardesty & Hanover, LLC		
	Name	Michelle Ramage-Chambers, PE	Years of relevant experience with this employer	2
	Title	Lead Bridge Engineer	Years of relevant experience with other employer(s)	29
Degree(s) / Years / Specialization		M.S. / 2008 / Civil Engineering B.S. / 2000 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 50677 / LA / 03/31/2028 Certifications: FHWA NHI-130055 Safety Inspection of In-Service Bridges		
Year registered		Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Task Order Manager, Senior Structural/Fixed Bridge Engineer, & Bridge Inspector – Meets MPR 3		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
05/23 – 05/24	Routine Bridge Inspections, Statewide, TX – TxDOT Dallas, Fort Worth, Corpus Christi, and Atlanta Districts Project Engineer & Bridge Inspector who assisted on multiple routine bridge inspections in Frisco, Texas. Michelle also served as team leader on 40 routine on-system inspections for the Atlanta District. In addition, she assisted with load ratings and reports. These efforts were part of the TxDOT Routine Bridge Inspection contract providing bridge inspection and load rating services throughout the State of Texas.			
06/13 – 03/15	Northbound & Southbound FM 973 at the Colorado River Bridge, Travis County, TX – TxDOT Austin District Bridge Engineer for this metro project which included two separate structures on FM 973. Michelle managed the design for both structures and designed prestressed concrete beams, concrete substructure, and drilled shafts for the northbound structure. Her team designed the southbound structure for the additional load of a waterline.			
12/08 – 10/14	US 281 at the Colorado River Bridge, Marble Falls, TX – TxDOT Austin District Design Project Manager and Demolition Designer for the replacement of a functionally obsolete steel deck truss bridge with two new segmental bridges. Michelle managed all aspects of plans, specifications, and estimates for the twin structures through the 100% submittal. She coordinated the efforts of the following disciplines: geotechnical, utilities, roadway, drainage, and bridge design. The bridge was to be demolished by explosives within 5 ft. of one of the new structures. Michelle prepared for the unexpected, ensuring a snoopier truck was on site with a crew during the demolition so that the new structure could be inspected immediately. The snoopier crew patched a damaged wastewater line before it became a problem for the hundreds of local citizens and a story for the onsite press.			
03/15 – 08/18	UPRR Overpass at LP 82, San Marcos, TX – TxDOT Austin District Assistant Area Engineer who coordinated construction activities with Texas State University, the City of San Marcos, and UPRR and supervised the construction inspection for the project. This project included a new railroad grade separation, mechanically stabilized earth (MSE) walls, new railroad crossing on Post Rd., stormwater drainage system, sidewalks, aesthetics, and landscaping. The new railroad grade separation consisted of a curved continuous steel plate girder unit, post tensioned straddle bents, integral bent cap, and prestressed concrete girders.			
05/15 – 02/16	Fischer Store Rd. Bridge, Hays County, TX – TxDOT Austin District Project Manager/Bridge Engineer who conducted a site visit following the Memorial Day floods of 2015, which washed out the existing prestressed beam structure that spanned the Blanco River in Hays County. Michelle directed the design, assisted Hays County with obtaining Category 6 funding, and supervised the inspection of the construction of the new bridge. She developed a work plan, and she confirmed roadway and bridge teams understood the plan. The design added web walls and beam shear keys to protect the structure against similar floods in the future. The long detour created a hardship for the local citizens, causing a challenge. Michelle accelerated the design and construction schedule by maintaining the existing			

	alignment, using existing abutments and challenging the design team to complete the project design phase within two weeks. She requested the design team to require welded wire reinforcement for the bridge deck, prestressed precast caps, and prestressed beams to accelerate the construction schedule. The innovative design was completed within two weeks. The contractor constructed and opened the bridge within 80 days after letting.
03/14 – 04/14	FM 696 at Big Sandy Creek Bridge, Bastrop County, TX – TxDOT Austin District Bridge Design Engineer for this project which provided repair details to address a critical finding. Inspectors identified severe section loss in existing pile foundations during a routine inspection. Michelle developed repair details using channel sections to restore the piles capacity and concrete collars to prevent future deterioration.
11/15 – 10/19	RM 2244, Westlake, TX – TxDOT Austin District Assistant Area Engineer/Project Manager who coordinated multiple utility conflicts and resolutions with Austin Electric, AT&T, and city water lines. Michelle also coordinated with the City and local citizens to address concerns with trees, sight distance issues, and public preferences. This project involved the widening of RM2244 to a 5-lane roadway with shoulders. The project construction included signals, storm drains, sidewalks, MSE walls, soil nail walls, concrete retaining walls, and sidewalks.
05/15 – 12/17	Post Rd. at the Blanco River Bridge, Hays County, TX – TxDOT Austin District Assistant Area Engineer/Project Manager who managed the design and construction of this emergency replacement project for TxDOT Austin District. The Post Rd. bridge was a structure washed out by flooding. The bridge was located under UPRR's bridge and consequently in the railroad right-of-way. The design maintained the original slightly curved alignment and profile. Once the bridge hydraulic study was complete, Michelle selected the prestressed slab beam superstructure and developed an accelerated schedule for design completion. The greatest challenge for the bridge replacement was obtaining UPRR's consent. Michelle facilitated coordination with UPRR to get the railroad's approval of the Exhibit As. Unfortunately, it took two years to get the railroad's approval. Her experience, however, coordinating with the UPRR on this project was invaluable and guided her as she developed plans for the example project to stay clear of the railroad ROW, if at all possible. Michelle assisted the County with obtaining Category 6 funds and provided them with updates during design and construction. During construction, Michelle responded to RFIs, negotiated changes with the contractor, reviewed the schedule and approved construction pay estimates. For similar situations, a designer may consider providing a temporary structure to carry traffic such as a rail flat car until the new bridge can be built to reopen the roadway before construction is completed.
05/15 – 10/16	US 290 E Convict Hill Rd. to W Joe Tanner Ln., Austin, TX – TxDOT Austin District Assistant Area Engineer/Project Manager who supervised inspection staff, addressed construction issue, provided updated project information to the public, and inspected the new striping prior with inspection staff to ensure the newly striped intersection was opened on time. The project added a continuous left turn at the intersection of William Cannon Dr. and US 290.
07/12 – 09/12	FM 1977 at San Marcos River Bridge, Caldwell County, TX – TxDOT Austin District Bridge Design Engineer who designed a 200-ft., skewed prestressed concrete slab beam structure. Michelle developed geometry, beam designs, and bent caps designs. She provided primary bid and alternate bid details to accommodate steel H piles and prestressed concrete piles.
07/10 – 04/11	SH 71 at Riverside Dr., Travis County, TX – TxDOT Austin District Bridge Design Engineer who designed four prestressed beam structures over SH 71 at Riverside Dr. Michelle designed beams, special haunch details, bent caps, and drilled shafts. She assisted with RFIs during construction. The project lowered the main lanes of SH 71 to accommodate the new structures at Riverside Dr.

	Firm employed by		Hardesty & Hanover, LLC	
	Name	Erik Diaz, PE	Years of relevant experience with this employer	7
	Title	Senior Structural Engineer	Years of relevant experience with other employer(s)	11
Degree(s) / Years / Specialization			B.S. / 2008 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 37712 / LA / 09/30/2027 Certifications: NHI 130056 Safety Inspection of In-Service Bridges; Maintenance & Rehabilitation of Historic Bridges (LADOTD); NHI 130081 Load and Resistance Factor Design (LRFD) For Highway Bridge Superstructures; NHI 130078 Fracture Critical Inspection Techniques for Steel Bridges	
Year registered	2013	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Task Order Manager, Structural/Fixed Bridge Engineer, Movable Bridge Engineer, & Bridge Inspector – Meets MPR 3	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/25 – Present	H.013818 Golden Meadow Vertical Lift Bridge Rehabilitation, Golden Meadow, LA – LADOTD Project Manager for this inspection and rehabilitation project for a 200-foot-long steel vertical lift bridge. After performing an In-Depth inspection of the bridge is complete, a LRFR load rating will be performed based on the inspection findings. A recommended rehabilitation scope of work will be created and once approved by the client, the plans will begin development. This bridge is considered a Historic Preservation Priority bridge therefore the rehabilitation will need to take extra care in maintaining as much as possible of the appearance and function of the bridge to when it was first built.			
03/18 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Senior Structural Engineer for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Project Manager for several task orders under this movable bridge preservation and rehabilitation IDIQ contract. Services include mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			
06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Senior Bridge Engineer for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller's Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.			

01/20 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Bridge Engineer for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Ave Bridge and a new connector road. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H's 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and the connecting roads were required to return this bridge to its full operating capability. Erik provided the design of steel plate girders for the bridge. The road design services included a new alignment for the connecting road including all drainage structures. H&H also developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.
08/19 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Project Manager for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Blvd to provide a facility carrying three lanes of traffic in each direction in an urban area. The new bridge will be constructed as an independent structure adjacent and to the north of the existing bridge with a new operator house. The project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane, improvements to bridge and roadway approaches, and development of a Traffic Control Plan. Erik provided the design of steel plate girders for the bridge. All design work is in accordance with LADOTD Standards and Specifications and reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.
07/16 – 07/17	Two US-11 Bascule Bridges over Lake Pontchartrain Rehabilitation, Jefferson and St. Tammany Parishes, LA – LADOTD Senior Movable Bridge Structural Engineer for the comprehensive rehabilitation of one bascule bridge and replacement of another bascule bridge over Lake Pontchartrain. The work on this project included the inspection of old spans, the rehabilitation design development for the north bascule span and fender, as well as the design of construction plans for a new south bascule span.
12/17 – 11/18	Widening of I-12 Bridges in Livingston Parish, Livingston Parish, LA – LADOTD Bridge Engineer for this project located on the heavily traveled I-12 in Livingston Parish, LA. Existing bridge traffic was required to be maintained during construction. H&H designed reinforced concrete slab spans, PPC girder spans, and reinforced concrete pile bents. Detailed and created plans for slab spans, PPC girder spans, and reinforced concrete pile bents. H&H also provided construction support by reviewing submittals and responding to RFIs.
12/12 – 10/15	Houma Navigation Canal Bridge Rehabilitation, Houma, LA – LADOTD Structural Engineer responsible for performing bridge inspections to identify repairs for rehabilitation as well as providing bridge rating to identify areas for strengthening. Also, designed and detailed various elements for bridge rehabilitation.
08/15 – 07/19	Vermillion River Vertical Lift Bridges Rehabilitation, Vermillion Parish, LA – LADOTD Project Manager for the inspection, rating, and final rehabilitation recommendations report for two steel vertical lift bridges over the Vermillion River. The work on this project included inspection and load rating to identify components of the bridge to be rehabilitated and evaluation of various alternatives for strengthening the bridge and increasing vehicular vertical clearance. H&H produced engineers cost estimate for repairs, and prepared final report of recommendations.
05/19 – 08/19	Seabrook Bascule Bridge, New Orleans, LA – Port of New Orleans Project Manager for the construction of repairs to the concrete bent cap at the toe of the span. Work on this project included design of bent cap strengthening due to cracking at bridge bearing, tracking contractor progress and construction compliance with design plans. Preparation of final acceptance report upon completion of construction.
12/15 – 10/19	UPRR Angleton Bridge over the San Bernard River Replacement of Swing Bridge with New Vertical Lift, Sweeny, TX – UPRR Lead Senior Structural Engineer for the design and construction of a new through plate girder vertical lift bridge over the San Bernard River near Sweeny Texas. The project included design of new steel through plate girder vertical lift, bridge protection cell (dolphin), approach spans and construction management. Erik provided the design of steel plate girders for the bridge. Erik provided the design of steel plate girders for the bridge. This project also included emergency bridge repairs due to failure of bridge pier from scour produced by Hurricane Harvey flooding.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Benjamin Hawthorne, PE, SE	Years of relevant experience with this employer
	Title		Senior Structural Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			B.S. / 2005 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 44620 / LA / 09/30/2026	
Year registered	2011	Discipline	Structural Engineer	
Contract role(s) / brief description of responsibilities			Senior Structural Fixed & Movable Bridge Engineer – Meets MPR 3	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/20 – Present	Middletown Swing Railroad Bridge Rehabilitation, Middletown, CT – Connecticut DOT Project Manager for the rehabilitation of a 300-foot, single-track swing span, four 200-foot through truss approach spans, and a 60-foot through girder span. The structure serves Providence & Worcester Railroad customers in Portland, CT. Rehabilitation and repair details are based on results of an in-depth structural, mechanical, and electrical inspection and load rating of the structure. Structural repairs target primary members in poor condition and any elements that do not rate for a 286K carload. Additional work includes safety upgrades to the access system and fender system repairs. Swing span operating system rehabilitation includes replacement of low-torque high-speed mechanical equipment and upgrades to the electrical system.			
07/13 – 05/19	Sarah M. Long Vertical Lift Bridge, Kittery, ME – Maine DOT Movable Bridge Structural Engineer on joint-venture team for a complete vertical lift bridge replacement. Responsible for design of the steel box girder lift span and associated structural elements. Ben was involved in all phases of the project, providing design services for the preliminary design, final design, and design support during construction, including providing a preliminary design report, plans, design and design check computations, ratings, specifications, and estimates, for the replacement of the Sarah Mildred Long Bridge located on U.S Route 1 Bypass between Kittery and Portsmouth. The bridge carries Pan Am Railway and highway traffic and was designed in accordance with AREMA and AASHTO specifications.			
05/18 – 08/18	Cribari Swing Bridge over the Saugatuck River Rehabilitation, Fort Lauderdale, FL – Florida DOT Movable Bridge Project Engineer / Engineer of Record for a rehabilitation Studies Report of this historic swing bridge (the oldest movable span in Connecticut). Responsible for developing the preliminary structure type study and alignment alternatives in support of the Environmental Assessment. Structure type study included investigation of feasible alternatives and preliminary structural analysis of concepts. Assessed general structure dimensions to demonstrate visual impact of the alternatives to the public and other stakeholders.			
06/18 - 09/21	Replacement of Amtrak Bridge over the Connecticut River, Old Saybrook, Middlesex County, CT – Amtrak Project Engineer / Engineer of Record for the replacement of this bridge that carries 2-tracks of electrified rail. The existing through-truss approach spans and rolling lift bascule truss span will be replaced with a new offline structure comprised of girder approach spans and a 205 feet long fixed trunnion through truss bascule span. The new structure is designed in accordance with AREMA and Amtrak policies. Ben was responsible for leading the design and coordination of all aspects related to the movable bascule truss span – from the drilled shaft foundation to the overhead catenary system (OCS). The fixed trunnion bascule utilizes a passive transition joint in the OCS and its supports are integrated into the structural system. As Deputy Project Manager, Ben oversaw the completion of the Joint Permit Application and completion of the contract documents.			

01/17 – Present	East Haddam Swing Bridge over the Connecticut River Rehabilitation, Haddam, CT – Connecticut DOT Movable Bridge Project Engineer / Engineer of Record responsible for the preparation of load ratings and feasibility study reports in support of a rehabilitation of this 4-span truss swing bridge. The bridge, which opened in 1913 and has been posted on the National Register of Historic Places, carries two lanes of Route 82 traffic over the Connecticut River and includes a deck truss span, through truss span, and a 465-foot-long through truss swing span. Rated elements included gusset plates, pins, tension and compression members, truss chord box members subject to bending, floorbeams, and stringers. The structural feasibility study evaluated the addition of an external sidewalk to allow pedestrian access across the bridge, which has a narrow 24.5-foot roadway. Load rating and feasibility analysis included the use of AASHTOWare Bridge Rating software and the creation of a 3D computer model using Midas Civil finite element analysis software. Ben has remained involved in the rehabilitation project through preliminary and final design as a Senior Structural Engineer providing technical expertise and review of truss strengthening, floor system replacement, and cantilever sidewalk development.
12/11 – 01/13	Saugus Drawbridge Rehabilitation, Saugus, MA – Massachusetts Bay Transportation Authority Movable Bridge Structural Engineer responsible for analysis and design for this project involving comprehensive modeling, ratings analysis of as inspected conditions, real time structural monitoring, and strengthening of an existing pier compromised by extensive structural deterioration. Responsibilities included development of load rating methods to determine existing substructure capacity and design of an interim strengthening concept including a temporary pier to allow the bridge to remain in service at full capacity until a comprehensive replacement project can be undertaken. Temporary pier design included an integrated fender design that incorporated energy absorbing elements to provide adequate protection of the existing pier in a narrow footprint and in an area of poor soil conditions. As a sub-consultant on this project, it required cooperation of multiple parties to balance existing structural capacities, emphasis on rapid construction, and the need to maintain traffic prior to and during construction of the interim strengthening.
02/10 – 12/10	Fairhaven/New Bedford Swing Bridge Rehabilitation, New Bedford, MA – Massachusetts DOT Assistant Team Leader/ Movable Bridge Structural Engineer responsible for field inspection, report preparation, and structural and economic feasibility analysis of preliminary rehabilitation and replacement options for this thru-truss swing bridge. Developed truss chord member strengthening concepts including post-tensioning using high strength rods. This on-call task provided a Preliminary Structures Report for the movable segment of the Fairhaven/New Bedford Swing Bridge that carries Route 6 over the Acushnet River.
10/11 – 03/12	General Edwards Rolling Lift Drawbridge Emergency Inspection and Rehabilitation, Lynn, MA – Massachusetts DOT Assistant Team Leader/Movable Bridge Structural Engineer responsible for in-depth field inspection and report preparation of the two-span, four-leaf, rolling lift bridge and adjacent fixed span approach structures. A subsequent emergency inspection, required after deformation was noted in the rolling lift rack support, resulted in the design of a temporary strengthening system for the rack support columns.
12/09 – 01/10	Grand Avenue Swing Bridge Rehabilitation, New Haven, CT – City of New Haven Inspector/ Movable Bridge Structural Engineer responsible for field inspection, report preparation, and feasibility and economic analysis of preliminary rehabilitation and replacement options for this 220 foot-long, thru-truss swing bridge.

	Firm Employed by	Hardesty & Hanover, LLC		
	Name	James Newberry, PE, SE	Years of relevant experience with this employer	10
	Title	Movable Bridge Structural Engineer	Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization		M.S. / 2006 / Civil Engineering B.S. / 2006 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 45742 / LA / 09/30/2027		
Year registered	2011	Discipline	Structural Engineer, Civil Engineer	
Contract role(s) / brief description of responsibilities		Structural Fixed & Movable Bridge Engineer – Meets MPR 3		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/19 – Present	Beckett Bridge Replacement, Tarpon Springs, FL – Pinellas County Project Manager responsible for the replacement of an existing historic single-leaf bascule bridge with a new 360-foot-long bridge that includes a single-leaf, rolling-lift, bascule span. The bridge carries Riverside Drive over Whitcomb Bayou and features two traffic lanes and a sidewalk. The movable span is 60'-9" long from center of roll to tip of the leaf in the closed position, and features steel plate girder main girders and floor beam and an Exodermic deck that spans longitudinally between floor beams. The simply supported approach spans have a typical length of 60'-0" and consist of prestressed flat slab (standard Florida Slab Beams) with substructure abutment and pier caps that feature precast concrete elements to facilitate accelerated bridge construction. Foundations are drilled shafts and pipe piles, designed to accommodate challenging site conditions including a relict sinkhole under the bridge. Responsible as EOR for approach span substructure and foundations, and retaining walls. Engineer responsible for final design of bascule span structural elements including main girders, floorbeams, counterweight, and span balance. Project Engineer responsible for oversight and coordination of work for all disciplines, and delivery of project to the County.			
07/17 – 08/19	Pinellas County Movable Bridge Repairs, Pinellas County, FL – Florida DOT Project Manager responsible for the management of plans development for miscellaneous structural, mechanical, and electrical repairs to the Welch Causeway and Indian Rocks WB Bridges. Scope of repairs included repairs to bascule span structural steel, installation of new electrical equipment, and rehabilitation of machinery components. Also responsible for post design coordination, which included coordination of shop drawing reviews, plans revisions, and responding to RFIs from the contractor.			
08/16 – 02/17	Hillsborough River Vertical Lift Bridge Repair, Tampa, FL – Florida DOT Movable Bridge Structural Engineer responsible for the post-design services for vertical lift bridge, including coordination of shop drawing reviews, plans revisions, and responding to RFIs from the contractor. The project included preparation of mechanical and electrical plans to repair/rehabilitate this historical span-driven vertical lift bridge. The rehabilitation included sheave replacement, wire rope replacement, span lock repairs, and electrical system upgrades.			
01/24 - Present	Platt Street Bridge Rehabilitation, Hillsborough County, FL – Hillsborough County Structural Engineer of Record responsible for design and detailing of the sidewalk improvements. H&H was retained to evaluate existing bridge components for their suitability to modify the existing sidewalks using solid aluminum plates and to provide supporting engineering analysis, and other technical documents. The Platt Street Bridge over the Hillsborough River in downtown Tampa was built in 1926 and consists of seven reinforced concrete girder approach spans and a steel girder double leaf bascule span. The roadway carries four 10-foot one-way eastbound lanes out of South Tampa and has sidewalks on both sides.			

02/21 – Present	Broadway Bridge Bascule Span Deck Retrofit, Portland, OR – Multnomah County Public Works Structural Engineer providing structural engineering design development for this double-leaf bascule span deck replacement project. The retrofit design for this rail-type, steel truss, double-leaf bascule required that the FRP roadway and sidewalk decks on the bascule span be replaced. H&H's project scope included the assessment and analysis of potentially viable retrofit deck alternatives; the development of deck retrofit plans, specifications, and cost estimates (PS&E) for the recommended alternative; and construction engineering support services. The bascule span length from rail wheel to rail wheel is 278 feet, with a total bridge length of 1613 feet long, including steel truss approach spans, and a bridge width 70 feet. Design responsibilities include design of new bascule span half-filled steel grid deck, replacement of all stringers, new aluminum deck plate sidewalk, and balancing of the bascule span.
08/11 – 07/13	Sargent Barge Swinging Barge (Platoon) Bridge Rehabilitation, Matagorda County, TX – Texas DOT Movable Bridge Structural Engineer / Engineer of Record responsible for design and preparation of repair plans for miscellaneous structural elements including cable anchorages for the barge span, abutments (foundations, backwall, and cap), bulkheads, and temporary work platforms. Also responsible for design of repairs to the timber approach span stringers. Project scope included replacement of the timber leveling spans with steel framed open grid decks and the operating machinery, replacement of the bridge winch machinery and controls, structural repairs, and replacement of the traffic gates and miscellaneous roadway modifications.
09/08 – 04/09	Tamiami Swing Bridge Emergency Repairs, Miami, FL – Florida DOT Movable Bridge Structural Designer responsible for the new grid deck, stringers, and sub-stringers to replace the existing members on the swing span. Drafted all sheets in the structure plan sets. The movable bridge specialty engineering services were performed using a design-build approach as a subconsultant to a contractor. Performed in-depth field review, inspection, and measurements of the bridge to assess the conditions requiring emergency repair, clarify scope of work, and verifying the configuration, member sizes, and dimensions with limited or non-existent existing plans of the bridge. Repairs to the steel framing included replacement of deteriorated floor system and bracing members over the operating machinery including a portion of the steel roadway flooring. Repairs to the machinery included replacement of the pivot bearing bronze disk, balance wheel lower track, rack, main drive pinion, shaft and bearings, selected gear sets, speed reducer, machinery brake, machinery support frame, end wedges and end wedge electric linear actuators. Prepared shop drawings used to fabricate the steel and machinery to reduce project costs and time. The design, procurement, fabrication, installation, alignment, and testing were performed in a compressed schedule of 120 days.
06/05 – 06/09	Anna Maria Island (SR 64) over Gulf IWW Bascule Bridge Rehabilitation, Bradenton, FL – Florida DOT Movable Bridge Structural Engineer participated in plan preparations and quantity calculations. The project involved the in-depth inspection, evaluation, and rehabilitation design of a 50-year-old, 3,120-foot-long bridge with a double-leaf trunnion bascule main span. The project included bascule leaf structural steel repairs and modifications; concrete repairs, including hydro-demolition and concrete overlay of the bridge deck; cathodic protection systems; new auxiliary electrical room; replacement of the machinery frame; reconditioning of the operating machinery; replacement of the electrical power and controls; and bridge operator's facilities renovation.
07/07 – 02/08	Wilson Pigott (SR 31) over Okeechobee Waterway Bascule Bridge Rehabilitation, Fort Myers, FL – Florida DOT Movable Bridge Structural Engineer performed the span balance calculations, assisted with design calculations of other structural components, reviewed, and analyzed load test data to assist in the assessment of priority repairs. Services called for the in-depth inspection, evaluation, load rating per LRFR methodology, and rehabilitation design of this 50-year-old, 3,120-foot-long bridge with a double-leaf trunnion bascule main span. Responsibilities included performing independent peer review of the machinery repairs and steel grid deck replacement – plus performing peer review of the capacity evaluation of the unique precast, post tensioned concrete beams of the approach spans.
03/09 – 12/10	LaBelle Drawbridge (SR 29) Repairs & Rehabilitation, Labelle, FL – Florida DOT Movable Bridge Structural Engineer produced various designs of structural components for repairs to the approach and bascule spans, including the bascule leaf cantilever bracket, stringers, approach span bearing pads, and mast arms on the approaches. Checked the adequacy of the existing approach span diaphragms for jacking the spans. Provided quality control check of the bascule span balance calculations. Load rated the 40-foot approach span prestressed concrete beams, bascule span stringers and stringers over machinery, main girder, grid deck, and floorbeams. Load rated the flanking span stringers and floorbeams.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name	Justin Fries, PE, DBIA	Years of relevant experience with this employer	2
	Title	Alternative Delivery Practice Lead	Years of relevant experience with other employer(s)	16
Degree(s) / Years / Specialization			B.S. / 2008 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 41405 / LA / 09/30/2027	
Year registered	2017	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Structural Fixed & Movable Bridge Engineer – Meets MPR 3	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
02/23 – 08/24	Nelson Road Extension & Bridge Project – Louisiana DOTD Construction Engineer-of-Record for this project which extends Nelson Rd for one mile and connects to West Sallier St in Lake Charles, Louisiana. Scope of work includes the construction of a new 2,135-ft-long high-level bridge over Contraband Bayou. The bridge consists of 29 piers using a combination of 18-in and 24-in square prestressed, precast concrete piles. The superstructure consists mostly of precast prestressed concrete I beams (LG-63) with end diaphragms and an 8.5-inch cast-in-place deck. To protect the bridge from vessel impacts, three 50-ft diameter dolphins are being constructed.			
04/17 – 06/24	SR 80 (Southern Boulevard) Bascule Bridge Replacement – Florida DOT District 4 Construction Engineer for this project that consisted of the replacement of the SR 80 (Southern Blvd.) Bascule Bridge and Tide Relief Bridge over the Atlantic Intercoastal Waterway and roadway improvements from Washington Road to A1A (South Ocean Blvd.). A temporary lift bridge was installed to accommodate traffic while the bascule was being replaced. The scope also included roadway and drainage improvements, bulkhead walls, retaining walls, aesthetic lighting and pedestrian safety improvements. The temporary bridge was redesigned in-house and managed as a design-build project. The new bridge over the Intercoastal Waterway is an 11-span, 948-ft long with a 228-ft dual rolling leaf bascule span. The approach spans are five-span continuous concrete slab spans. The Tide Relief bridge consists of a seven-span continuous concrete slab. The structure was built in two phases to accommodate traffic on the narrow causeway. The approach piers are supported by 48-in drilled shafts and the bascule piers are supported by 60-in drilled shafts. All the construction was performed from barges within an extremely sensitive environment. Precast soffit forms were used in place of cofferdams to construct the pier foundations to enhance safety during construction.			
05/16 – 07/20	Veterans Memorial Bridge – County of Volusia, FL Construction Engineer for the Tom Stead Veterans Memorial Bridge, a high-level, multi-span concrete spandrel arch bridge, the first of its kind in Florida, replacing the existing bascule bridge and carrying Orange Ave/Silver Beach Ave over the Halifax River in Daytona Beach. The bridge is 1,884-ft-4-in long and provides a 65-ft minimum vertical clearance at the main span with a clear channel width of 125'. The bridge is founded on 30-in square concrete piles with decorative piers featuring stone revels. The structure consists of three 96-ft Florida I-beam spans on the west end and five 108-ft Florida I-beam spans on the east end. The main span is a 220-ft-10-in long arch span and has three 144-ft concrete arch approach spans on each side. All the construction was performed from barges and temporary trestles within an extremely sensitive environment. Cofferdams were used to demolish the existing bridge foundations and construct the new bridge piers. The Contractor precast the arch ribs on-site and cast the spandrel columns in place high above the river.			
05/16 – 05/18	Lewis and Clark (US 85) Bridge over the Missouri River – North Dakota DOT Construction Engineer for this project which consisted of the construction of a six-span, continuous deck unit, 1,522-ft long by nearly 85-ft wide, four-lane, high-level bridge spanning the Missouri River. All the construction of the river crossing was performed from a temporary trestle. The project also included a wildlife relief bridge, nearly five miles of associated roadway widening and removal of the existing bridge structure. Thirty-five (35) ft deep			

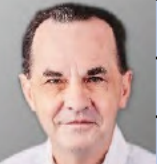
	cofferdams were used to construct the bridge piers while protecting the endangered fish species in the river. One span of the bridge crosses the BNSF tracks so extensive coordination with the railroad was required.
10/21 – 08/24	First Coast Expressway (SR 23) from East of CR 16A Spur to East of CR 209 – Florida DOT District 2 Construction Engineer-of-Record for this project which extends the new First Coast Expressway limited access toll facility 6.5 miles from the existing terminus in Clay County across the St. Johns River. Scope of work includes 12 drainage ponds, a shared-use path, significant muck removal and surcharging due to settlement, three toll sites, the construction of eight new bridges, and the demolition of the existing St. Johns River bridge crossing. The new river crossing is a Category 2 structure (per FDOT) and went through the Independent Department Review (IDR) process. The bridge is 9,282-ft consisting of precast, prestressed concrete Florida I-Beams (54-in, 72-in, and 96-in) ranging in length from 60-ft to 200-ft. There are three different substructure configurations, 30-inch piles with a large, connected footing and large twin hammerhead piers, 30-in piles with two small footings and hammerhead piers, and 60-in diameter cylinder pile bents.
10/21 – 08/24	SR 5 (US 1/Federal Highway) from CR-A1A to Beach Rd. Bascule Bridge Replacement – Florida DOT District 4 Pursuit Leader and Construction Engineer-of-Record for this project which extends Kirkman Rd from Sand Lake Rd to Universal Blvd and provides access to Universal Creative's new theme park, Epic Universe. Scope of work consists of 0.75 miles of new alignment and realignment/reconstruction of Sand Lake Rd between East of Greenbrier Pkwy to Universal Blvd. The project has six new bridges including a circular elevated ramp bridge which is the first in Florida. There are bus-only lanes, a pedestrian tunnel, and significant utilities. The elevated ramp was value-engineered from a circular steel structure to a chorded concrete structure with variable overhangs. This portion of the project was managed as a DB.
06/13 – 06/16	Poinciana Parkway Design-Build – Osceola County Expressway Authority (CFX) Structural Engineer for this project which consisted of designing a new limited-access toll facility through parts of Polk and Osceola Counties. Three bridge structures on the project included a 6,169-ft long bridge over Reedy Creek, a less than 100-ft long single-span bridge over KOA Rd and an approximately 143-ft long single-span bridge over Marigold Ave. The Reedy Creek bridge went through an environmentally sensitive wetland.
06/13 – 06/16	Extension of the Wekiva Parkway (SR 429) from North of Poncan Rd. to North of Kelly Park Rd. – Central Florida Expressway Authority Project Engineer for this project which consisted of a new alignment containing three pairs of bridges. The bridges over the Lake Victor Floodplain consisted of one 5-span, 375 ft long bridge with prestressed Florida I-beams and one 6-span, 450-long bridge with prestressed Florida I-beams. The bridges over Parcel 197 are twin single-span bridges, less than 100 ft long, utilizing prestressed Florida U-beams. The bridges over Kelly Park Rd. are single-span, 161-ft haunched steel box girders. This bridge was changed from prestressed concrete I girders to steel box girders at 90% completion. The revision had to be designed within 6 weeks.



Firm employed by		Hardesty & Hanover, LLC	
Name		Linh Kim, PE	Years of relevant experience with this employer 6
Title		Civil Engineer	Years of relevant experience with other employer(s) 2
Degree(s) / Years / Specialization		B.S. / 2017 / Civil Engineering	
Active registration number / state / expiration date		Professional Engineer: 47527 / LA / 9/30/2027 Certifications: NHI 130081 Load and Resistance Factor Design (LRFD) For Highway Bridge Superstructures; ATSSA Traffic Control Supervisor and Flagger	
Year registered	2023	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities		Structural/Fixed Bridge Engineer & Bridge Inspector – Meets MPR 4	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Structural Engineer & Bridge Inspector for the inspection, evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior’s Standards.		
03/18 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Structural Engineer & Bridge Inspector for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.		
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Structural Engineer supporting movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.		
06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Bridge Inspector for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller’s Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.		

09/20 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Bridge Engineer for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Ave Bridge and a new connector road. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H's 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and the connecting roads were required to return this bridge to its full operating capability. The road design services included a new alignment for the connecting road including all drainage structures. H&H also developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.
02/21 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Structural Engineer for the pre-design inspection, rehabilitation, and widening of the existing four-lane Lapalco Blvd to provide a facility carrying three lanes of traffic in each direction, as well as the design of a new three-lane double bascule movable bridge crossing of Harvey Canal. The scope of services also includes the design of a new bridge to be constructed as an independent structure adjacent and north of the existing bridge with a new operator house. All design work is in accordance with LADOTD Standards and Specifications and being reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.
09/21 – 07/22	Tennessee Bridge Inspection and Load Rating – Norfolk Southern Corp., Decatur, AL – Norfolk Southern Corp. Structural Engineer Intern providing inspection, load rating, and engineering design services under the Systemwide Engineering and Design Services contract. The steel repairs at Gulf Division MP 362.60-A Decatur, AL task was awarded to H&H through this contract. The task involves the performance of an on-site inspection, the preparation of load rating calculations and the development of repair plans for the structure in accordance with the scope of work. The structure consists of three superstructure types: vertical lift span, deck plate girder span and seven through truss spans.
04/22 – 02/25	SR826 Palmetto Design-Build Design and Post, Miami-Dade County, FL – Florida DOT Structural Engineer for this bridge located in downtown Miami urban area. The bridge design requirement was to keep existing bridge and roadways open to traffic while widening construction was being performed. H&H performed design calculations for concrete superstructure and steel substructure elements for bridge widening and created details and plan sheets for superstructure and substructure elements for bridge widening.
09/19 – 11/19	H.002176.5: LA 10 Bridges (Burton's Lake, Bayou HaHa, Bayou TawPaw) – LADOTD Civil Engineer Intern created General Plans set for three different bridges after receiving information from Road Design and Hydraulics. Linh contributed to the preparation of 60% Preliminary Plans Set to be sent out Hydraulics, Property Survey, and Subgrade Soil Survey sections.
09/22 – Present	I-10 & I-12 College Dr Flyover Ramp Design- Build, Baton Rouge, LA – LADOTD Structural Engineer for design and construction quality control/quality assurance for this road and bridge design-build project which is located at the I-10 West exit to College Drive, in advance of the I-10 & I-12 West merge. H&H serves as Design-Builder's Construction Quality Control Firm (CQCF) and oversees all Design Quality Control and Construction Quality Control activities for the project. Responsibilities include the development and implementation of Comprehensive Quality Plan to ensure the design and construction conforms to all specified requirements. H&H will develop, maintain, and update Contractor Quality Management Plan and provide qualified Inspectors, material sampling, testing, independent testing labs to ensure contractors and off-site fabrication facilities meet project specifications.
01/19 – 04/19	H.009498.5: LA 121: Calcasieu River Bridge, Lake Charles, LA – LADOTD Civil Engineer Intern designed and detailed an LG-36 (I-Beam) Concrete Prestressed Girder Bridge using continuous deck spans on a horizontal curve with a 5% slope. The continuous deck spans were 240-ft.-long using four 60-ft.-long deck spans with a bridge width of 42.5 ft. The superstructure and girders were designed using Bentley's Conspan software and DOTD's Bridge Design Evaluation Manual. The substructure consists of pile bents that were designed using STAAD Modeling software and Excel.
09/19 – 11/19	H.009482.5: LA 113: Jim Burney Branch Bridge – LADOTD Civil Engineer Intern contributing to the preparation of 60% final plans review and submittal. Linh completed revisions for initial design due to comments from the district and Project Engineer reviewer. He completed a bridge rating using AASHTOWare Bridge Rating software and STAAD Analysis.



	Firm employed by		Hardesty & Hanover, LLC		
	Name		Dennis Gowins, PE	Years of relevant experience with this employer	17
	Title		Senior Structural Engineer	Years of relevant experience with other employer(s)	30
Degree(s) / Years / Specialization			MS / 1990 / Civil Engineering BS / 1978 / Civil Engineering		
Active registration number / state / expiration date			Professional Engineer: 24468 / LA / 09/30/2027		
Year registered	1991	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Senior Structural/Fixed Bridge Engineer – Meets MPR 4		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
03/18 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Senior Structural Engineer for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.				
04/17 – Present	I-395 Segmental Bridges, Miami, FL – Florida DOT Senior Structural Engineer for the design of the superstructure and performing the load ratings. H&H is designing seven new precast segmental bridges that are a part of the SR 836 / I-95 / I-395 corridor upgrade. This design-build project is being constructed by the Archer Western-De Moya Joint Venture. The overall construction value of the project is \$800 million, and the segmental bridges have a deck area of 700,000 square feet (approximately \$200 million). Construction is scheduled to be completed in late 2027.				
09/05 – 06/06	Emergency Repairs for the I-10 Twin Span Bridges over Lake Pontchartrain, New Orleans, LA – LADOTD/FHWA Structural Engineer responsible for emergency repairs made to the 5.4-mi.-long twin structures after damage Hurricane Katrina. As a subconsultant he provided all engineering and 24-hour continuous construction services to support the emergency repairs. Phase one of the emergency repairs was carried out in less than one month, 17 days earlier than initial estimates. The second phase of the project included reconstruction of the westbound structure. The bridge twin structures consist of 436, 65-ft. spans founded upon 54-in. cylinder pile bents. Repair procedures included new bents, helper bents, girder support saddles, pile jackets, deck repairs, jack supports, new neoprene bearings, new Teflon bearings, curb repairs, substructure modifications to accept ACROW bridges, erection equipment, span removal procedures and maintenance of traffic plans. Construction was simplified with the use of SPMT's. The project received numerous national awards.				
08/14 – 10/15	I-269 over Coldwater River, Marshall County, MS – Mississippi DOT Senior Bridge Engineer responsible for the seismic analysis of this 4,054-ft.-long, 62 span bridge (17 units) carrying I-269 over Coldwater River. The 98-ft.-wide bridge carries six lanes of traffic with barriers. The 65-ft. spans are comprised of 9 Type III AASHTO beams on 11.5-ft. spacings with an 8-in. concrete deck. The bridge is supported on precast concrete pile bents with 24-in. prestressed concrete piles. A site-specific response spectrum analysis was performed with an extensive 3D finite element model. Nonlinear springs were applied along each pile element to emulate the response of the extremely variable sand / clay layers.				
02/12 – 06/22	I-59 / I-20 Elevated Interstate, Birmingham, AL – Alabama DOT Senior Bridge Engineer responsible for the design of eight, steel curved-plate girder bridges with spans of over 300 ft. on radii as small as 600 ft. in addition to all fracture critical steel members on the project. These bridges were part of the \$700 million project to replace Interstate 59/20 through the Central Business District of downtown Birmingham, AL. The project, which includes 1 million square feet of elevated bridge deck, was constructed in less than 12 months, and plays a significant role in the wider revitalization of the central business district.				

07/17 – 06/20	Orlando South Ultimate Interchange Improvements, Orlando, FL – Florida's Turnpike Enterprise Senior Structural Engineer assisting with concept development, coordination, and project oversight of a complex interchange, including system and service movements. The project includes an evaluation of a complex interchange that provides both direct and indirect ramping between Orange Blossom Trail and the adjacent two limited access highways. The project goals included: construction of direct connection ramps between freeways, an ultimate 10-lane typical section of the turnpike, implementation of AET, consideration of express direct connections, and improvement of surface street operations with two new reliever interchanges.
03/08 – 08/08	Widening of Florida's Turnpike from Atlantic Boulevard to Sawgrass Expressway, Broward County, FL – Florida DOT Structural Department Manager responsible for managing the widening, which included a 6.8-mi.-long toll-road improvement project from Atlantic Blvd to Broward County Line. The project included the outside widening from six to eight lanes, one new bridge, the replacement of three existing bridges and the widening of five existing bridges. The bridge widening included those over Pompano Canal for SFWMD. In addition, the project includes a 4,800-ft.-long box culvert, over three miles of noise walls as well as MSE, tie-back and sheet-pile retaining walls.
06/06 – 03/07	Replacement and Rehabilitation of the Route LA-70 over Belle River Bridge, Assumption Parish, LA – LADOTD Project Manager/Structural Engineer leading the effort to replace and rehabilitate this structure. The approach aprons, pontoon structure, fender system, and associated rope/pulley opening mechanism of the existing 30-ft. by 120-ft. pontoon swing-span bridge were replaced/upgraded to accommodate two lanes of HS-20 loadings on the new pontoon structure. The design also included replacement/upgrades of the associated mechanical and electrical systems in addition to the structural evaluation on the new pontoon structure.
01/06 – 06/07	Widening of the Huey P. Long Bridge over the Mississippi River, Jefferson Parish, LA – New Orleans Public Belt Railroad Project Manager/Structural Engineer for the independent design review of the proposed widening of the 1,850' main span cantilever truss spanning the Mississippi River. The main bridge consisted of a 790-ft. main span in conjunction with two 532-ft. cantilever side spans. In addition to this main bridge, an approach through truss of 532-ft. was analyzed for the proposed widening. The proposed widening to the existing bridge was to accommodate six 11-ft. lanes in addition to two rail lines. The current bridge can only accommodate four 9-ft. lanes in addition to the two existing rail lines. The analysis also included the investigation of the substructure elements.
06/08 – 12/08	Restoration of the France Road Terminal Berth 4, New Orleans, LA – Port of New Orleans Design Engineer responsible for the rehabilitation, design, and pile retrofits for this 300-ft. x 12-ft. wharf section and adjacent 80-ft. x 30-ft. entrance ramp. The design-build wharf project involved the retrofit of 260 steel pipe piles and other areas necessary to support the required permit, cranes, excavator, and extreme conveyer loadings. The pilings had significant corrosion and were retrofitted with a unique concrete infill/PT bar system.
08/08 – 10/10	Replacement of the Little Blue Heron Bridge and Little Lake Worth Bridge, Palm Beach County, FL – Florida DOT Project Manager/Design Engineer for the replacement of two deficient bridges. This project involved the replacement of these two deficient bridges with three- and eight-span, continuous, flat-slab bridges supported on pile bents with precast pile caps and 24-inch square prestressed piles and abutment treatments that include a king pile bulkhead system. An innovative top-down construction method was used to construct these bridges, with overall lengths of 296 feet and 90 feet. This allowed for the continuous maintenance of both directions of traffic.
05/04 – 06/05	Extension of the Perimeter Center Parkway, Atlanta, GA – DeKalb County DOT/Georgia DOT Project Manager responsible for managing the design and plans for the 1,338' bridge spanning Nancy Creek and I-285 for the County. The bridge consisted of 5 130' spans comprised of 72' bulb-tee girders and 2-span continuous units of composite steel-curved girders. The structure was supported upon multiple columns and drilled shafts in addition to several bents supported upon spread footings. The 111' wide bridge accommodates 4 lanes of traffic in addition to extensive sidewalks and a median. The geometry is quite complex in that the bents are highly skewed with a horizontal alignment on compound curves combined with numerous superelevation transitions.
11/03 – 12/06	Fifth Street Bridge, Atlanta, GA – Georgia DOT Project Manager responsible for the managing the design of this 2-span structure crosses 15 lanes of I-75/I-85 traffic connecting the Georgia Tech Technology Center and the Georgia Tech Campus. The bridge accommodates three lanes of traffic, bicycle, and future transit in each direction. The bridge won the 2007 PCI Award for Best Non-Highway Bridge and Sustainable Design. The bridge is 223' in width and has more than 125' of landscaped greenspace, comprised of multilayer landscaping, planters, retaining walls, lighting, and sidewalks.

	Firm Employed by	Hardesty & Hanover, LLC		
	Name	Corey Bourgeois, PE	Years of relevant experience with this employer	3
	Title	Bridge Engineer	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization		B.S. / 2013 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 42362 / LA / 09/30/2026 Certifications: NHI 130078 Fracture Critical Inspection Techniques for Steel Bridges; NHI 130092 Fundamentals of LRFR and Applications of LRFR For Bridge Superstructures; NHI 130081 Load and Resistance Factor Design (LRFD) For Highway Bridge Superstructures; NHI 130056 Safety Inspection of In-Service Bridges		
Year registered	Civil Engineer	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Task Order Manager, Structural/Fixed Bridge Engineer, & Bridge Inspector – Meets MPR 4		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
11/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Bridge Engineer supporting movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Bridge Engineer for the inspection, evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior’s Standards.			
11/23 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Bridge Engineer for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Blvd to provide a facility carrying three lanes of traffic in each direction. The new bridge will be constructed as an independent structure adjacent to the north of the existing bridge with a new operator house. The project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane, improvements to bridge and roadway approaches, and development of a Traffic Control Plan. All design work is accordance to LADOTD Standards and Specifications and reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.			

11/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Structural Engineer for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller's Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.
08/17 – 01/22	H.012071 US 51 Yellow Water River Bridge, Hammond, LA – LADOTD Project Manager for this slab span bridge is located on a highly traveled section of US 51 in Hammond near Southeastern University. Due to rapidly deteriorating site conditions and other political pressure, this project was expedited to a much more compressed schedule than we typically see for bridge projects. He developed alternatives to maintain traffic during construction in this critical section of highway. A unique design was chosen where the bridge will be built in phased construction to allow for a complete replacement with a median turn lane.
04/16 – 05/19	H.012411 LA 1054 at Big Creek Bridge Replacement, Tangipahoa Parish, LA – LADOTD Project Manager for this emergency project where one of the roadways approaches completely washed out during the March 2016 flooding in Tangipahoa Parish, Louisiana. Since the bridge was a candidate for replacement, it was decided that the entire bridge should be replaced while the roadway was out of service. Corey assisted in coordinating FEMA for emergency funding while also performing all bridge design and construction support.
05/21 – 12/22	H.014672 I-12: LA 1032 Overpass Repair, Tangipahoa, LA – LADOTD Project Manager for this emergency repair project where an over-height vehicle completely destroyed an exterior prestressed concrete girder. This required the exterior shoulder to be closed in a very busy section of I-12. Corey served as Project Manager and procured the consultant and immediately began the task order creation with one of our in-house retainer contracts. He facilitated constant communication with the consultant making sure that this priority project was kept on schedule.
05/17 – 03/22	H.000337 US 61 Bayou Manchac and Francois Bridges, East Baton Rouge & Ascension Parishes, LA – LADOTD Task Manager for this replacement project consisting of twin 300-ft.-long concrete girder bridges including load rating. The superstructure was AASHTO Type IV girders and substructure was pile bents. Some unique challenges with this project included a severe skew, continuous deck units, and the crossing being part of the Scenic Rivers Program. Corey designed all bridge features including as-designed and load rating for this \$10M project.
11/23 – Present	Waco On-System Bridge Replacements Contract No. 36-0IDP5067, Waco District, TX – Texas DOT Structural Engineer for this indefinite deliverable contract. This work authorization consists of replacing seven bridges on three roadways in three different counties in the Waco area. The new structures are precast beam slab bridges. H&H evaluated options and prepared bridge alternatives memos for each bridge accompanied by cost comparisons and bridge layout exhibits. Corey provided review of the final plans and created the final construction cost estimates. H&H is also providing services throughout the construction phase.
08/18 – 06/20	H.000133 US 80 at KCS Railroad, Simsboro, LA – LADOTD Task Manager for this replacement project for a 290-ft.-long railroad overpass in a S-curve. The bridge superstructure consisted of slab spans, and an LG-36 span over the railroad. The substructure was column bents with drilled shaft foundations. This bridge had various geometric difficulties including superelevation, horizontal and vertical curvature, and railroad clearances. Corey designed all bridge features including as-designed load rating for this \$6.5M project.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Roberto Vicedo, PE	Years of relevant experience with this employer
	Title		Senior Structural Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			B.S. / 1995 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 36533 / LA / 03/31/2028	
Year registered	2011	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Senior Structural/Fixed Bridge Engineer – Meets MPR 4	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/18 – 06/19	SR 609 Bascule Bridge over Old Fort Bayou Rehabilitation, Ocean Springs, MS – Mississippi DOT Structural Engineer for developed structural rehabilitation design and provided construction phase services for SR 609 bascule bridge as a task-order to the IDIQ Master Bridge Contract which includes developing standard and special bridge services statewide for MDOT. The scope of work included inspection and rehabilitation of structural, mechanical, and electrical bridge components, roadway approaches, and development of maintenance and repair plans.			
05/10 – 12/16	SFRTA Railroad Bridge over New River – Fort Lauderdale, FL Florida DOT District 4 Project Manager/Task Lead responsible for the design of rolling-lift bascule span superstructure and construction support services. Overall scope included preliminary PD&E study and final design for the off-line replacement of a single-leaf heavy rail bridge owned and operated by SFRTA and used by CSX Freight and Tri-Rail as an alternate route. The project included inspection of the structural, mechanical, and electrical systems and the development of rehabilitation and replacement options (swing and bascule span) with conceptual drawings, alignments, and cost estimates. The preferred alternative consisted of three 41-foot prestressed concrete approach spans and a 103-foot rolling-lift-span designed using the AREMA code.			
11/04 – 07/05	Pine Tree Drive Bridge over the Flamingo Waterway, Miami Beach, FL – Miami-Dade County Public Works Department Project Manager responsible for general project coordination including inspection, report of deficiencies, design, and detailing of concrete repairs. Typical maintenance included spall repair, milling and resurfacing, cathodic protection, painting structural steel, and application of Class 5 finish to exposed concrete surfaces. Contract plans detailed MOT and detours. This 180-foot-long, structural steel fixed bridge has a 32-foot-long main span and 23-foot-long concrete slab approach spans supported on concrete pile bents. Included in the scope of work was the bridge condition report, cost estimates, plans, specifications, permit acquisition, and shop drawing review.			
01/19 – 08/21	SR 3/Christa McAuliffe Bridge over Canaveral Barge Canal, Merritt Island, FL – Florida DOT Project Manager / Project Engineer in charge of general project coordination and a task for the design, detail of repairs, load rating analysis, and preparation of cost estimates during the design phase. Also provided construction support services for this \$3.9 million span lock replacement project for twin double-leaf bascule bridges. The existing underdeck span locks were removed and replaced with new barrier mounted span locks.			

01/11 – 3/17	Flagler Memorial Bridge over ICWW, Palm Beach, FL – Florida DOT District 4 Structural Engineer responsible for the design of twin double-leaf rolling lift bascule span superstructures, load rating, and construction support services for the \$95 million design-build project that included replacement of the entire bridge off-line and parallel to the existing bridge to maintain traffic for this busy causeway connecting West Palm Beach to Palm Beach. The replacement bridge, completed in 2018, included a twin double-leaf rolling lift bascule span bridge with a 150-foot rolling-lift-span over the navigable channel; twelve 150-foot pre-stressed concrete approach spans; and approach roadway work.
05/16 – 10/20	SR-A1A/North Causeway Bridge over ICWW, Fort Pierce, FL – Florida DOT District 4 Structural Engineer for the 4000-foot-long bridge replacement project which replaces a bascule span with a high-level fixed bridge that has 85-foot vertical clearance over the navigable channel. The preferred replacement fixed bridge alternative includes the FIB superstructure and spans over Old Dixie Hwy and the FEC Railway. In addition to the new bridge, the project includes extending Juanita Ave east from US-1 to Old Dixie Hwy and provisions for a new access roadway for the businesses south and north of the new bridge along SR A1A.
02/19 – 12/25	SR 75 (US 231) Reconstruction, SR 30A (US 98) to South Pipeline Road, Panama City, FL – Florida DOT District 3 Structural Engineer for the new 840-foot steel bridge on SR77 crossing US 231 and the CSX railroad. H&H is providing design services for the single point urban interchange at SR 77 over US 231 and CSX RR improvement project. Work includes design for roadway and drainage design of the intersection, lighting design for the entire project, and bridge design for new major steel structure.
02/14 – 12/21	SR 968/SW 1st Street Bridge Over Miami River, Miami, FL – Florida DOT District 6 Project Engineer / Structures Task Leader responsible for general project coordination, design, load rating, and managing construction support services phase for the replacement of the nationally registered historic bridge crossing the Miami River. The new 507-foot bridge included a 315-foot double-leaf bascule span over a widened 125-foot navigation channel. Two new approach spans consisting of prestressed concrete beams provided at least 16.5 feet of clearance over North and South River Drives.
07/04 – 07/10	SR 7/NW 5th Street Bascule Bridge Over Miami River Miami, FL – FLORIDA DOT DISTRICT 6 Project Engineer responsible for design, load rating analysis and construction support services for this \$50-million bridge replacement project which included double-leaf bascule spans, bridge, control tower, approach roadways, and riverwalk. The 180-foot bridge used the appearance of a deck truss Chicago-style trunnion bascule span to fit in with the historic and aesthetic character of Miami's Little Havana community.
04/98 – 08/07	SR 786/PGA Boulevard Bridge Over ICWW, Palm Beach Gardens, FL – Florida DOT District 4 Structural Engineer responsible for the design, detail of repairs, load rating analysis, and preparation of cost estimates. This \$15-million multi-phase rehabilitation project included in-depth inspection, condition report with load ratings and recommendations, preparation of structural, mechanical, and electrical rehabilitation plans, and bascule span replacement plans for this twin double-leaf bascule span bridge. Project design utilized existing bascule pier foundations and approach span structure to minimize costs. The design required multi-phase construction to maintain traffic.
02/08 – 12/10	SR-5/US-1 Parker Bascule Bridge Rehabilitation, Palm Beach, FL – Florida DOT Bridge Project Engineer responsible for general project coordination for the \$8 million, twin double-leaf Hopkins trunnion bascule span bridge rehabilitation project. Scope included in-depth inspection, condition report with load ratings, and rehabilitation recommendations as well as the preparation of structural, architectural, mechanical, and electrical plans for the hydraulic machinery retrofit, electrical system improvements, control house modifications, bridge widening, roadway, and embankment improvements

	Firm employed by	Hardesty & Hanover, LLC		
	Name	Stephen Mikucki, PE	Years of relevant experience with this employer	35
	Title	Chief Mechanical Engineer	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			B.E. / 1990 / Mechanical Engineering	
Active registration number / state / expiration date			Professional Engineer: 44849 / LA / 03/31/2027	
Year registered	2020	Discipline	Mechanical Engineer	
Contract role(s) / brief description of responsibilities			Movable Bridge Mechanical Engineer – Meets MPR 5	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/13 – 08/13	Lea Joyner/Ouachita River Bridge Rehabilitation – Louisiana State DOTD Mechanical Systems Expert responsible for the design, calculations, development of contract plans, cost estimate, construction support services, review of shop drawings, project submittals and installation procedures, and responding to RFI's submitted by the contractor for a counterweight trunnion replacement and rehabilitation at the Louisville Bascule Bridge. The Ouachita River Bridge is a double-leaf Strauss Bascule bridge constructed in the early 1930s. Hardesty & Hanover provided structural and mechanical support in the replacement of the counterweight trunnion and hanger plates, developed a jacking procedure and specifications for the project. Responsible for coordinating with contractor to determine field conditions and construction limitations. Reviewed all structural steel shop drawings.			
06/20 – 08/21	Almonaster Avenue Railroad Bridge over the Industrial Canal – Port of New Orleans Mechanical Systems Expert contributing to the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Avenue Bridge, a movable Strauss-heel trunnion bridge. H&H's 2019 assessment of the circa-1920 bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. H&H developed necessary design plans to replace the span drive and span lock machinery, operating strut, guide assembly, live load bearings, counterweight trunnion pin, and bushing. The main trunnion bearings were rehabilitated and repositioned.			
12/12 – 07/14	Ouachita Bascule Bridge – Louisiana DOTD Movable Bridge Lead for this emergency repair to the hanger plates and counterweight trunnion bearings for this underdeck Straus double leaf bascule bridge. As part of a commissioning task including strain gaging of equipment for contractor PCL, H&H discovered a significant operational resistance in the counterweight bearings. This led to the replacement of the bearings, and structural hanger plate located between the tail end of the bascule leaf, and articulated counterweight frame.			
11/24 – 09/17	Broadway Bridge Rall Wheel Replacement – Multnomah County Bridges Movable Bridge Lead and Mechanical Designer for a major complex movable bridge project that includes replacing the eight foot-four-inch diameter Rall wheels at each corner of the bridge; replacing the 33-foot-long track; trunnion axle replacement and associated control strut rehabilitation. Prior projects include the replacement of the anchor struts, and rehabilitation of the operating strut and span drive machinery. Located in downtown Portland, the bridge spans the Willamette River. The bridge is a rare double leaf Rall-type bascule structure that is more than 100 years old. The Rall wheels are part of the bridge operating mechanism, and two Rall wheels support the entire weight of each of the bridge's bascule leaves.			
05/23 – 07/24	SR609 Bridge Inspection – Mississippi DOT QC Mechanical Engineer for the 2023 Fracture Critical, Routine, and Element Level Inspection of the SR609 Bridge over the Old Fort Bayou. H&H performed an examination of the bridge structural systems, the bridge mechanical and electrical systems, and an arm's length fracture critical members as requested by Mississippi DOT. The NBIS and element structural inspection consisted of a visual and hands-on examination of the approach spans,			

	bascule and anchor spans, access platforms and ladders, operator house, and the fender system. The fracture critical inspection consisted of hands-on arm's length examination of the bascule span girders and floor beams.
08/23 – 10/24	SR605 Bridge Inspection – Mississippi DOT QC Mechanical Engineer for the 2023 In-Depth, Nonredundant Steel Tension Member (NSTM), Routine, and Element Level Inspection of SR 605 Bridge over the Industrial Waterway. H&H performed an examination of included an examination of the bridge structural systems, the bridge mechanical and electrical systems, and an arm's length NSTMs, as requested by Mississippi DOT. The NBIS and element structural inspection consisted of a visual and hands-on examination of the approach spans, bascule and anchor spans, access platforms and ladders, operator house, and the fender system. The fracture critical inspection consisted of hands-on arm's length examination of the bascule span girders and floor beams.
03/15 – 04/15	Hanover Street Rall Wheel Bridge Investigation and Repair – City of Baltimore Mechanical Engineer for Investigation of the Rall wheels and swing struts. H&H also performed an in-depth inspection of various machinery components to further evaluate the condition of the machinery. The evaluation resulted in an immediate replacement design of the live load bearings at all locations. H&H completed the live load bearing design and provided on-site engineering support during construction. Through the in-depth inspection and maintenance effort to lubricate the machinery, the Rall rolling lift bascule span was successfully operated. One of only six Rall Wheel bridges in the country.
05/15 – 11/16	Morrison Avenue Bridge Deck and Mechanical Repairs – Multnomah County Project Engineer for the mechanical inspection and evaluation as a sub-consultant. The purpose of the project was to replace the existing deck with a heavier filled deck, so the mechanical systems (trunnions, bearings, machinery, and locks) shall be analyzed and rehabilitated for the change in dead load to the movable span.
11/15 – 03/16	Duluth Aerial Lift Bridge, Emergency Rope Replacement – City of Duluth Project Manager and Lead Mechanical Engineer for Emergency Rope Replacement. Assessed the urgency of the broken operating rope strands at the aerial lift bridge. Immediate recommendations included installing an emergency static rope to provide redundancy for the damaged rope. Within two weeks, a hands-on evaluation was performed. Within four weeks, replacement ropes were located and ordered prior to the repair plans. Within eight weeks, contract documents were delivered for bidding of qualified installers. Replacement was scheduled for completion in early March 2016, well before shipping season started.
03/12 – 07/15	Harlem River Lift Bridge Cable Replacement – Metro North Railroad Movable Bridge Lead for field inspection to determine the existing condition of the main and auxiliary counterweight rope sheaves, as well as the condition of the rope hitches, the main and auxiliary counterweight rope take-ups and main counterweight hangers. Also determined the existing condition of the main and auxiliary counterweight rope anchorages and splays at the lifting girder and main counterweight. Provided report of findings and recommendations for construction and the ultimate replacement of the 128 wire ropes. As the Movable Bridge Lead responsible for the supervision of the design of the replacement of the main and auxiliary counterweight ropes for the Harlem River Lift Bridge. The project included a design of a new automatic main counterweight rope lubrication system, auxiliary counterweight sheave refurbishment and span balance requirements. Assisted in providing rope

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Travis Kimmins, PE	Years of relevant experience with this employer
	Title		Senior Mechanical Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			M.S. / 2003 / Mechanical Engineering B.E. / 2001 / Mechanical Engineering	
Active registration number / state / expiration date			Professional Engineer: 43676 / LA / 03/31/2028	
Year registered	2019	Discipline	Mechanical Engineer	
Contract role(s) / brief description of responsibilities			Senior Movable Bridge Mechanical Engineer – Meets MPR 5	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Senior Mechanical Engineer for the evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior's Standards.			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Senior Mechanical Engineer supporting movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			
01/20 – Present	Almonaster Avenue Railroad Bridge over the Industrial Canal Rehabilitation, New Orleans, LA – Port of New Orleans Movable Bridge Mechanical Engineer for the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of a movable Strauss-heel trunnion bridge. H&H's 2019 assessment of the circa-1920 National Register of Historic Places eligible bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. H&H developed necessary design plans to replace the span drive and span lock machinery, operating strut, guide assembly, live load bearings, counterweight trunnion pin, and bushing. The main trunnion bearings were rehabilitated and repositioned.			
03/19 – 12/23	SR-605 Movable Bascule Bridge over Industrial Waterway, Harrison County, MS – MDOT Mechanical Engineer / Engineer of Record led the design of the mechanical rehabilitation and managed mechanical construction services during construction of these twin double-leaf rolling bascules. The full rehabilitation of SR-605 bascule bridge, issued as a task-order to the IDIQ Master Bridge Contract, included engineering assessment, mechanical, electrical, and structural design in addition to the preparation of Traffic Control Plans. All designs were completed in accordance with AASHTO, FHWA, and MDOT guidelines and specifications. H&H performed construction phase services.			

11/20 – 03/23	SR 609 Bascule Bridge Rehabilitation, Ocean Springs, MS – MDOT Mechanical Engineer responsible for conducting plans review of mechanical rehabilitation plans involving a full mechanical rehabilitation of the operating machinery as well as the HVAC and plumbing systems for the control house. Also provided construction support services as part of the full rehabilitation of the SR 609 bascule bridge. Issued as a task order to the IDIQ Master Bridge Contract, the scope of this task order included developing standard and special bridge services, statewide for MDOT. Scope of work included inspection and rehabilitation of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches and development of maintenance and repair plans. All designs were in accordance with AASHTO, FHWA, and MDOT guidelines and specifications. H&H performed construction phase services.
07/23 – 12/23	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Movable Bridge Mechanical Engineer performing mechanical inspection of movable structures such as steel vertical lift bridges and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller's Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.
02/23 – Present	H.015028.6 Bayou Barataria Movable Bridge Replacement (CE&I), Phase 1, LA 302, Jefferson Parish, LA – LADOTD Movable Bridge Mechanical Engineer responsible for mechanical construction engineering and inspection services for the Bayou Barataria Movable Bridge Replacement. This project consists of construction of the movable swing span bridge, operator's house, associated substructure elements, and pier protection system along relocated LA 302 in Jefferson Parish.
08/21 – Present	H.001498.6 (CE&I); LA 24 and LA 16 Company Canal Vertical Lift Bridge, Bourg, LA – LADOTD Movable Bridge Mechanical Engineer providing mechanical engineering inspection for a newly designed 100-foot-long vertical lift bridge and operator's house. The scope of the project includes improving the safety and vehicular movements within the project corridor by realigning approximately 405 feet of LA 316 to the west to avoid conflict with the new bridge structure and approach slabs. During the construction of the new vertical lift bridge and operator house, Mr. Kimmins is providing mechanical engineering inspection services.
09/19 – Present	Jupiter Federal Bridge Replacement, Jupiter, FL – FDOT Mechanical Engineer / Engineer of Record responsible for mechanical systems design for this bascule bridge replacement project. H&H serves as Engineer of Record, which addresses structural and functional deficiencies of the existing US 1/SR-5 Jupiter Federal Bridge. Scope includes the development of vertical and horizontal alignment for bridge replacement alternatives and study of the resulting impacts. The design incorporates intersection improvements and enhances traffic flow at both ends of the approximately 2,960-foot-long project corridor, integrating it into the bridge replacement design. Providing construction inspection support services and quality reviews on all shop drawing reviews and RFI responses.
10/19 – 01/20	Annual Inspection of Almonaster Railroad Bascule Bridge over the Industrial Canal, New Orleans, LA – Port of New Orleans Movable Bridge Mechanical Engineer for an annual inspection of the Almonaster Avenue Railroad Bascule, which involved a structural inspection of the fracture critical steel, primary and secondary steel members, an electrical inspection of the electrical systems and controls, and a mechanical inspection of the machinery.
10/20 – 02/21	Broadway Bridge over the Harlem River Rehabilitation, Bronx & Manhattan, NY – New York City DOT Movable Bridge Mechanical Engineer for the rehabilitation of the Broadway Bridge over the Harlem River. Project mechanical construction inspection work includes clean and inspect all the ropes and replace select ropes; replacement of primary reducers and provide shaft for auxiliary power; replacement of all pillow block sleeve bearing bushings; replacement of motor and machinery brakes; removal of abandoned rope oiling system; replacement of upper and lower air buffers; replacement of span lock machinery; replacement of elevators; balancing the lift span; repair of centering device. Responsible for reducer testing witnessing and performed thermal photography to aid in inspection/reporting effort.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Donald Marinelli, PE	Years of relevant experience with this employer
	Title		Senior Mechanical Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			M.E. / 2010 / Mechanical Engineering B.S. / 2005 / Mechanical Engineering, 2005	
Active registration number / state / expiration date			Professional Engineer: 43538 / LA / 09/30/2027	
Year registered	2019	Discipline	Mechanical Engineer	
Contract role(s) / brief description of responsibilities			Senior Movable Bridge Mechanical Engineer – Meets MPR 5	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/20 – Present	Almonaster Avenue Railroad Bridge over the Industrial Canal Rehabilitation, New Orleans, LA – Port of New Orleans Movable Bridge Mechanical Engineer for the bridge assessment and complete rehabilitative engineering design required for the partial replacement of this Strauss-heel trunnion bridge. H&H's 2019 assessment of the circa-1920, National Register of Historic Places eligible bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. H&H developed design plans to replace the span drive and span lock machinery, operating strut, guide assembly, live load bearings, counterweight trunnion pin, and bushing. Main trunnion bearings were rehabilitated.			
05/18 – 06/18	SR 609 Movable Bascule Bridge Rehabilitation, Ocean Springs, MS – Mississippi DOT Movable Bridge Mechanical Engineer responsible for conducting strain gage balance testing as part of the full rehabilitation design of the SR 609 bascule bridge. Issued as a task-order to the IDIQ Master Bridge Contract, the scope of this task order included developing standard and special bridge services, statewide for MDOT. Work included inspection and rehabilitation of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches and development of maintenance and repair plans.			
10/19 – 01/20	Annual Inspection of Almonaster Railroad Bascule Bridge over the Industrial Canal, New Orleans, LA – Port of New Orleans Movable Bridge Mechanical Engineer for an annual a structural inspection of the fracture critical steel, primary and secondary steel members, an electrical inspection of the electrical systems and controls, and a mechanical inspection of the machinery.			
12/21 – 03/24	Chesapeake & Delaware (C&D) Canal Rehabilitation, Middletown, DE – Carload Express & Delmarva Central Railroad Project Engineer / Mechanical Engineer of Record for the rehabilitation design of the C&D Canal railroad lift bridge. Responsibilities included completion of the design level inspection, repair recommendations, final design and bid phase services. Don coordinated with the railroad, USACE, and local stakeholders through DE and MD Pilot's Association meetings for railroad and canal outages. Rehabilitation scope included trunnion shaft and bearing inspection, reducer replacement, motor and brake replacement, counterweight guide repairs, span lock rehabilitation, electrical system replacement, signal system replacement (designed by a sub), and minor structural repairs. After bids came in, the project did not proceed. The federal grant funds were returned to FRA.			
08/08 – 08/10	Woodrow Wilson Memorial Bridge, Washington, DC – Maryland DOT/State Highway Administration Movable Bridge Mechanical Engineer responsible for preparing trunnion, span lock and tail lock maintenance manuals for the new bascule leaves, developing load rating for bascule spans, and operating bridge for one year prior to initiation of the asset management contract. Scope included providing engineering support during bridge operations following the construction. Responsibilities included the operation of eight bascule leaves and all ancillary devices from the control house, visual inspection of the machinery rooms, electrical rooms, lock platforms, and pedestrian walkways during openings, troubleshooting during malfunctions and failures, recording electrical measurements during operations and reporting all deficiencies. The new bridge carries twelve lanes of Interstate I-95/495 traffic.			

09/05 – 06/13	Pennington Avenue Drawbridge Rehabilitation, Baltimore, MD – City of Baltimore Movable Bridge Mechanical Engineer / Engineer of Record responsible for the rehabilitation design, construction support, and construction inspection of the mechanical systems as part of substructure and superstructure rehabilitation for the twin, double-leaf Hopkins trunnion-type bascule bridge. Mechanical system design included rehabilitation of the span drive machinery, trunnion bearings and live load bearings and the complete replacement of the center lock and tail lock machinery.
07/14 – 07/19	I-695 Drawbridges: Comprehensive Engineering Design Services, Statewide, MD – Maryland Transportation Authority Project Engineer / Mechanical Engineer of Record involving the structural, mechanical, and electrical rehabilitation of the I-695 Drawbridges over Curtis Creek as part of the Construction Management at Risk (CMAR) project. Responsibilities included overall project management during the design and construction phases of the multi-discipline design team, development of the RFP for MDTA's first CMAR contract, coordinating design work with subconsultants, coordination with Construction Manager throughout design, and mechanical system replacement and rehabilitation. The mechanical system design included the new span drive machinery configuration, center lock and tail lock machinery rehabilitations, and live load bearing adjustments. Responsibilities also included construction support services including shop drawing review, on-site support, and witnessing field testing.
04/15 – 11/21	Rehoboth Avenue Bascule & Savannah Road Rolling Lift Bridge Rehabilitation, Lewes, DE – Delaware DOT Project Engineer / Mechanical Engineer of Record for the rehabilitation of the Rehoboth Avenue Bridge (single-leaf bascule) and Savannah Road Bridge (double-leaf Scherzer rolling lift bascule). Responsibilities included performing the special rehabilitation inspection of the mechanical systems, preparing reports, and preparing rehabilitation plan sets for mechanical systems. Also providing construction support services during construction including shop drawing review.
05/09 – 08/17	2008 MDOT/SHA Movable Bridge Engineering Services, Statewide – Maryland DOT/State Highway Administration Lead Movable Bridge Mechanical Engineer for the on-call contract to perform structural, mechanical, and electrical condition inspection, evaluation, and design for emergency bridge repair and/or rehabilitation services of movable bridges, statewide, for the State Highway Administration's Bridge Inspection and Remedial Engineering Division. Responsibilities included planning AASHTO routine inspection of movable bridges statewide, performing the inspection of the mechanical systems at each bridge, inspection report preparation, rehabilitation design, and on-call field assignments because of operational issues.
02/05 – 08/06	South Branch Lift Bridge, Design for Ropes Rehabilitation, Chicago, IL – AMTRAK Movable Bridge Mechanical Engineer responsible for providing mechanical engineering design services for developing plans for new operating rope linkages and new sheave assembly, as well as developing rope tensioning procedure as part of the replacement design of the end connection and tensioning devices for the operating ropes.
04/06 – 04/15	2008 and 2005 Bridge Safety Inspection Services Contracts, Statewide – Delaware DOT Movable Bridge Mechanical Engineer providing mechanical inspections evaluations and strain gage balance testing of the bascule bridges, creating a mechanical system O&M Manual, developing a mechanical system maintenance program for each bridge, and emergency response for operational failures. Serviced eight movable bridges owned by DelDOT. H&H was responsible for AASHTO routine and in-depth inspections for eight of Delaware's movable bridges, creation of operations and maintenance manuals for all eight movable bridges, documentation of the mechanical and electrical as-built conditions, and emergency response of operational failures.
04/15 – 10/16	Washington State On-Call Movable Inspection, Statewide – Washington DOT Movable Bridge Mechanical Engineer for on-call services to support the State Bridge and Structures Office with special engineering expertise and design support services for new movable bridge design and existing movable bridge rehabilitation on a task order, on-call basis. Provided in-depth mechanical inspections and reports on the Chehalis River Bridge, Hood Canal Bridge and Heron Street Bridge.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Jason Biddle, PE	Years of relevant experience with this employer
	Title		Mechanical Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization		B.E. / Mechanical Engineering / 2010		
Active registration number / state / expiration date		Professional Engineer: 43431 / LA / 9/30/2027		
Year registered	2019	Discipline	Mechanical Engineer	
Contract role(s) / brief description of responsibilities		Movable Bridge Mechanical Engineer – Meets MPR 5		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Movable Bridge Mechanical Engineer for the inspection, evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior’s Standards.			
06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Mechanical Engineer for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller’s Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.			
01/21 – Present	Replacement of BR 3-164 on SR 36 Cedar Beach Road, Slaughter Beach, DE – Delaware DOT Project Engineer / Mechanical Engineer for the replacement of the existing bobtail swing span with an innovative new Dutch style bascule span. To maintain the existing profile grade, a modified orthotropic steel deck was designed that results in minimal structure depth. A combination of metalizing and galvanization will provide the necessary protective coating in this highly corrosive environment. In addition to the new movable span, the existing approach spans will be replaced with new precast, prestressed, solid slab spans. The new bridge design focuses on accelerated bridge construction techniques to minimize road closures and associated detours. The proposed bridge structure was designed to increase the existing hydraulic opening, thereby improving the flow characteristics of the canal in this high scour area. Responsibilities for the project include various project management tasks, technical supervision, design coordination between disciplines, and review of CPM schedule.			
12/22 – Present	Rehabilitation of Wilmington Drawbridges, Wilmington, DE – Delaware DOT Lead Mechanical Engineer / Engineer of Record for the portion of the task involving developing Work Orders for various priority structural, mechanical, and electrical repairs to be completed at the bridges while the long term bridge rehabilitation project plans are being developed. The Work Order repairs included warning gate replacement, stringer and bearing repairs, bascule leaf misalignment investigations, span lock shimming, speed reducer oil leakage repairs, sump pump replacement, new span drive machinery auxiliary drive installation, and limit switch replacement. Jason led the development of the mechanical repairs, oversaw the development of the Work Orders for other disciplines, reviewed contractor shop drawings, and provided on-site engineering support as repairs were completed. Lead Mechanical Engineer for the project involving rehabilitation design for 3 movable bridges. Responsibilities for the rehabilitation design for the 3 movable bridges which include mechanical rehabilitation design of repairs and replacement of portions of the span drive machinery and span lock machinery at each bridge.			

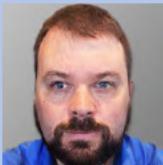
03/22 – 06/23	Delaware Third Street Bridge Emergency Span Lock Repairs, Wilmington, DE – Delaware DOT Lead Mechanical Engineer for the project involving inspection and repair to the Third Street bridge (BR 1-693) span locks due to a malfunction that damaged the machinery and supports. Responsibilities for the project included performing emergency inspection of the damaged span lock, evaluation of various temporary span lock concepts, development of temporary span lock operating winch system using readily available components, and design of permanent repairs including new motors and reducers. Also provided shop drawing review, RFI response, and assisted with coordination between DelDOT, its contractor, and vendors.
06/18 – 09/20	City of Baltimore Bridge Design Services On-Call Contract, Baltimore, MD – City of Baltimore Movable Bridge Mechanical Engineer developed mechanical remedial plans for the Hanover Street Bridge, a double-leaf rolling lift to restore operational capability. Also developed maintenance contract bid documents to cover routine maintenance for the electrical and mechanical systems at the City's two movable bridges. Responsibilities included developing and reviewing special provisions, maintenance checklist, and cost estimates. Design responsibilities included assessing components to determine the required repairs, developing contract documents (repair details, special provisions, and cost estimates) for the tail lock machinery repairs as well as shop drawing review services for the replacement span lock machinery.
04/15 – 11/21	Rehoboth Avenue Bascule & Savannah Road Rolling Lift Bridge Rehabilitation, Lewes, DE – Delaware DOT Project Engineer / Mechanical Engineer of Record for the rehabilitation of the Rehoboth Avenue Bridge (single-leaf bascule) and Savannah Road Bridge (double-leaf Scherzer rolling lift bascule). Responsibilities included performing the special rehabilitation inspection of the mechanical systems, preparing reports, and preparing rehabilitation plan sets for mechanical systems. Also providing construction support services during construction including shop drawing review.
05/17 – 07/21	US-17 Swing Bridge over the Perquimans River Design-Build, Perquimans County, NC – North Carolina DOT Movable Bridge Mechanical Engineer providing preliminary and final mechanical engineering designs for this swing bridge replacement project that will replace the existing swing bridge with a new, off-line bridge. The swing span structure consists of a center-pivot Warren through truss supporting the concrete deck. Although similar in appearance to the existing swing span, the new span will improve geometrics, increase load carrying capacity and vertical clearance, and include all the conveniences of a modern operational system. Responsibilities for project include reviewing final detail updates for various portions of the mechanical system prior to release for construction. H&H's responsibilities include the complete design of the new swing span, including structural, mechanical, electrical, and geotechnical engineering.
8/2018 – present	Centerville Turnpike (Bobtail Swing) Bridge Rehabilitation, Chesapeake, VA – City of Chesapeake, Bridge, and Structures Division Mechanical Engineer / Engineer of Record for the rehabilitation of the Centerville Turnpike Bridge (bobtail swing). Responsibilities include performing the scoping inspection and developing contract documents for the rehabilitation of the turning machinery, stabilizing machinery, and wedge machinery.
06/12 – 02/20	I-695 Drawbridge over Curtis Creek Rehabilitation, Baltimore, MD – Maryland Transportation Authority Movable Bridge Mechanical Engineer involved with the mechanical rehabilitation of this parallel double-leaf bascule. Responsible for assessing traffic control options with temporary bridge operations options during construction, assessing final machinery configuration options for the replacement of span lock mechanical components and report preparation. Construction support services provided during the rehabilitation included specialized on-site inspection of the machinery during construction, inspection of the machinery during routine and test operations throughout construction, and assessment of the new span drive machinery reducers after shop testing.
12/12 – 01/14	Front Street & Cedar Creek Bridge Emergency Repairs – Delaware DOT Movable Bridge Mechanical Engineer for the rehabilitation design for emergency repairs. Repairs at the Front Street Bridge (single-leaf bascule) included replacing the motor, brake thrusters, electrical wiring, navigation lights, bascule pier lights, disconnect switches and purging mechanical components of contaminated lubricant. Repairs at the Cedar Creek Bridge (bobtail swing) included replacing electrical wiring, navigation lights, limit switches, flexible lubrication lines, and purging mechanical components of contaminated lubricant. Responsibilities including the development of rehabilitation plans, shop drawing review, and on-site engineering support.

	Firm employed by		Hardesty & Hanover, LLC	
	Name		Matthew Gagliano, PE	Years of relevant experience with this employer
	Title		Senior Mechanical Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			M.S. / 2018 / Mechanical Engineering B.S. / 1994 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 37500 / LA / 03/31/2027	
Year registered	2012	Discipline		Mechanical Engineer
Contract role(s) / brief description of responsibilities			Senior Movable Bridge Mechanical Engineer – Meets MPR 5	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
02/23 – Present	H.015028.6 Bayou Barataria Movable Bridge Replacement (CE&I), Phase 1, LA 302, Jefferson Parish, LA – LADOTD Mechanical Engineer assisting in the mechanical construction engineering and inspection services for the Bayou Barataria Movable Bridge Replacement. This project consists of construction of the movable swing span bridge, operator's house, associated substructure elements, and pier protection system along relocated LA 302 in Jefferson Parish.			
10/15 – 02/18	Norwalk River (Route 136) and Yellow Mill (Route 130) Bascule Bridges, HUD Movable, Storm Hardening Design Services, Norwalk and Bridgeport, CT – Connecticut DOT Lead Mechanical Engineer responsible charge for managing construction inspection for the rehabilitation and storm hardening of two movable bridges, damaged by flooding due to Superstorm Sandy. The rehabilitation included structural, mechanical, and electrical upgrades as well as revisions to the Department's Operation and Maintenance procedures before and after major coastal storms. This project included provisions to improve the facility's performance during similar storms and provisions to rapidly restore the facility to functionality quickly in the event of a storm that exceeds the 100-year design storm. Mr. Gagliano was responsible for the design, preparation of contract drawings, specifications, and cost estimate for new counterweight pit dewatering systems. Design featured a three-tier pump-out system consisting of a primary diaphragm pump filtering and oil-water separator system, a high-volume sump pump backup system, and a tertiary standpipe for hookup of a trailer-mounted diesel power pump capable of flow rates over 2,000 gallons per minute.			
02/13 – 03/18	Tom Adams Bridge Rehabilitation, Charlotte County, FL – Charlotte County Lead Mechanical Engineer responsible for managing this rehabilitation project for a double-leaf bascule span carrying four lanes of traffic. The project featured a new multi-level control house with unobstructed 360-degree views. Mr. Gagliano was responsible for the design and construction oversight of new operating machinery for double-leaf trunnion bascule span meeting AASHTO standards. New operating machinery replaced existing Hopkins machinery within its original envelope and is a compact installation operated by 20 hp motors and gear reduction transmission. Design of HVAC and plumbing using Florida Building Code for new control house featuring a 4 ton air conditioner system and a wastewater pump with force main extension.			
11/18 – 08/23	Rehabilitation of Route 1 Bridge over Housatonic River, Milford, CT – CTDOT Project Engineer for the inspection of the operating machinery and electrical repairs of the double leaf movable span. Repairs include refurbishing gear reducers, adding collars to the machinery shafts and new dewatering pumps for the counterweight pit. Reviewed contractor submittals, attended progress meetings, performed key construction milestone site inspections.			
01/19 – Present	Connecticut River, Old Saybrook, CT – Amtrak Mechanical Engineer of Record for design of new operating machinery featuring a 60-inch diameter fixed trunnion for the Northeast corridor railroad new bridge's 200 feet bascule span. Bridge designed to carrier twin high speed rails. Responsible for design of the span locks, tail locks, HVAC and plumbing for the new control house.			

05/23 – Present	Rehabilitation of Mystic River Bridge over Mystic River, Mystic, CT – CTDOT Project Engineer for rehabilitation study report to investigate repairs to the bridge structure, operating machinery, electrical system, and control house of the historical heel trunnion type bascule span. Repairs include refurbishing gear reducers and reconditioning trunnion bearings.
12/16 – 11/18	Spuyten Duyvil Swing Bridge Rehabilitation, New York, NY – Amtrak Mechanical Engineer / Engineer of Record for final design on rehabilitation of this railroad bridge's movable span between Manhattan and the Bronx. He was responsible for design computations, modeling, and production of contract drawings for innovative replacement of swing bridge rim bearing with 4 bogie assemblies. Reviewed shop drawings, perform construction inspection, and attended construction progress meetings. The bridge's mechanical and electrical systems were damaged in 2012 by Super Storm Sandy. The project included rehabilitation of the center bearing, end machinery systems, electrical systems, and masonry at the piers. Responsible for mechanical design.
02/12 – 01/15	Metro-North Railroad Movable Bridge Inspection New Haven Line, New Haven, CT – Connecticut DOT Rail Lead Mechanical Engineer responsible for mechanical & electrical inspections of 5 movable bridges on the Metro North Railroad New Haven line as a sub-consultant to WSP. Routine and/or verification inspection of the Walk Bridge over the Norwalk River, Devon Bridge over the Housatonic River, Saugatuck Bridge, Cos Cob Bridge over the Mianus River in Greenwich, and Peck Bridge in Bridgeport. Movable spans are either a swing span or twin single-leaf bascules carrying four tracks. Inspections and subsequent reports were conducted and prepared according to the Connecticut Department of Transportation Office of Rail Railroad Bridge Inspection Manual. Inspected and evaluated movable span according to AREMA standards.
02/07 – 03/08	17th Avenue Bridge over Miami River, Miami, FL – Miami-Dade County Public Works Department Lead Mechanical Engineer / Engineer of Record for design for the replacement of the mechanical and electrical systems on this 1928 double-leaf bascule bridge. This design-build project (teamed with PCL Construction Inc.) rehabilitated the 3 girder, 148 feet double-leaf bascule span. The project included the detailed inspection of the mechanical and electrical systems, the preparation of a Design Report, detailed design of the replacement of the existing mechanical drive gear system and electrical system with a new hydraulic motor system and electrical systems. Responsible for the design of machinery, preparation of contract drawing, review and signing and sealing shop drawings, and construction support.
01/12 – 06/14	General Edwards Bridge, Task No. 2 Construction Phase Services, Boston, MA – MASSDOT Mechanical Engineer involved in the design of mechanical repairs. The project consisted of the replacement of an inoperable primary bridge control system and upgrades to the prime movers, motor, and machinery brakes, related mechanical operating components, and stabilize the granite veneer of the 4-basculer bridge towers. The scope also included retrofitting the pin and hanger systems with a redundant support system in the event of a failure and preparing a Preliminary Structures Report in anticipation of complete rehabilitation of the historic structure. The General Edwards Bridge consists of 13 steel multi-deck girder spans including a 106 feet main twin double-leaf bascule span. Several spans are suspended from fracture critical pin and hanger systems to accommodate thermal expansion and contraction.
01/24 – 08/24	I-275 Tolls (38th Avenue North to 4th Street North) Design, Pinellas County, FL – FDOT Mechanical Engineer of Record responsible for design plans, calculations, and specifications for the toll facilities' mechanical systems. This project includes the construction of express lanes along I-275 from north of 38th Avenue North to north of 4th Street North for a total distance of approximately 7.5 miles. H&H is developing toll facility plans, modified special provisions, technical special provisions, reports, and design calculations per the latest General Tolling Requirements (GTR).
08/19 – Present	East Haddam Swing Bridge, East Haddam, CT – CTDOT Lead Mechanical Engineer responsible charge for machinery rehabilitation and construction support. This historical bridge features a swing span of 456 feet long through truss supported on a pivot bearing and built in 1913. Operating machinery was sized for increased resistance due to addition of a pedestrian sidewalk on the swing span. Machinery rehabilitation includes new span drive machinery featuring an open bevel gearset with an axially adjustable bevel gear, and new rack and pinions. New larger discs and modified oil box design for the pivot bearings. Balance wheels, center, and edge wedge machinery assemblies refurbishing requirements specified. Specified and detailed refurbishing requirements for barrier gates including new hydraulic cylinder assemblies and repairs to its hydraulic power unit. Lead technical expert in construction meetings.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Andrew Barthle, PE	Years of relevant experience with this employer
	Title		Senior Electrical Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			B.S. / 2003 / Electrical Engineering	
Active registration number / state / expiration date			Professional Engineer: 34062 / LA / 3/31/2027	
Year registered	2008	Discipline	Electrical and Computer Engineering	
Contract role(s) / brief description of responsibilities			Senior Movable Bridge Electrical Engineer – Meets MPR 6	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Senior Electrical Engineer supporting movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Senior Electrical Engineer for the evaluation and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior's Standards.			
01/20 – 04/23	Almonaster Avenue Railroad Bridge over the Industrial Canal, New Orleans, LA – Port of New Orleans Electrical Engineer contributing to the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Avenue Bridge, a movable Strauss-heel trunnion bridge. H&H's 2019 assessment of the circa-1920 bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. H&H developed necessary design plans to replace the span drive and span lock machinery, operating strut, guide assembly, live load bearings, counterweight trunnion pin, and bushing. The main trunnion bearings were rehabilitated and repositioned.			
06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Electrical Engineer for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller's Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.			
04/18 – 08/22	SR 609 over Old Fort Bayou Bascule Bridge Rehabilitation, Gulfport, MS – Mississippi DOT Electrical Engineer of Record responsible for the electrical design and construction support for the full rehabilitation of the SR 609 bascule bridge as a task-order to the IDIQ Master Bridge Contract which includes developing standard and special bridge services statewide for MDOT. The scope of work			

	includes inspection and rehabilitation of structural, mechanical, and electrical bridge components, roadway approaches, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA, and MDOT guidelines and specifications.
01/19 – 08/20	SR 605 Over Industrial Waterway Canal Bascule Bridge Rehabilitation, Ocean Springs, MS – Mississippi DOT Electrical Quality Control Engineer responsible for the assessment, design, plan review, and quality control of electrical systems for the SR 605 double-leaf bascule bridge, as a task-order to the IDIQ Master Bridge Contract which included providing standard and special bridge services, statewide for MDOT. Scope included the inspection of structural, mechanical, and electrical components of the bridge and roadway approaches and the development of maintenance and rehabilitation/repair plans for elements identified during inspection. All designs were prepared in accordance with AASHTO, FHWA and MDOT guidelines & specs.
08/08 – Present	H.002798.6; Bayou Teche Swing Bridge at Oaklawn, St. Mary Parish, LA – Louisiana DOTD Electrical Engineer responsible for providing electrical design calculations, plan preparations and post-design services for the bridge power distribution and relay-based control system for this movable bridge. Built in 1941, the original National Register of Historic Places eligible bridge was replaced with a new hydraulically-operated swing bridge. H&H provided the electrical design for the bascule bridge in line with LADOTD's design requirements and standard design details and coordinated closely with the other design disciplines to assure success. All design deliverables were made in accordance with the project schedule. Due to permitting issues, design activities were placed on hold for several years extending the schedule. H&H is currently providing construction phase services for the project.
08/16 – 5/21	SR-A1A/North Causeway Bridge over ICWW, Fort Pierce, FL – Florida DOT District 4 Electrical Engineer for the 4000-foot-long bridge replacement project which replaces a bascule span with a high-level fixed bridge that has 85-foot vertical clearance over the navigable channel. The preferred replacement fixed bridge alternative includes the FIB superstructure and spans over Old Dixie Hwy and the FEC Railway. In addition to the new bridge, the project includes extending Juanita Ave east from US-1 to Old Dixie Hwy and provisions for a new access roadway for the businesses south and north of the new bridge along SR A1A.
02/23 – Present	Venetian Causeway over Biscayne Bay, Miami Beach, FL – Miami-Dade County Lead Electrical Engineer / Engineer of Record responsible for the delivery of final design and post-design services for the replacement of the double-leaf, rolling-lift bascule bridge (Bridge 10) along the historic Venetian Causeway. The 305 foot long replacement bridge includes 77 foot longarched approach spans flanking a 151 foot long double-leaf bascule span with cruciform aesthetic railings. The bridge is designed to meet the resilience demands of Biscayne Bay including sea-level rise.
05/18 – 12/18	I-110 Bridge over the Back Bay of Biloxi, Harrison, MS – Mississippi DOT Lead Electrical Engineer for routine/fracture critical inspection of I-110 Bridge over the Back Bay of Biloxi for the Mississippi Department of Transportation. Inspection included electrical, mechanical, and structural inspection of all components of the bascule and anchor spans and NBIS and element inspection for the entire bridge.
10/19 – 10/21	Seabrook Railroad Bascule Bridge Annual Inspection, New Orleans, LA – Port of New Orleans Electrical Engineer for the annual inspection of the Seabrook Trunnion Bascule Bridge crossing the Inner Harbor Navigation Canal in New Orleans. Services included routine and fracture critical inspection involving the structural, mechanical, and electrical inspection of all components of the bascule, counterweight, and tower spans per the Bridge Safety Management Program. Also conducted NBIS and element inspection for the entire bridge.
12/17 – 5/18	SR 75 (US 231) Reconstruction, SR 30A (US 98) to South Pipeline Road, Panama City, FL – Florida DOT Electrical Engineer for the new 840-foot steel bridge on SR77 crossing US 231 and the CSX railroad. H&H is providing design services for the single point urban interchange (SPUI) at SR 77 over US 231 and CSX RR improvement project. Work includes design for roadway and drainage design of the intersection, lighting design for the entire project, and bridge design for new major steel structure.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Christopher Svara, PE	Years of relevant experience with this employer
	Title		Senior Electrical Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization		B.S. / 1993 / Applied Physics B.S. / 1993 / Electrical Engineering		
Active registration number / state / expiration date		Professional Engineer: 44080 / LA / 03/31/2028		
Year registered	2019	Discipline	Electrical Engineer	
Contract role(s) / brief description of responsibilities		Senior Movable Bridge Electrical Engineer – Meets MPR 6		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Senior Electrical Engineer supporting movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			
01/19 – Present	SR 605 Movable Bascule Bridge Rehabilitation, Ocean Springs, MS – Mississippi DOT Movable Bridge Electrical Engineer for the assessment, design, plan review, and quality control of SR 605 double-leaf bascule bridge, as a task-order to the IDIQ Master Bridge Contract which includes developing standard and special bridge services, statewide for MDOT. Scope of work includes inspection and rehabilitation of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.			
08/08 – 08/13	Judge Seeber Vertical Lift Bridge over Inner Harbor Navigational Canal (SP 700-99-0430), New Orleans, LA – LADOTD Lead Movable Bridge Electrical Engineer / Engineer of Record provided inspection and rehabilitative design services for the electrical rehabilitation of a 250-foot tower-drive vertical lift span. The rehabilitation design of this Preservation Priority Bridge encompassed various electrical elements including a new control system, new distributed power distribution system, motor controllers, control desk, and limit switches. Provided the electrical design, including calculations, design drawings, and specifications. During the construction phase, provided construction support services for the construction, including shop drawing review, and responded to various Requests for Information.			
08/10 – 07/13	Murray Morgan Vertical Lift Bridge Rehabilitation, Tacoma, WA – City of Tacoma Lead Movable Bridge Electrical Engineer / Engineer of Record responsible for developing the electrical design required to replace the complete electrical system on a span drive lift bridge. Scope for this National Register of Historic Plans listed bridge included providing the electrical design, including calculations, design drawings, and specifications as well as providing construction support services for the construction, including shop drawing review, Requests for Information, meetings, on-site testing, and start up. This rehabilitation design included a new programmable logic control system, a radio communication system to reduce cables from the movable span to the fixed piers, control desk, new distributed power distribution system consisting of a movable span, near side, and far side electrical equipment locations, motor drives, utility service, and power distribution.			

08/17 – 07/19	I-90 Lacey V Murrow Pontoon Bridge Rehabilitation, Seattle, WA – Washington State DOT Bridge Preservation Office Movable Bridge Electrical Engineer for an I-90 Lacey V Murrow Bridge electrical inspection and rehabilitative design project. H&H's electrical inspection of eastbound I-90 revealed that the electrical switchgears and five pairs of transformers needed to be replaced and the neutral and ground conductors needed to be separated. H&H's rehabilitative recommendations also required that submersible fuses in three pontoons be reconfigured and reinstalled, and that a fault current and arc flash hazard analyses be performed on all medium voltage equipment. H&H was responsible for the in-depth inspection, associated inspection report, subsequent electrical system design, and construction support services.
07/10 – 04/16	SR 520 Evergreen Point Floating Bridge and Landings Project, Seattle, WA – Washington State DOT Bridge Preservation Office Movable Bridge Electrical Engineer on this design-build project to replace the SR 520 Floating Bridge with a new parallel bridge and maintenance facility. Prepared a design-build Request for Qualifications and Request for Proposal for the replacement SR 520 Evergreen Point Floating Bridge and Bridge Maintenance Facility. The floating bridge work included preliminary design and complete technical requirements for a specialized structure. The Maintenance Facility included preliminary design and complete technical requirements for LEED compliant facility. Work also included support during the bidding and selection process as well as reviewing the design-build team's design submittals, attending task force meetings with the design-build team to keep the project requirements clear, and reviewing construction submittals.
06/17 – 04/18	Centerville Swing Bridge over the Chesapeake & Albemarle Canal Rehabilitation, Chesapeake, MA – City of Chesapeake Lead Movable Bridge Electrical Engineer for the rehabilitation of the Centerville Swing Bridge's bascule span. The project consisted of a site inspection to verify the condition of the electrical systems. After the site visit, a detailed scope of work was developed to identify the rehabilitation work that was required. Once the scope was defined and approved by the City, then construction plans, specifications, calculations, and cost estimates were prepared for a complete electrical rehabilitation of the bridge electrical system. The planned scope of work also included construction support service
12/98 – 12/01	Chehalis River Bascule Bridge Rehabilitation, Aberdeen, WA – Washington State DOT Bridge Preservation Office Movable Bridge Engineer responsible for field inspection and subsequent design of the new electrical system for this Warren deck truss bascule bridge. Electrical designs were prepared for hydraulic center lock rehabilitation, traffic and pedestrian gate replacement, and new bridge electrical control and indication modifications. Project scope also included site inspection to evaluate existing equipment to determine what systems needed replacement versus maintenance. Design work included new control system, power distribution, hydraulic center locks, and gates as well as construction support services. Construction should be completed by Summer 2021.
10/99 – 03/01	Woodrow Wilson Bascule Bridge Replacement Contract, Washington, DC – Maryland State Highway Admin. / Virginia DOT Movable Bridge Electrical Engineer / Engineer of Record designing the new electrical systems for a new 12-lane bascule bridge to replace the existing I-95 Potomac River crossing. The new bridge is comprised of four side-by-side double-leaf bascule spans, each with a 270-foot center-to-center trunnion spacing and an overall bridge width of 249 feet. Responsibilities include the complete design of the completely new electrical systems. Features of the span include a composite concrete deck, moment-resisting span locks, tail locks, and the option of independent or group leaf operation. The bridge has been designed to accommodate future transit system plans.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name	Marco Lara, PE	Years of relevant experience with this employer	8
	Title	Senior Electrical Engineer	Years of relevant experience with other employer(s)	13
Degree(s) / Years / Specialization			BS / 2004 / Electrical Engineering	
Active registration number / state / expiration date			Professional Engineer: 44115 / LA / 03/31/2028	
Year registered	2019	Discipline	Electrical Engineer	
Contract role(s) / brief description of responsibilities			Senior Movable Bridge Electrical Engineer – Meets MPR 6	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
11/20 – Present	Almonaster Avenue Railroad Bridge over the Industrial Canal Rehabilitation, New Orleans, LA – Port of New Orleans Movable Bridge Electrical Engineer for the bridge assessment and complete rehabilitative engineering design and construction inspection services required for the rehabilitation and roadway replacement of the Strauss-heel trunnion bridge. H&H's 2019 assessment of the circa-1920 bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure.			
03/18 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Senior Electrical Engineer for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.			
08/21 – 01/22	Lapalco Boulevard Movable Bridge over Harvey Canal, Westwego, LA – Jefferson Parish DPW Movable Bridge Electrical Engineer contributing to the pre-design electrical inspection and resulting Bridge Design Report (BDR) for the rehabilitation and widening of the existing four-lane Lapalco Boulevard project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lanes as well as the design of a new three-lane double bascule movable bridge crossing of Harvey Canal to be constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. Improvements to bridge and roadway approaches and development of a Traffic Control Plan was also included.			
04/18 – 03/21	SR 75 (US 231) Reconstruction, SR 30A (US 98) to South Pipeline Road, Panama City, FL – Florida DOT District 3 Project Electrical Engineer / Engineer of Record responsible for technical review of the 60% constructability roadway lighting design consisting of calculations and plan preparations, including Lighting Design Analysis Report (LDAR) and Lighting Justification Report (LJR). H&H is providing design services for the single-point urban interchange (SPUI) at SR 75 over US 231 and CSX RR improvement project			

04/09 – 06/13	Crescent Beach Bridge Rehabilitation (SR 206), St. Johns County, FL – Florida DOT Movable Bridge Electrical Engineer / Engineer of Record responsible for rehabilitation of existing double-leaf, trunnion bascule bridge. Rehabilitation consisted of replacement of electrical power and controls with new Motor Control Center (MCC) and programmable logic controller (PLC) and replacement of drum switches and wound rotor motors with flux vector motors, drives, and brakes. Also included replacement of traffic gates, new open grid decking, and tender house improvements. Permit application was created for submarine cable replacement. Duties included shop inspections, witness testing, field inspection, and estimate of completion.
03/18 – 07/19	Cass Street Bascule Bridge over Hillsborough River, Tampa, FL – Hillsborough County Government Movable Bridge Electrical Engineer / Engineer of Record responsibilities included producing and developing calculations and design plans for the rehabilitation of this historic double-leaf bascule bridge. The major rehabilitation involved replacing obsolete and aging electrical equipment such as the programmable Logic Controller (PLC), motor control panels and cabinets; conduit and wiring associated with a generator, automatic transfer switch, safety interlock, etc.; auxiliary drive bevel gear bushing, span drive motor, span lock & pinion, span lock brake & bushings; and emergency Drive bevel gear, shaft bushing, bearing & couplings, live load shoe, and lighting. H&H is providing design plans for structural rehabilitation and controller system replacement. Services included inspections of the structural, electrical, and mechanical components; a bridge development report; structural, electrical, and mechanical construction plans; temporary traffic control plans (TTC); specifications; engineer's estimate of probable construction cost; and post-design services.
03/18 – 07/19	Brorin Street Bascule Bridge over Hillsborough River, Tampa, FL – Hillsborough County Government Movable Bridge Electrical Engineer responsibilities included producing and developing calculations and design plans for this double-leaf bascule bridge rehabilitation. This rehabilitation involved replacing aging electrical equipment, such as the main drive motors, brakes, motor control panels, span drive system and lock motor, limit switches, lighting, and upgrading the electrical service. H&H provided designs for the National Register of Historic Places eligible bridge including a structural rehabilitation and controller system replacement. Services included inspections of the structural, electrical, and mechanical components; a bridge development report; structural, electrical, and mechanical construction plans; TCP; specifications; engineer's estimate of probable construction cost;
05/17 – 07/17	Arthur Kill Vertical Rail Lift Bridge, Elizabethport, NJ / Staten Island, NY – New York City Economic Development Corporation Movable Bridge Electrical Engineer responsible for performing in-depth inspections of the existing span drive, limit switches, motor control center, termination cabinets, control console, and bridge electrical system on the Arthur Kill Vertical Lift Bridge. With a single-track tower drive and a 558-foot-long span, <i>this bridge has the longest lift span of any bridge of its type in the world</i>. Observed bridge operations and visually evaluated aerial cables. Performed electrical testing of electrical service, motors, motor brakes, and span locks. Reviewed previous bridge inspection reports and prepared checklist for field evaluation of corrected and uncorrected deficiencies.
1/10 – 10/15	Ocean Avenue Bridge, Lantana, FL – Palm Beach County Movable Bridge Electrical Designer responsible for electrical design of power distribution layout and plan sheets of relay-based control system with PLC monitoring and diagnostic alarm system for the replacement of double-leaf bascule bridge. Span motor controls are flux vector drive with encoder feedback. Performed lighting analysis and design of electrical equipment room, control house, and bascule piers. Provided standby generator sizing, power flow and voltage drop studies, short circuit analysis, and lighting panel calculations. Duties include shop drawing review, shop inspections, witness testing, field inspection, and estimate of completion.
07/10 – 01/13	Sargent Barge Swinging Barge (Platoon) Bridge Rehabilitation, Matagorda County, TX – Texas DOT Movable Bridge Electrical Designer. Drafted electrical repair plans for power distribution system, panel schedules, control schematics, equipment layouts and conduit & cable schedules. Design includes a programmable logic controller (PLC) control-based system utilizing wireless modems to eliminate the submarine cable. Operating system includes two winches on vector controlled variable speed drives, integrated to control back tension on the payout winch in each direction, to maintain absolute control of the barge in tidal currents. The center span is a 125-foot cable operated swinging barge with motor operated leveling spans and aprons on each end. Project scope included replacement of the timber leveling spans with steel framed open grid decks and the operating machinery, replacement of the bridge winch machinery and controls, structural repairs, and replacement of the traffic gates and miscellaneous roadway modifications.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		James Phillips, III, PE	Years of relevant experience with this employer
	Title		Senior Structural Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			B.S. / 1982 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 25091 / LA / 03/31/2027	
Year registered	1986	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Technical Advisor – Meets MPR 7	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Technical Advisor for the inspection, evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior’s Standards.			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Technical Advisor supporting movable bridge preservation and rehabilitation task orders under an LADOTD IDIQ contract, including mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			
06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Technical Advisor for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller’s Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.			
06/20 – 12/20	SR 609 Movable Bascule Bridge Rehabilitation, Ocean Springs, MS – Mississippi DOT Chief Bridge Movable Bridge Engineer for full rehabilitation of SR 609 bascule bridge, as a task-order to the IDIQ Master Bridge Contract which included developing standard and special bridge services, statewide for MDOT. Scope of work included inspection and rehabilitation of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.			
1/18 – Present	Lapalco Boulevard Movable Bridges over Harvey Canal, Jefferson Parish, LA – Jefferson Parish DPW Technical Lead for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Boulevard to provide a facility carrying three lanes of traffic in each direction. In addition to constructing the new bridge immediately adjacent and north of the existing bridge, the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane will be rehabilitated. The scope of services also includes improvements to bridge and roadway approaches for eastbound and westbound traffic as well as the development of a Traffic Control Plan. This project is being designed according to LADOTD standards and specifications.			

01/16 – 04/16	District Seven Movable Bridge Work Program Evaluation, West Central Florida – Florida DOT District 7 Chief Bridge Structural Engineer responsible for developing a ten-year work program for eleven movable bridges (10 bascules, 1 vertical lift) owned and operated by FDOT D7. Prepared a condition assessment of each bridge based upon site reviews, recent bridge inspection reports, prior repair/rehabilitation projects and interviews with maintenance staff. Prepared a report describing the current state of the bridges and providing recommendations for routine and periodic repairs/rehabilitation over the next 10 years. Costs for the recommendations were included in the report.
11/14 – 11/15	Flagler Memorial Bridge over ICWW, Palm Beach, FL – Florida DOT District 4 Project Manager & Chief Bridge Structural Engineer responsible for the post design services for a new bridge featuring twin double-leaf rolling-lift bascule spans. The project was constructed using a design-build approach. Assisted with review of requests for information (RFIs) and construction procedures for shop fabrication and field alignment, including roll testing. Performed site visits to the steel fabrication shop to observe construction and roll testing and provide guidance on adjustments to obtain alignment tolerances of the rolling tread surfaces.
05/18 – 2/21	SR-A1A/North Causeway Bridge over ICWW, Fort Pierce, FL – Florida DOT District 4 Project Manager & Chief Bridge Structural Engineer / Engineer of Record for the 4000-foot-long bridge replacement project which replaces a bascule span with a high-level fixed bridge that has 85-foot vertical clearance over the navigable channel. The preferred replacement fixed bridge alternative includes the FIB superstructure and spans over Old Dixie Hwy and the FEC Railway. In addition to the new bridge, the project includes extending Juanita Ave east from US-1 to Old Dixie Hwy and provisions for a new access roadway for the businesses south and north of the new bridge along SR A1A.
08/12 – 02/14	Laurel Street Bascule Bridge Rehabilitation, Tampa, FL – City of Tampa Project Manager / Chief Movable Bridge Engineer for a project that involved emergency repairs and rehabilitation of a historic through truss single-leaf bascule bridge. Scope involved emergency repair of the rack pinion support structures and rack frames to correct severe corrosion and fatigue cracks. Rehabilitation included reconditioning of the drive machinery and replacement of the drive motors and control system.
01/15 – 12/17	Beckett Bridge Replacement, Tarpon Springs, FL – Pinellas County Government Technical Lead responsible for replacement of an existing historic bridge with a new 360-foot single-leaf, rolling-lift, bascule bridge that carries Riverside Drive over Whitcomb Bayou and features two traffic lanes, shoulders and a sidewalk. The movable span features steel plate girder main girders and floorbeam and an Exodermic deck that spans longitudinally between floorbeams. The bascule pier footing and approach pier caps feature precast concrete elements to facilitate accelerated bridge construction. Foundations are drilled shafts and pipe piles, designed to accommodate challenging site conditions including a relict sink hole under the bridge. A unique crank arm system drives the movable span, powered by redundant 20 HP electric motors and vector drives. Auxiliary machinery includes tail props and span locks. Project elements included relay-based control system, approximately a quarter mile of roadway, drainage, bridge architecture, and public involvement.
02/03 – 03/05	Spokane Street Swing Bridge, Seattle, WA – Seattle DOT Project Manager / Engineer of Record for investigation and design of replacement lift/turn cylinders for the world's largest concrete double-swing bridge. Project involved design of nine-foot diameter bore hydraulic cylinders for lifting and pivoting two 1.5-million-pound concrete spans. Replacement involved investigation of the failure mode of the original cylinders, including detailed FEA analysis, and development of a cylinder design that eliminated the stress concentrations found to have contributed to the failure. The span length between pivots is 480-ft. and each swing span has a length of 418-ft.
06/12 – 06/14	Andrews Avenue Bascule Bridge Rehabilitation, Fort Lauderdale, FL – Broward County Chief Movable Bridge Engineer responsible for hydraulic system design and review of structural and mechanical design, calculations, plans, and technical special provisions for this single-leaf bascule bridge. Scope included electrical and machinery rehabilitation of a single-leaf bascule span. Mechanical work included complete replacement of the hydraulic cylinder drive system and span locks.
09/98 – 04/06	US 92 Hillsborough Avenue Vertical Lift Bridge Rehabilitation, Tampa, FL – Florida DOT Chief Movable Bridge Engineer / Engineer of Record responsible for inspection and design for repair of an historic 1939 vintage vertical lift movable bridge over the Hillsborough River. The bridge features a 94-foot lift span. Inspected specific bridge systems and devised repairs to correct binding of the lift span guide assemblies. Performed QC reviews of the plans and technical special provisions for replacement of the counterweight wire ropes, sheaves and sheave bearings as well as miscellaneous structural repairs to the lift span towers.

	Firm Employed by	Hardesty & Hanover, LLC		
	Name	Steven Harlackner, PE, SE	Years of relevant experience with this employer	30
	Title	Principal / Senior Structural Engineer	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		B.S. / 1996 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 37057 / LA / 09/30/2026		
Year registered	2012	Discipline	Civil Engineer, Structural Engineer	
Contract role(s) / brief description of responsibilities		Senior Structural Fixed & Movable Bridge Engineer – Meets MPR 7		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage,” “designed girders,” “designed intersection,” etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
05/18 – Present	Replacement of the Connecticut River Bridge, Old Saybrook and Old Lyme, CT – Amtrak Project Manager / Engineer of Record for the replacement of this movable bridge carrying two tracks of Amtrak Northeast Corridor traffic over the Connecticut River. Feasible study alternatives for rehabilitation or replacement were determined, and these were analyzed for estimated costs and for comparative benefits as related to the degree to which project needs are met. Navigation clearance requirements are taken from a Navigation Study previously prepared by H&H for the Connecticut River. Cost analysis and impacts to right-of-way, utilities, tidal marshlands, and navigation were investigated. A set of highly ranked alternatives was selected, termed “Best Solution Study Alternatives,” each providing Amtrak combined advantages of cost and of technical benefits. Estimated construction costs for the best solution study alternatives were more than \$100 million. Included were alignment and profiles layout for various rail gradient options. The existing bridge, constructed circa 1907, is a two-track, open deck, electrified railroad bridge, 1,564-foot-long, consisting of seven thru-truss spans, two deck girder spans, and one 158-foot Scherzer-type rolling lift span. In recent years, the draw span of the bridge has been operated approximately 3,700 times annually to accommodate navigation on the Connecticut River.			
05/18 – Present	Cribari Swing Bridge over the Saugatuck River, Westport, CT – Connecticut DOT Project Manager for a rehabilitation Studies Report of this historic swing bridge (the oldest movable span in Connecticut). Preliminary structure and alignment information for the development of the Environmental Assessment and other NEPA/CEPA activities. To support the development of environmental documentation and comply with National and State environmental policies, H&H has developed preliminary structural concepts and roadway alignments for multiple permanent and temporary bridge solutions. Each of these alternatives have been developed to support CTDOT’s extensive public outreach program, which includes participation in the Project Advisory Committee (PAC) presentations to communicate with key stakeholders and gather information for incorporation in Environmental Documents. The alternatives have also been developed in sufficient detail to determine environmental impacts and allow the designation of a preferred alternative. Our involvement includes the development of complex and highly detailed three-dimensional visualization models to illustrate possible solutions and foster PAC participation and engagement.			
02/15 – 06/18	Norwalk River (Route 136) and Yellow Mill (Route 130) Bascule Bridges Storm Hardening Design Services – Connecticut DOT Project Manager for the rehabilitation and storm hardening of these bridges, damaged by flooding due to Superstorm Sandy. Directly responsible for structural, mechanical, & electrical design team management. This project includes provisions to improve the facility’s performance during similar storms and provisions to rapidly restore the facility to functionality quickly in the event of a storm that exceeds the 100-year design storm.			
12/11 – 05/12	Saugus Drawbridge Rehabilitation, Saugus, MA – Massachusetts Bay Transportation Authority Movable Bridge Structural Project Engineer / Engineer of Record responsible for the analysis and design supervision for this project involving comprehensive modeling, ratings analysis of as-inspected conditions, real-time structural monitoring, and resultant strengthening of an existing pier compromised by extensive structural deterioration. Responsibilities included development of load rating methods to determine existing substructure capacity and design of an interim strengthening concept which included a temporary pier to allow the bridge to remain in service at full capacity until a comprehensive replacement project was undertaken.			
02/16 – 11/17	Chapel Street Swing Bridge Rehabilitation & Painting, New Haven, CT – City of New Haven Project Manager for the design of the Phase 1 Rehabilitation and the Phase 2 Painting contracts. This project included the replacement of mechanical and electrical components, selective superstructure rehabilitation, substructure, and fender work. H&H performed construction inspection			

	services during the Phase I Structural, Mechanical, and Electrical rehabilitation project. Services included field inspection in accordance with the current CTDOT Construction Manual and CTDOT Standard Specifications for the duration of the construction project. Responsibilities included conducting field inspections, attending progress meetings and special meetings as required, and assisting in resolving contract inquiries and addressing field changes. H&H was also responsible for ensuring that the Contractor adhered to all contract requirements and made all required submittals in a timely manner. To support field inspection, H&H office engineers were responsible for maintaining records and documenting the progress of the contract work. H&H responsibilities also included reviewing the Contractor's CPM, bar charts, and/or other project schedules and reviewing contractor-submitted requisitions for payment, which included certifying that quantities submitted for payment are accurate.
12/12 – 12/17	Sarah M. Long Vertical Lift Bridge, Portsmouth, NH & Kittery, ME – Maine DOT Movable Bridge Structural Engineer/QA Engineer responsible for preliminary concept development, preliminary design, and final design services for this complete vertical lift bridge replacement. Responsibilities included developing preliminary design concepts, conducting cost evaluations, and performing engineering evaluations, as well as creating preliminary and final design documents for the chosen 300-foot-long steel box girder lift bridge alternative. QC activities ensure that the lift span design meets the requirements of the Quality Plan. Preliminary concept development involved evaluating variable alignments, structural types, and materials. The selection of a best-fit structure considered bridge engineering, vessel collision resistance, span operation, aesthetics, and construction.
03/11 – 04/13	Murray Morgan Vertical Lift Bridge Rehabilitation Design-Build, Tacoma, WA – City of Tacoma Movable Bridge Structural Engineer/QC Engineer responsible for supervising the structural design aspects of the complete structural, mechanical, and electrical rehabilitation of this 100-year-old, National Register of Historic Places eligible lift bridge. The scope included total design services from preliminary engineering through construction support services as part of a Design-Build team with PCL Constructors. As the Structural Engineer in Charge, this project required oversight of a multi-disciplinary design effort that included bridge member strengthening and seismic upgrades. As QC Engineer, reviewed and verified preliminary and final design documents prepared by multiple collaborators for contract compliance.
02/10 – 12/10	Fairhaven-New Bedford Swing Bridge Rehabilitation, New Bedford, MA – Massachusetts DOT Movable Bridge Project Engineer / Engineer of Record during the preliminary investigation of the source and possible remedy of cracks in the bottom chord of the swing span of the swing bridge carrying Route 6 over the Acushnet River. The preliminary investigation included the development of a comprehensive computer model and subsequent fatigue analysis to determine the approximate constant amplitude fatigue stress range of this 120-year-old bridge and to estimate the remaining fatigue life of the structure. The Preliminary Structures Report presented the results of the fatigue analysis, focusing on rehabilitation techniques available to the department to minimize the likelihood of future crack development.
12/09 – 05/10	Rehabilitation of the Grand Avenue Swing Bridge, New Haven, CT – City of New Haven Movable Bridge Project Engineer / Engineer of Record leading the preparation of an alternatives study report to provide the city with viable rehabilitation alternatives for the Swing Span. The study focused on methods of supporting the span during extensive operating machinery replacement, alternatives for bridge deck replacement, an investigation of the bridge approaches, scour susceptibility of the original piers, and mitigation techniques to allow the bridge approaches and piers to remain in place. The study provided for a rehabilitation scope of services and order of magnitude cost estimates for the recommended scope and cost and considerations associated with more and less involved rehabilitation alternatives. An on-site condition inspection was also conducted to confirm that the proposed scope was adequate to address the bridge's condition.
11/09 – 12/09	First Lieutenant Derek S. Hines Memorial Swing Bridge Design-Build, Amesbury MA – Massachusetts DOT Lead Movable Bridge Structural Engineer responsible for determining bid phase structural improvements to a preliminary design furnished as part of a Design-Build bid package. Bid phase design consisted of redesign of the swing girders, redesign of the pivot girder system, in-depth evaluation and design of the bridge deck, and determination of superstructure loads using the AASHTO LRFD Movable Bridge Code to allow the design of a new pivot pier. Coordination between structural and geotechnical engineers was essential for the design team to complete the pivot pier computations and allow the contractor to make an accurate bid.

	Firm employed by		Hardesty & Hanover, LLC	
	Name		Michael Delemont, PE	Years of relevant experience with this employer
	Title		Senior Bridge Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			B.S. / 2000 / Civil Engineering M.E. / 2002 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 43170 / LA / 09/30/2027	
Year registered	2019	Discipline	Structural Engineer	
Contract role(s) / brief description of responsibilities			Structural Engineer and Bridge Inspection – Meets MPR 7	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/23 – 12/23	Jimmie Davis Bridge Inspection – Louisiana DOTD Inspection Team Leader for the inspection of the three main truss spans of this multi-span bridge over the Red River. Michael performed the routine and fracture critical inspections of the upper half of the trusses from a manlift, while two other inspection crews inspected the lower half of the trusses and the approach spans.			
01/24 – 12/24	US 190 Bridge Inspections – Louisiana DOTD Inspection Team Leader for the inspection of two parallel bridges each approximately 3,400 feet long with three main truss spans over the Atchafalaya River. Michael performed the routine and fracture critical inspections of the upper half of the trusses and several approach spans from a manlift.			
2023 – 2025	I-110 Bascule Bridge Inspection – Mississippi DOT Inspection Team Leader for the inspection of the bascule span and numerous approach spans over the Back Bay of Biloxi. Michael performed the routine and fracture critical inspections of the superstructure using an under bridge access vehicle. A full in-depth report was submitted to the Mississippi DOT in December.			
2025 – Present	Lawe Street Bascule Bridge – City of Appleton Project Manager and Lead Structural Engineer for a rehabilitation of a double leaf trunnion style bascule bridge. Led scoping inspection and currently leading the design. Design will be complete in 2027.			
01/25 – 12/25	Congress Ave Bridge Inspection – Wisconsin DOT Inspection Team Leader and Lead Structural Engineer for the inspection of this double-leaf rolling-lift bascule bridge. The bridge carries Congress Ave (STH 21) over the Fox River and is comprised of five total spans including the bascule span flanked by steel deck girder spans on each side. Michael's responsibilities as the Inspection Team Leader included performing routine, fracture critical and movable bridge inspection and leading the development of a comprehensive asset management report.			
01/25 – 12/25	8th Street Movable Bridge Inspection – City of Sheboygan Inspection Team Leader and Lead Structural Engineer for the inspection of a single leaf hydraulically-operated bascule bridge with two approach spans. Michael's responsibilities as the Inspection Team Leader included performing routine, fracture critical and movable bridge inspection and providing recommendations to the City of Sheboygan.			
01/23 – 12/25	Mason Street Bridge Rehabilitation – Wisconsin DOT Lead Structural Engineer for rehabilitation of the double-leaf bascule span. Scope of work includes steel grid deck replacement, stringer replacement, steel repainting, and other miscellaneous repairs. Michael performed a scoping inspection and is currently leading the development of preliminary plans for the rehabilitation. Design will be complete in 2026.			

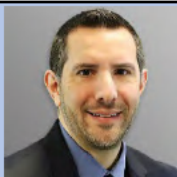
01/24 – 12/24	Bart Starr Memorial Bridge Inspection – Wisconsin DOT Inspection Team Leader and Lead Structural Engineer for the inspection of this double-leaf rolling-lift bascule bridge. The bridge carries Walnut Street (STH 29) over the Fox River and is comprised of six total spans including the bascule span flanked by steel deck girder spans on each side. Michael's responsibilities as the Inspection Team Leader included performing routine, fracture critical and movable bridge inspection and leading the development of a comprehensive asset management report. Michael is currently the lead structural engineer for the design of a major rehabilitation of the bridge.
01/23 – 12/25	16th Street Bascule Bridge Rehabilitation – City of Milwaukee Lead Bridge Engineer for major rehabilitation of Unit 14 of the viaduct which includes a double-leaf trunnion-style bascule bridge over the Menomonee River. The bascule span no longer operates and the project will permanently fix the bridge in the closed position allowing deck replacement and steel repairs of Unit 14. Michael led the scoping inspection and the preliminary design, and is currently completing the final bridge design. Design was completed in 2024 and construction will be complete in 2026.
01/23 – 12/23	Lafayette Avenue Bascule Bridge – Michigan DOT Structural Engineer for the design of a new rolling leaf bascule bridge to replace a rolling leaf bascule on US-23 over the Saginaw River. The project, which is currently underway, includes the replacement of the two-lane double-leaf rolling lift bascule span and fixed approach spans built in 1938. Michael's responsibilities include quality reviews and coordination between various disciplines involved with the design.
01/21 – 12/22	Bridge 1.24 Manitowoc – CN Railroad Lead Structural Engineer for the inspection and preliminary design for the rehabilitation of a bobtail swing railroad bridge. Michael led the in-depth inspection to confirm the required scope. Michael led the preliminary design, which included structural repairs, replacement machinery, and new upgraded electrical control system.
2015, 2021 & 2022	Appleton Movable Bridge Inspections – Wisconsin DOT Project Manager and structural inspector for the WisDOT movable bridge inspection of the Lawe Street and Olde Oneida Street bascule bridges in Appleton. The 2015 inspections were the pilot movable inspection project for the new forms which were updated. Performed in 2015, 2021 & 2022.
01/20 – 12/20	State Street Bascule Bridge – City of Racine Bridge Lead who led the balance testing which revealed the fact that the bridge was excessively too heavy. Led the subsequent design of counterweight modifications to rebalance the movable leaf. Performed 2020.
01/18 – 12/20	Racine Street Bascule Bridge over the Fox River – Wisconsin DOT Structural Engineer Lead bridge engineer for the final design of full replacement of an existing double-leaf rolling lift bascule structure with a new similar structure. Engineer of record for the superstructure design. Coordinated all bridge design disciplines including structural, mechanical, electrical, architectural, and WisDOT-designed approach spans. Provided support during construction. Design completed in 2020. Construction completed in 2023.

	Firm employed by	Hardesty & Hanover, LLC		
	Name	John Rayer, PE	Years of relevant experience with this employer	2
	Title	Roadway Engineer	Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization		BS / 2018 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 47089 / LA / 03/31/2027		
Year registered	2022	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Roadway Engineer – Meets MPR 8		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Roadway Engineer for the inspection, evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior’s Standards.			
10/24 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Roadway Engineer for the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Ave Bridge, a movable Strauss-heel trunnion bridge. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H’s 2019 assessment of the circa-1920 bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure.			
10/24 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Roadway Engineer for the design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Blvd to provide a facility carrying three lanes of traffic in each direction. The new bridge is constructed as an independent structure adjacent and north of the existing bridge with a new operator house. The project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane. In addition to design of the new bridge, all roadway approaches and intersections in the vicinity of the bridge (eastbound and westbound) will be redesigned to accommodate the new structure. Scope includes development of a Traffic Control Plan.			
11/24 – Present	SR 33 Bridge Replacements, Franklin County, MS – Mississippi DOT Roadway Engineer for the Phase A Final Right-of-Way Plans for roadway design and roadway hydraulic design for four bridge replacements along SR 33 (Bridge Nos. 31.9, 34.6, 34.9, and 35.3). The project scope includes roadway realignment, roadway hydraulic design, preliminary right-of-way design, and final right-of-way design. H&H is providing the realignment of the roadway to run parallel to the existing and redesigning of one intersection at the end of the project. A hydraulic study and report are to be completed to resize the existing pipes, if necessary, and to verify sizing for a reinforced box culvert. A set of preliminary right-of-way plans are to be created following Mississippi Department of Transportation’s (MDOT) guidelines and using the approved alignment from MDOT. Final right-of-way plans will be delivered after hydraulic design and roadway design have been finalized and a plan set has been created.			

04/24 – Present	H.009730.5 SNBI Data Collection, Statewide, LA – LADOTD Engineer responsible for retrieving, verifying, and entering the Specifications for the Nation Bridge Inventory (SNBI) data into InspectX for the bridges statewide for Louisiana Department of Transportation and Development (LADOTD). Tasks include review of pertinent documents such as rehabilitation plans, as-built plans, shop drawings, and inspection reports. These documents will be obtained from various LADOTD offices including General Files, Bridge Design Section, Bridge Maintenance Section, and District offices. Necessary information will be collected from the site when such information is unavailable from the plans.
01/21 – 12/23	H.012001 – LA 339: Canal & Creek Bridges, Various Locations, LA – LADOTD Roadway Engineer for this bridge replacement project. The goal of the project was to replace three existing bridges with new, reinforced concrete box culverts on LA 339. John developed the 60% final roadway plans and calculations as well as the cost estimates for each phase of the project. The estimated cost for this project at 60% Final Plans was approximately \$2,500,000. This project is scheduled to bid in 2025.
06/21 – 10/22	H.008358 – Black Bayou Bridge, Madisonville, LA – LADOTD Roadway Engineer for this bridge replacement project in Madisonville, Louisiana along the Tchefuncte River on LA 1077. John's role for the project was to develop the alignment of the roadway and the diversion roadway for construction. John also developed the cost of construction for the roadway aspects of the project. The construction cost of the project at bid was \$4,291,639.25.
01/21 – 11/22	H.010885 – LA 91: Bayou Plaquemine Brule BR Replacement, Acadia Parish, LA – LADOTD Roadway Engineer for this bridge replacement project in Acadia Parish, LA. The existing pontoon bridge was to be replaced with a new bridge that met vertical requirements for boat traffic. John's responsibilities as Roadway Designer including creating an alignment for the new bridge to reconnect to the existing roadways. The bridge and roadway needed to be lengthened and raised substantially more than was originally proposed to allow for adequate vertical clearance in the waterway, which resulted in the project being put on hold due to the added construction costs.
06/18 – 8/20	I-10 Widening through Baton Rouge, Baton Rouge, LA – LADOTD Roadway Designer for this project which consisted of developing alternatives and cost estimates for the expansion of I-10 through Baton Rouge, Louisiana from the I-10/I-12 split to LA 415. John's role for this project was to calculate the quantities and costs. After presenting alternatives and developing estimates, the final estimated cost, with contingencies, was approximately \$1 billion.
06/18 – 12/20	LA 336, Breaux Bridge, LA – LADOTD Roadway Designer for this restoration project located in downtown Breaux Bridge, Louisiana. The project consisted of the restoration of a historical lift span bridge. John's responsibilities on this project included developing calculations and drawings for the lift and bridge sections.
01/23 – 10/24	Emerald Forest Blvd. to LA 59 Expansion Study, Covington, LA – St. Tammany Parish Roadway Engineer for this project consisting of an alignment study for a new roadway to be proposed between US 190 and LA 59 in Covington, Louisiana. John's responsibilities on this project included developing three alternatives to present to St. Tammany Parish. Each alignment consisted of multiple roundabouts at intersections along the proposed roadways.
03/23 – 10/24	Pontchartrain Yacht Club Bulkhead Improvements, Mandeville, LA – Pontchartrain Yacht Club Lead Roadway Engineer for the replacement of the bulkhead around the Pontchartrain Yacht Club in Mandeville, Louisiana. As Lead Engineer, John was responsible for the preparation of plans and calculations of the bulkhead section.
09/24 – Present	US 90 Bridge Replacement, Terrell County, TX – TxDOT Roadway QC Reviewer for the replacement of two US 90 bridges at Sanderson Canyon. One of the existing bridges is 322 ft. long, with eight spans of approximately 40 ft. each, and the new bridge will be 339 ft. long with three spans of 113 ft. each. The other existing bridge is 520 ft. long with 13 spans of approximately 40 ft. each and is over existing UPRR tracks; the new bridge will be 623 ft. long with four spans varying from 138 ft. to 150 ft. each. John's responsibilities include independent review of bridge plans prepared by the prime.

	Firm employed by		Hardesty & Hanover, LLC		
	Name		Robert Hideck, PE	Years of relevant experience with this employer	12
	Title		Senior Roadway Engineer	Years of relevant experience with other employer(s)	11
Degree(s) / Years / Specialization				B.S. / 2002 / Civil Engineering	
Active registration number / state / expiration date				Professional Engineer: 41953 / Louisiana / 03/31/2028	
Year registered		2017	Discipline		Civil Engineer
Contract role(s) / brief description of responsibilities				Senior Roadway Engineer – Meets MPR 8	
Experience dates (mm/yy–mm/yy)		Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
11/20 – Present		H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Roadway Design Engineer for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Ave Bridge and a new connector road. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H’s 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and the connecting roads were required to return this bridge to its full operating capability. The road design services included a new alignment for the connecting road including all drainage structures. H&H also developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.			
07/16 – 9/21		SR A1A North Bridge Replacement, Fort Pierce, FL – Florida DOT Roadway Design Engineer for the planning and design of a new high-level fixed bridge carrying SR A1A and the East Coast Greenway over the Intracoastal Waterway, FEC Railroad, and Old Dixie Highway. Scope included staged construction to maintain traffic, elimination of at-grade rail crossing, design of new roadway alignments and access roads, and integration of an observation deck. H&H coordinated extensively with utilities, FEC Railroad, adjacent businesses, and permitting agencies. The project also included geotechnical, drainage, hydrogeology, lighting, signals, signage, and maintenance of traffic for both vehicular and marine users.			
01/21 – 02/25		SR 826/Palmetto Expressway Capacity Improvement Design-Build, Miami-Dade County, FL – Florida DOT Engineer of Record responsible for roadway, traffic control, tolling, and S&PM design services. This project improves operations with an additional SB General purpose lane, auxiliary lanes, and improved shoulder widths, requiring major modifications to the NW 103rd St interchange. The project also includes revised access to the NB and SB revises express lanes, requiring a new toll site and improvements to the adjoining frontage road system. H&H is the lead designer, responsible for roadway, drainage, permitting, traffic control, tolling, and bridge design.			
09/15 – 12/18		44th Ave E from 45th St E to 44th Ave Plaza E, Braden River Segment, Manatee County, FL – Manatee County Roadway Engineer of Record/Senior Roadway Engineer responsible for roadway and traffic control design and plans preparation. The project included the design for the reconstruction and extension of 44th Ave East from 45th St East to 44th Ave Plaza East. The design plans include reconstruction from a two-lane roadway to a four-lane divided urban roadway. A new bridge was designed to cross over the Braden River, as well as a realignment of Morgan Johnson Rd and Caruso Rd to provide route continuity.			
01/16 – 05/18		I-75 SB Off-Ramp from S of Bypass Canal to EB/WB I-4, Hillsborough County, FL – Florida DOT Roadway Engineer responsible for the roadway and temporary traffic control design and plans preparation for this two-mi. roadway improvement project that included ramp widening, an extension of the ramp to provide off-line queueing, and an extended auxiliary lane on I-75. A unique aspect of the design team’s approach was incorporation of operational improvements into a long-term buildout. This project was expedited for construction based on no right of way acquisition or impact to Florida Gas Transmission lines.			

11/24 – Present	SR 33 Bridge Replacements, Franklin County, MS – Mississippi DOT Senior Roadway Engineer for the Phase A Final Right-of-Way Plans for roadway design and roadway hydraulic design for four bridge replacements along SR 33 (Bridge Nos. 31.9, 34.6, 34.9, and 35.3). The project scope includes roadway realignment, roadway hydraulic design, preliminary right-of-way design, and final right-of-way design. H&H is providing the realignment of the roadway to run parallel to the existing and redesigning of one intersection at the end of the project. A hydraulic study and report is to be completed to resize the existing pipes, if necessary, and to verify sizing for a reinforced box culvert. A set of preliminary right-of-way plans are to be created following MDOT guidelines and using the approved alignment from MDOT. Final right-of-way plans will be delivered after hydraulic design and roadway design have been finalized and a plan set has been created.
01/16 – 06/23	Sand Lake Rd (SR 482) Interchange, Orange County, FL – Florida's Turnpike Enterprise Senior Roadway Engineer responsible for the traffic control design and plans preparation. As a sub-consultant, H&H prepared the temporary Traffic Control Plans design for the construction of a new interchange located on the Florida Turnpike and Sand Lake Rd (SR 482) in Orange County, Florida. As part of H&H's innovative design, ramp construction took place early to allow mainline traffic to be diverted during off peak hours while bridge reconstruction over the Turnpike is ongoing. This project also included coordination with FDOT District 5 for the reconstruction of Sand Lake Road.
04/17 – 05/23	SR 75 (US 231) from SR 30A (US 98) to Pipeline Road, Panama City, FL – Florida DOT Engineer of Record responsible for design and preparation of roadway, signing and pavement marking, and temporary Traffic Control Plans. H&H is providing design services for the single point urban interchange (SPUI) at SR 77 over US 231 and CSX RR improvement project. Work includes design for roadway and drainage design of the intersection, lighting design for the entire project, and bridge design for a new 840-ft. steel bridge.
07/17 – 06/20	Orlando South Ultimate Interchange Improvements – Florida's Turnpike Enterprise Senior Roadway Engineer responsible for concept development, coordination, and project oversight of a complex interchange, including system and service movements. The project includes an evaluation of a complex interchange that provides both direct and indirect ramping between Orange Blossom Trail and the adjacent two limited access highways. The project goals included: construction of direct connection ramps between freeways, an ultimate 10-lane typical section of the turnpike, implementation of AET, consideration of express direct connections, and improvement of surface street operations with two new reliever interchanges.
03/07 – 10/13	Veterans Expressway (SR 589) Widening from Memorial Highway to Gunn Highway – Florida's Turnpike Enterprise Project Engineer responsible for roadway design, preparation of plans, coordination of sub-consultants and multiple disciplines, post-design services, and civil/site design for six toll sites. As part of the expansion, the existing conventional cash toll collection method was converted to an AET collection method. The project included two full interchanges and four partial interchanges. Due to the proximity to the Tampa International Airport, aviation permits were required throughout the project corridor and extensive coordination was required with the FAA. This activity included meeting with aviation agency staff and the design team to adjust design element locations and/or elevations for the acquisition of FAA determinations required for HCAA permits. The project also included the milling and resurfacing of the existing roadway, as well as widening and reconstruction.
03/15 – 03/17	Fort Hamer Bridge Approaches, Upper Manatee River Rd to Fort Hammer Road, Manatee County, FL – Manatee County Project Roadway Engineer responsible for roadway and temporary Traffic Control Plans. This project included the design of over a mile of approach roadway for a new bridge over the Manatee River, connecting Upper Manatee River Rd with Fort Hamer Road. The project was designed for stage construction with the two lanes being delivered with initial construction.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Matt Witkowski, PE, PTOE	Years of relevant experience with this employer
	Title		Transportation Planning Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			MBA / 2001 / Business Administration B.S. / 1999 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 41787 / LA / 09/30/2027 Professional Traffic Operations Engineer: 2522 / 11/24/2026	
Year registered	2017	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Senior Roadway & Traffic Engineer – Meets MPR 8	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
09/19 – Present	Traffic Engineering Staff Augmentation, Statewide, NJ – New Jersey DOT Deputy Project Manager responsible for staffing augmentation services for NJDOT – DTE. Assignments included the preparation of Traffic Signal Design plans for new traffic signals and upgrades to existing signals, preparation of traffic signage and striping plans, performance of traffic studies to determine if traffic control devices are warranted including signals, signing, and striping, performance of traffic studies to determine ADA compliance at signalized, unsignalized, and midblock crossings, the design of new facilities to meet ADA compliance, performance of traffic studies to determine traffic signal operational needs and optimized signalized corridors/integrated signals into central systems/coordinated corridors, lighting analyses for signalized, unsignalized, and midblock locations, and lighting warrants for highway corridors.			
08/19 – 11/23	East Haddam Bridge (Route 82) Over the Connecticut River, East Haddam/Haddam, CT – Connecticut DOT Traffic Engineering Task Manager responsible for the analysis and design of a two-way, one-lane alternating temporary traffic signal for multiple rehabilitation stages for a swing bridge. Design included portable traffic signal installations for each construction stage, along with traffic signal timings and the interaction with the permanent bridge traffic signals. Bridge traffic signals were redesigned on the west side of the bridge and updated on the east side. Provided oversight for updated signing and pavement marking plans and the development of a regional detour.			
01/18 – 01/21	Bridge Vertical Under Clearance Statewide, Various Locations, NJ – New Jersey DOT Traffic Engineer for professional engineering design services for the preparation of Bridge Vertical Under Clearance TE-9 sign work orders and related plans for over 140 locations statewide. Project is under the supervision of the Bureau of Traffic Engineering.			
05/16 – 07/18	SR-710/Beeline Highway Interchanges from Northlake Boulevard to Blue Heron Boulevard, Palm Beach County, FL – Florida DOT Traffic Engineer responsible for performing a Traffic Signal Warrant analysis using FDOT District 4 and MUTCD standards. Provided oversight for the design and development of traffic signal plans at 4 intersections and coordination with electrical engineer performing lighting analysis and design. Project involves the expansion and reconstruction of a 3-mile divided suburban highway segment, increasing from 4 to 6 lanes in each direction, incorporating highway widening improvements, upgraded traffic signals, and a new traffic signal at a previously unsignalized location. The Turnpike Bridge over SR-710 will be replaced.			
11/15 – 02/17	Region 8 Design-Build of Bundled Bridges, Dutchess and Columbia County, NY – New York State DOT Traffic Engineer responsible for providing detour route analyses and temporary signal design services to subconsultant design-build team for 6 fixed bridge and culvert crossings in rural locations. Detour routes were analyzed for bridge closure alternatives. Synchro/SimTraffic analysis software was			

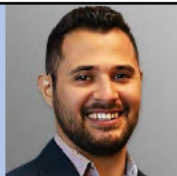
	used, and traffic signal timing modifications and geometric modifications were recommended for impacted locations. Temporary traffic signals were designed for locations with a projected increase in volume, including multiple two-way, one-lane systems.
02/16 – 08/17	Local Concept Development Studies for Bergen and Essex Counties, Town of Harrison and City of Newark, NJ – North Jersey Transportation Planning Authority Lead Traffic Engineer responsible for existing and future conditions traffic analyses for two signalized intersections and the section of Bridge Street over the Passaic River. Project involves the replacement of the Bridge Street Bridge over the Passaic River. Evaluated existing lighting conditions, performed crash analyses, and provided written reports with recommendations to alleviate overrepresented crash types. Assisted in the development of alternatives including upgraded roadway sections and additional auxiliary lanes at intersections.
01/15 – 06/17	Roadway Improvements for County Route 537 Corridor, Freehold Township, NJ – Monmouth County Lead Traffic Engineer responsible for the redesign of 5 existing traffic signals. Traffic task manager for federally funded improvements to the CR 537 corridor between Sentinel Road and the U.S. Route 9 Interchange. Provided oversight for the analysis of existing and future conditions and for highway lighting and ITS design initiatives. Project included implementation of ADA facilities fully compliant with Federal ADAAG standards and close coordination with Monmouth County engineering staff.
11/14 – 08/18	Final Design for the Route 168 Newton Lake Dam, Camden County, NJ – New Jersey DOT Traffic Engineering Task Manager for the final design (FD) phase of a dam replacement project that involved the redesign of an existing traffic signal. Duties included traffic signal plan preparation, electrical layout and design, intersection lighting analysis, review of maintenance of traffic plans, and the design of an interim traffic signal plan.
05/11 – 11/14	Traffic Signal Design for I-295 and Route 42 Missing Moves Contract No. 025950541, Camden and Gloucester County, NJ – New Jersey DOT Traffic Task Manager for the design of a new traffic signal and the preparation of traffic signing and striping plans for a project involving the addition of two new connector roadways between I-295 and Route 42 in the vicinity of the Borough of Bellmawr to provide connections that do not currently exist.
01/16 – 04/18	Intersection Improvements at Route 38 and South Church Street, Moorestown Township, NJ – New Jersey DOT Traffic Engineer in charge of preliminary engineering phase for \$8 million intersection improvement project to improve operation and capacity. Three new interconnected traffic signals as well as the widening of approximately 1-mile section of Route 38 and adjacent side streets will provide necessary dedicated turning lanes as well as appropriate deceleration lane lengths. Design effort includes development of horizontal and vertical geometrics including 'best fitting' of new Route 38 baseline to minimize right-of-way impacts. Highway sections were prepared to detail proposed roadway lane configurations. Pavement cores were utilized to identify the limits of existing underlying concrete pavement to remain and to establish limits for full depth pavement reconstruction versus concrete pavement repair and placement of a new overlay. Controlling Substandard Design Elements (CSDEs) to remain were identified and a Design Exception Report will be developed and submitted to NJDOT and Federal Highway for approval. In addition to construction, traffic signing and striping plans, traffic signal plans, highway lighting plans are required. Traffic control and staging plans will be developed and will include a temporary traffic signal. Drainage and utility designs will also be prepared for the project.
07/08 – 07/12	Route 30/130 Collingswood Circle, Phase B, Collingswood, NJ – New Jersey DOT Traffic Engineer responsible for traffic analysis for no build and build condition for multiple intersections along Route 30/130 which included the design of an upgraded traffic signal for the \$40.5 million Cooper River Bridge replacement and improvements at North Park Drive. Included creating a separate northbound right turn lane, minor widening of the east approach to accommodate three standard lanes and the addition of a second receiving lane to the east of the intersection, with minor widening of the west approach to accommodate two standard lanes. Assisted in the development and oversight of maintenance of traffic plans and designed a temporary traffic signal utilizing wood poles and span wires for multiple construction stages.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Raymond Mankbadi, PE	Years of relevant experience with this employer
	Title		Director Geotechnical Engineering	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			M.S. / 1985 / Civil Engineering B.S. / 1978 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 41609 / LA / 9/30/2027	
Year registered	2017	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Senior Geotechnical Engineer – Meets MPR 9	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/20 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Lead Geotechnical Engineer for the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Ave Bridge, a movable Strauss-heel trunnion bridge. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H's 2019 assessment of the circa-1920 bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure.			
06/19 – 09/20	SR-605 Bascule Bridge over Industrial Waterway, Gulf Port, MS – Mississippi DOT Lead Geotechnical Engineer responsible for design, plan review, and quality control for full rehabilitation design of the SR-605 bascule bridge as a task-order to the IDIQ Master Bridge Contract. The scope includes engineering assessment; mechanical, electrical, and structural designs; and preparation of Traffic Control Plans. All designs will be completed in accordance with AASHTO, FHWA, and MDOT guidelines and specifications.			
03/18 – 06/19	SR-609 Bascule Bridge Rehabilitation, IDIQ Master Bridge Design Contract, Ocean Springs, MS – Mississippi DOT Lead Geotechnical Engineer responsible for generator foundation design of SR-609 bascule bridge as a task-order to the IDIQ Master Bridge Contract for standard and special bridge services statewide. The scope of work included inspection and rehabilitation of structural, mechanical, and electrical bridge components, roadway approaches, and development of maintenance and repair plans.			
01/19 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Lead Geotechnical Engineer for a six-lane bascule bridge parallel and adjacent to the existing bridge. The new bridge will carry three westbound lanes and the existing bridge will be modified to carry three eastbound lanes plus a pedestrian and bicycle path. The project scope includes the design of a new three-lane double-leaf bascule bridge and approach spans that will be north of and parallel to the existing bridge, as well as design modifications to the existing bridge to reconfigure it to include three eastbound lanes plus a pedestrian and bicycle path.			
04/17 – Present	I-395 Segmental Bridges, Miami, FL – Florida DOT Geotechnical Technical Advisor for the design of the superstructure and performing the load ratings. H&H is designing seven new precast segmental bridges that are a part of the SR 836 / I-95 / I-395 corridor upgrade. This design-build project is being constructed by the Archer Western-De Moya Joint Venture. The overall construction value of the project is \$800 million, and the segmental bridges have a deck area of 700,000 square feet (approximately \$200 million). Construction is scheduled to be completed in late 2027.			

11/20 – 01/21	Four Tunnel Inspections as per TOMIE Manual, New York, NY – New York City DOT Lead Geotechnical Engineer for the in-depth inspection and condition assessment of the 1st Ave and Park Ave tunnels as part of a broader NYCDOT ESA assignment. These findings were documented in a Routine Inspection Report format developed by H&H in conjunction with NYCDOT, including prioritized recommendations for further maintenance and rehabilitation. In addition to the inspection. Inspection reports were prepared to SNTI and TOMIE specifications.
02/12 – 03/13	Study & Preliminary Design for RFK Bridge to Northbound Harlem River Dr (RK-23), New York, NY – Triborough Bridge and Tunnel Authority Lead Geotechnical Engineer responsible for the feasibility study for a new ramp to provide a direct connection from the RFK Bridge to the northbound Harlem River Dr located in the Borough of Manhattan, New York City. The need for the proposed connector ramp results from vehicular movement experiencing delays, local congestion, and local community pollution. The study evaluated various alignment alternates for a one way, one lane passenger vehicle ramp operation with provision for passing a stalled vehicle by another of the same type for a design speed of 35 mph. The structure is anticipated to carry an ADT over 19,000 vehicles per day. The study identified the most prudent and feasible alternatives to provide a direct connection from the RFK Bridge to northbound Harlem River Dr. Design of the new structure must meet current standards to the extent possible, while also avoiding, lessening, or mitigating impacts and effects to surrounding properties and jurisdictions.
02/14 – 12/16	Rehabilitation of Swing Bridge (BNSF #32.06) over Bayou Des Allemands Des Allemands, Lafourche & St. Charles, LA – BNSF Railway Co. Lead Geotechnical Engineer for a 90-ft. single track swing span, two jump spans, and ten approach spans of prestressed concrete box beam, crosses the Des Allemands Bayou in Des Allemands, LA. The 90-ft. swing span was replaced on the existing substructures which were reinforced by adding micropiles. Two jump spans were rehabilitated as well. H&H provided professional engineering services for the development of final bridge and track designs, permitting, construction contract documents, construction management and construction support for the rehabilitation of the bridge. The estimated construction cost is about \$15 million. The project included the replacement of spans all associated mechanical and electrical components as well as evaluation, rating and improvement of swing span substructure and foundations.
05/12 – 06/13	Design-Build for RFK Bridge Manhattan-Queens Ramp Replacement (RK-73), New York, NY – Triborough Bridge and Tunnel Authority Lead Geotechnical Engineer in charge of preparing subsurface investigation, foundations design, seismic retrofit design of permanent and temporary foundation, and developing geotechnical report. The RK-73 project included the design and construction of Ramp MQ of the Robert F. Kennedy Bridge through a design-build contract on Randall's Island. The ramp replacement included roadway widening and seismic design retrofit.
01/12 – 10/16	Garden State Pkwy SB & NB Bridges over Great Egg Harbor & Drag Channel, Atlantic & Cape May Counties, NJ – NJ Turnpike Authority Lead Geotechnical Engineer responsible for all geotechnical aspects of the design and construction including pile foundation design, soil improvement, sign structures, retaining walls, reinforcement embankment on soft soils and instrumentation for two new bridges crossing Great Egg Harbor and Drag Channel. (\$140M). The project also included cofferdam for deep water and water nose mitigation for protection of the fish. Prestressed Concrete piles were utilized in the foundations and CMC for soil improvement. All work was performed in accordance with AASHTO LRFD Bridge Specifications and FHWA Geotechnical Engineering Manuals and Circulars.
12/11 – 05/17	Flagler Memorial Bascule Bridge Replacement Design/Build, West Palm Beach, FL – Florida DOT Geotechnical Engineer of Record responsible for all geotechnical aspects of the design and construction including subsurface investigation program development, foundation design, cofferdam, geotechnical analysis, and report preparation. This project consisted of complete replacement of the existing bridge with a new four-lane divided bridge. 60-in. diameter drilled shaft embedded in overburden soils with post grouted tip are utilized to support new bridge structure and the approach roadway embankment are supported on 36-in. diameter drilled caissons.

	Firm employed by		Hardesty & Hanover, LLC	
	Name		Rafal Wuttrich, PE	Years of relevant experience with this employer
	Title		Senior Structural Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			M.S. / 2001 / Civil Engineering B.S. / 1994 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 63030 / FL / 02/28/2027	
Year registered	2005	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Senior Structural/Fixed Bridge Engineer	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
02/21 – Present	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Senior Structural Engineer for the pre-design inspection, rehabilitation, and widening of the existing four-lane Lapalco Blvd to provide a facility carrying three lanes of traffic in each direction, as well as the design of a new three-lane double bascule movable bridge crossing of Harvey Canal. The scope of services also includes the design of a new bridge to be constructed as an independent structure adjacent and north of the existing bridge with a new operator house. All design work is in accordance with LADOTD Standards and Specifications and being reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.			
07/17 – 06/20	Orlando South Ultimate Interchange Improvements – Florida’s Turnpike Enterprise Senior Structural Engineer assisting with concept development, coordination, and project oversight of a complex interchange, including system and service movements. The project includes an evaluation of a complex interchange that provides both direct and indirect ramping between Orange Blossom Trail and the adjacent two limited access highways. The project goals included: construction of direct connection ramps between freeways, an ultimate 10-lane typical section of the turnpike, implementation of AET, consideration of express direct connections, and improvement of surface street operations with two new reliever interchanges. The recommended configuration included improvements to systems interchange, modification to two adjoining interchanges, and new proposed service interchange.			
01/21 – 02/25	SR 826/Palmetto Expressway Capacity Improvement Design-Build, Miami-Dade County, FL – Florida DOT Senior Structural Engineer responsible for design of modifications to the Ramp D Flyover Bridge. This project improves operations with an additional SB general purpose lane, auxiliary lanes, and improved shoulder widths, requiring major modifications to the NW 103rd Street interchange. H&H is the lead designer, responsible for roadway, drainage, permitting, traffic control, tolling and bridge design. Responsible for bridge modeling, staged construction analysis, temporary pier support analysis and design, bridge load rating, and plans production. To allow for widening of the mainline, the bridge section of the Ramp D Flyover Bridge required reduction by removing the existing exterior continuous steel plate girder line from End Bent 1 to Pier 6. Removal of one girder line resulted in force imbalances on numerous substructure locations, requiring modification of the existing substructure. Existing Piers 2 and 3 are hammerhead-type piers with single column on pile footings that required partial removal of the existing cap, use of post-tensioning connecting the existing pier cap to new column struts, and connection of PT to pier footing extension counterweights attached to the existing footing. Existing Pier 4 is a straddle-type pier that required strengthening to satisfy current AASHTO LRFD design specifications. Existing Pier 5 is a C-type pier that required replacement of the column and cap. Pier 5 work was staged using temporary steel piers connected to the existing footing with undercut anchors, and new cap and column using reinforcement anchored to the existing footing with undercut anchors. Existing Pier 6 required attachment of a new concrete counterweight with steel ballast to the existing pier cap. For the superstructure, the deck overhang required reconstruction for the reduced width, and bridge drainage system required replacement.			

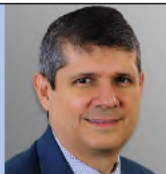
08/16 – 06/18	I-75 SB Exit Design from S of Bypass Canal to EB/WB, Tampa, FL – Florida DOT Senior Structural Engineer assisting with preparation of plans and engineering documentation. This two-mi. roadway improvement project included the addition of a new auxiliary lane for southbound I-75 from south of the Bypass Canal to the southbound off-ramp and widening the I-75 southbound off-ramp from one to two lanes. A unique aspect of the design approach was the incorporation of this design into a long-term buildout of the interchange. This project was expedited for construction based on no right of way acquisition or impacts to Florida Gas Transmission lines.
05/18 – 11/19	SR 5 (Overseas Highway) over Moser Channel (7 Mile Bridge), Monroe County, FL – Florida DOT Senior Structural Engineer responsible for performing structural design calculations and various other tasks, including Finite Element Analysis (FEA) for the custom temporary support system, a segmental post-tensioned concrete superstructure, to facilitate rehabilitation of columns at 16 intermediate piers and one expansion Pier 22 (replacement of bearings and concrete repairs). Weight transfer at intermediate piers was enabled by a pair of two-part friction collar steel weldments, each having a support arm with hydraulic jacks placed on top to provide lifting force separating superstructure from permanent column bearings. Friction between the steel weldments and the concrete columns was induced by clamping force from 24 steel rods stressed at 118 kips each. Maximum anticipated vertical reaction (service) at any of the two support points was 537 kips at each support arm, including restored traffic during pier repairs. The collars were fully load tested before traffic was allowed back on the bridge. Weight transfer at expansion Pier 22 is provided by a four-part friction collar, each with a supporting arm, thus a pair of arms supports each side of the expansion joint. An additional steel assembly wedge is on each side of the segment webs for additional support points.
04/17 – 04/24	Gateway Expressway Improvement Design-Build, Pinellas County, FL – Florida DOT Senior Structural Engineer responsible for quality control of design calculations and plans of four bridges in Segment 4. Structure designs included bridge widening of the existing I-275 SB over Gandy Blvd. (Bridge 22) and I-275 SB over Roosevelt Boulevard (Bridge 23) four-span prestressed concrete beam structures. I-275 NB over Roosevelt Boulevard (Bridge 24) replaced an existing four-span prestressed concrete beam structure with a new two-span prestressed concrete beam structure on a parallel alignment. I-275 over Big Island Gap (Bridge 29) modified an existing three-span prestressed concrete beam structure, which relocated the existing concrete median traffic railing and installed new bridge drainage components (scuppers and longitudinal conveyance system) for I-275 NB.
02/15 – 12/16	I-75 at SR 50 Interchange Bridge Replacement & Widening, Hernando County, FL – Florida DOT Senior Structural Engineer responsible for contributing to the design and plan preparations for the replacement of twin bridges on I-75 over SR 50. Additional engineering responsibilities included the design of the early works construction package, temporary and permanent wall design, and contributions to the new bridge superstructure design. The two 29-ft., 6-in. individual bridges carry the north and southbound traffic of I-75 to a single-point urban interchange at SR 50. The approximately 12-ft.-deep superstructure consists of weathering steel plate girder structures supported on end bents. Mechanically stabilized earth walls wrap around each bridge and continue for hundreds of feet before meeting grade. This design-build project also used a temporary widening of the existing southbound I-75 bridge as part of the maintenance of traffic plan during construction of the new bridge.
03/17 – 02/23	SR 75 (US 231) from SR 30A (US 98) to Pipeline Road, Panama City, FL – Florida DOT Senior Structural Engineer responsible for the design of a new 840-ft.- long steel bridge on SR 75, crossing US 231 and the CSX railroad, as part of a new single-point urban interchange (SPUI). The design consists of a single three-span continuous unit (215, 355, and 215 ft.) with steel plate girders and a concrete deck. The intermediate pier columns support integral post-tensioned concrete caps. Responsible for Bridge Development Report (BDR), and leading role for all aspects of structural design.
06/15 – 05/19	I-75 CD Ramp over Sligh Avenue, Hillsborough County, FL – Florida DOT Senior Structural Engineer responsible for the preliminary design, Bridge Development Report, and load rating of the widening of a 233-ft.-long three-span interstate ramp bridge over Sligh Avenue. The proposed widening of the superstructure and substructure included prestressed beams on a hammerhead pier substructure.

	Firm Employed by		Hardesty & Hanover, LLC		
	Name		Anwer Kaimakchi, PhD, PE	Years of relevant experience with this employer	5
	Title		Bridge Engineer	Years of relevant experience with other employer(s)	4
Degree(s) / Years / Specialization			PhD / 2021 / Civil Engineering M.S. / 2017 / Civil Engineering B.S. / 2013 / Civil Engineering		
Active registration number / state / expiration date			Professional Engineer: 97140 / FL / 2/28/2027		
Year registered	2023	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities			Structural/Fixed Bridge Engineer		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).				
06/21 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Structural Engineer for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications. Specifically, Anwer provided load rating services for the Box Girder bridges based on inspection findings and plan details for Bridge No. 147.9A at I-59 and Bridge No. 131.5B at I-20 located near Meridian in Lauderdale County. The analyses included developing a finite element model of each bridge and for load ratings to follow LFR considering MDOT’s permitted vehicle legal loads.				
10/22 – 12/22	Sunshine Skyway Bridge, Tampa, FL – Florida DOT Structural Inspector for the Sunshine Skyway Bridge carrying I-275 over Tampa Bay, the Sunshine Skyway is a 21,878-ft.- long bridge with 8,860-ft. of precast segmental structures. The 4,000-ft.-long precast segmental main span unit which includes a 1200-ft.-long center cable-stayed span and was built in balanced cantilever. The high-level approach spans are 135 ft. in length and were built in span-by-span with external tendons. Dr. Al-Kaimakchi recently participated in the bi-annual walk-through visual inspection as part of H&H’s Asset Management contract for the Sunshine Skyway Bridge Corridor.				
03/22 – 06/22	Garcon Point Bridge, Santa Rosa County, FL – Florida DOT Inspector for the Garcon Point Bridge. This 3.5-mile-long precast segmental bridge has 140-foot typical spans and a 225-foot main span over the Intracoastal Waterway. The 140-foot spans were erected span-by-span, and the 225-foot span was erected balanced cantilever. The high-level piers were precast and post-tensioned. Anwer’s most recently participated in the vibration testing of all external tendons to develop a benchmark that will be used to plan future maintenance activities if required.				

09/22 – 02/23	Replacement of Smith Point Bridge (CR 46) over Narrow Bay, Suffolk County, NY – Suffolk County DPW Bridge Designer for the 1812-ft.-long Smith Point Bridge, the new bridge will replace the existing bascule bridge with a high-level fixed bridge on a westerly alignment that touched down in an underutilized area of Smith Point County Park. The new bridge consists of prestressed concrete girders with typical span lengths of 165 ft. The original bridge was designed by H&H in the 1950s and was reaching the end of its service life due to the harsh oceanfront environment at this site. The bridge serves as the sole access route to the eastern end of Fire Island and is the route to Smith Point County Park as well as Fire Island National Seashore. Mr. Al-Kaimakchi developed a 3D LARSA model to determine the dead and transient loads of the bridge, determining the size and number of piles, and pile cap thickness by creating FBPIer models for all piers. In addition, he developed the reinforcement detailing for pile and pile cap. He verified the pier columns were adequate for strength limit state using XTRACT program.
05/22 – 08/22	I-82 Columbia River Bridge at Umatilla, Umatilla, OR – Washington State DOT Bridge Designer for the load rating of the I-82 westbound structure that is a cast-in-place balanced cantilever segmental bridge that opened to traffic in 1988. The bridge has eight spans and a length of 3,365 ft. The bridge features two approximately 660-ft. spans crossing the Columbia River. These two spans are supported by fixed, twin-walled columns. These columns provided overturning stability during cantilever construction. In service, the twin-wall piers provide increased longitudinal flexibility to accommodate creep, shrinkage, and thermal movements. The superstructure of the I-82 westbound bridge is a variable depth box girder with a width of approximately 51 ft. The bridge carries two 12-ft. lanes, shoulders, and a barrier separating the pedestrian lane. H&H completed an in-depth load rating of the I-82 westbound bridge. Dr. Al-Kaimakchi was involved in the three-dimensional model using CSiBridge software including construction stages and calculated the time-dependent properties of the concrete. Dr. Al-Kaimakchi reviewed flexural and shear capacities of the concrete segments.
01/22 – 05/22	Gold Star Memorial Bridge on Interstate Route 95, New London, CT – Connecticut DOT Bridge Designer for the Gold Star Bridges, consisting of two separate structures carrying I-95 and US Route 1 north and south bound over the Thames River between Groton and New London, CT are the largest bridges in the State and provide a vital transportation link through all New England. H&H performed an in-depth Load Rating of the I-95 Northbound structure. This structure was originally constructed in 1943, with a major rehabilitation completed in 1973. The structure consists of a combination of original girder spans, original approach trusses, and a reconstructed main channel span truss all topped with a reconstructed floor system. The main channel span is a three-span continuous welded box truss with a suspended center span. Dr. Al-Kaimakchi conducted load rating analyses for girders on northbound original girder spans where he modeled northbound original girder spans (9 to 21, 35 and 36) using Midas Civil program to calculate loads. He calculated and checked the flexural and shear capacities of girders on the northbound original girder spans following AASHTO LRFD design specifications.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Cesar Granados, PE	Years of relevant experience with this employer 28
	Title		Senior Lead Bridge Engineer	Years of relevant experience with other employer(s) 4
Degree(s) / Years / Specialization			B.S. / 1994 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 64221 / FL / 02/28/2027	
Year registered	2006	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Senior Structural/Fixed Bridge Engineer	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
04/18 – 03/19	SR-609 Bridge, IDIQ Master bridge Design Contract, Ocean Springs, MS – Mississippi DOT Project Engineer leading structural, mechanical, and electrical design teams for full rehabilitation of SR-609 bascule bridge as a task order to the IDIQ Master Bridge Contract. Scope includes engineering assessment, structural and geotechnical design for bridges and retaining walls; hydraulic design for bridges; design for roadway, traffic signals, ITS, and roadway lighting; as well as design and constructability review services. All designs will be completed in accordance with AASHTO, FHWA, and MDOT guidelines and specifications.			
03/17 – 12/19	North Causeway Bridge over ICWW, Fort Pierce, FL – Florida DOT Structural Engineer contributing to the structural engineering design services for the replacement of the SR-A1A North Causeway Bridge. Scope of services included the alignment, segmental bridge super and substructure design, drainage, MOT, ITS, geotechnical, hydrogeology, lighting, signalization, signage, paving marking, utility/railroad/marine coordination, permitting, public involvement, maintenance, control, and protection of vehicular and marine traffic, as well as additional roadway design services which addressed adjacent state, frontage, and access roads, and railway crossings affected by the project.			
04/16 – 7/18	Coconut Isle Bridge Replacement Fort Lauderdale, FL – City of Fort Lauderdale Project Manager providing oversight of comprehensive design as well as providing structural design services for the Bridge Alternatives Study and complete set of final engineering plans for a single-span fixed concrete replacement bridge. Scope of work includes permitting, geotechnical investigation, load rating, drainage, utility coordination, bridge bulkhead wall design, temporary bridge, MOT, public involvement support as well as bid-phase and post-design services.			
02/14 – 02/17	SR 968/SW 1st Street Bridge over Miami River, Miami, FL – Florida DOT Lead Project Engineer responsible for the design coordination and plan development of the bascule pier design, control house, access tunnel design for the replacement of the nationally registered historic SW 1st Street Bridge over the Miami River. The existing 650 feet, 13-span bridge was constructed in 1929 and is the gateway crossing into downtown Miami. The new 507 feet bridge included a 315 feet double-leaf bascule span over a widened 125 feet navigation channel. 2 new approach spans consist of prestressed concrete beams providing at least 16.5 feet of clearance over North and South River Drives. Bascule span’s Exodermic concrete deck provided protection of steel superstructure and a safer/quieter riding surface.			

01/11 – 03/17	SRI-A1A/Flagler Memorial Bridge over ICWW, Palm Beach, FL – Florida DOT Structural Engineer responsible for the design of intermediate piers, substructures, bascule piers, as well as control and access houses. This \$95 million design-build project included the replacement of the entire bridge off-line and parallel to the existing bridge to maintain traffic for this busy causeway connecting West Palm Beach to Palm Beach. The replacement bridge, completed in 2018, is a twin double-leaf rolling lift bascule span bridge with a 150 feet rolling-lift span over the navigable channel; 12 150 feet pre-stressed concrete approach spans; and approach roadway work.
01/08 – 08/16	Gasparilla Island Swing Bridge over ICWW, Placida, FL – Placida, FL Structural Engineer responsible for intermediate piers, substructures, bascule piers, as well as the control and access houses. The project involved the final design for the replacement of a 220 feet swing-span bridge with a new 678 feet bridge including a 250 feet deck girder swing-span and approach spans utilizing Florida I-Beams. Embankments were supported by MSE walls and protected by new bulkheads and revetment. In addition to the bridge structures, a new pile-supported tender house was included in the scope.
10/12 – 03/14	SR-1A/Hillsboro Inlet Bridge over ICWW, Pompano Beach, FL – Florida DOT Lead Project Engineer for the rehabilitation of a single-leaf bascule bridge. The project scope included mechanical/electrical rehabilitation, deck replacement, and minor structural repairs. The span locks were replaced and relocated to the rest pier. The need for an additional submarine cable originally included in the scope was eliminated. Instead, designers utilized a multiplexor on a Florida movable bridge for the first time. The project included a \$1 million JPA with the City of Pompano Beach as well as sidewalk improvements and control house renovation.
01/20 – 03/11	NW South River Bridge over Tamiami River Canal, Miami, FL – Miami-Dade County Public Works Structural Engineer responsible for control house structural design, plan development, and technical specifications, as well as bascule pier and design detailing plans. The project involved the preliminary design of movable bridge alternatives during the PD&E, final design, and currently construction support services of a 123 feet simple trunnion single-leaf through-girder bascule span bridge to replace the historical Tamiami Canal Swing Bridge constructed in 1921. The project included providing a four-lane-wide bridge with 6 feet and 12 feet shared sidewalks and control house within a 80 feet limited right-of-way and low bridge profile which resulted in the need to use through-bascule girders. The floor system consisted of floor beams and an Exodermic bridge deck with no steel stringers and lateral bracing. Architectural features to the bridge and control house were also included in the detailed design.
01/14 – 03/17	Bay Harbor Causeway Bridges, Bay Harbor Island, FL – Town of Bay Harbor Islands Structural Engineer responsible for providing preliminary and final engineering analysis and design services for control house rehabilitation and bascule span and fender repairs for the Bay Harbor Bridge. Services also included structural steel superstructure painting, concrete spall, and crack repairs to the substructure including cathodic protection, bridge railing repair, structural steel repair, as well as machinery and electrical repairs to the bascule span operating systems.
07/14 – 10/16	I-75 Express Lanes Segment D, C-11 Canal Bridge, Davie, FL – Florida DOT Structural Engineer responsible for quality assurance services and superstructure design for the design-build of Segment D, a 3.7mile-long portion of the I-75 Express Lanes Project. The design/build delivery project included constructing express lanes in the existing median; constructing entrance and exit ramps for the express lanes at various locations; constructing Sheridan Street Interchange improvements; installing sound barrier walls; drainage, signage, lighting, and landscaping; upgrading traffic monitoring cameras, dynamic message signs and installing toll gantries. Segment D is located south of Sheridan Street to the north of Griffin Road in Broward County.

	Firm Employed by		Hardesty & Hanover, LLC		
	Name		Jorge Soto, PE	Years of relevant experience with this employer	10
	Title		Senior Structural Engineer	Years of relevant experience with other employer(s)	18
Degree(s) / Years / Specialization			B.S. / 1998 / Civil Engineering		
Active registration number / state / expiration date			Professional Engineer: 59509 / FL / 2/28/2027		
Year registered	2003	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities			Senior Structural/Fixed Bridge Engineer		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).				
01/23 – Present	Venetian Causeway Bridge Replacement, Miami, FL – Miami-Dade Department of Transportation and Public Works Structural Engineer responsible for design, detailing, and preparation of plans of the bascule leaves for this bridge replacement project. Also, responsible for the review of the bascule pier calculations.				
05/22 – 06/23	Linton Boulevard Bascule Bridge Load Rating Analysis, Delray Beach, FL – Palm Beach County Structural Engineer responsible for the load rating analysis and review of stringers, floorbeams, and main girders of this double leaf bascule bridge. The load ratings were performed for LFR and LRFR.				
06/21 – Present	SR 826/Palmetto Expressway Capacity Improvement Design-Build, Miami-Dade County, FL – Florida DOT Structural Engineer of Record responsible for design and plans production for two fixed bridge widenings. The bridges consist of three spans with modified AASHTO Type II beams on a skew. Each span ranges from 42-ft to 50-ft.				
12/17 – 11/18	Andrews Avenue Bascule Bridge over the New River, Fort Lauderdale, FL – Broward County Structural Engineer responsible for providing structural engineering design and support services during the post design of the rehabilitation of a single-leaf bascule span. Machinery rehabilitation included a new span drive hydraulic cylinder and HPUs. Additional electrical work included complete replacement of the electrical system including new span HPU pump motors, controls, new relays, amplifier cards.				
06/16 – 1/23	SR 968/SW 1st Street Bridge over Miami River, Miami, FL – Florida DOT Structural Engineer providing engineering design services during the design and post design phases for the replacement of the nationally registered historic bridge crossing the Miami River. Responsible for the design of bascule pier footings and foundations, king piles bulkhead walls, bascule leaf main girder, and floor beam and counterweight box. Constructed in 1929, the existing 13-span, 650.5-foot, the bridge was the Miami River gateway crossing into downtown Miami. The new 507-foot bridge includes a 315-foot double-leaf bascule span over a widened 125-foot navigation channel. Two new approach spans consist of prestressed concrete beams providing at least 16.5 feet of clearance over North and South River Drives. The bascule span's Exodermic concrete deck protects the steel superstructure and provides a safer and quieter riding surface.				

08/14 – 04/16	Florida DOT District 4 Structural Engineer, Broward and Palm Beach Counties, FL – Florida DOT Structural Engineer for FDOT District 4. Duties included leading and mentoring the in-house structures design group on in-house designs, plans reviews, and provided structural oversight for the full gamut of structure types ranging from miscellaneous structures and fixed bridges. Also assisted in the development of scope services and staff hours estimates and negotiations for the Department and assisted the District Structures Engineer with managing the districtwide design contracts. Also, served as part of Technical Review Committees or Technical Advisory Groups for selecting consultants for various projects.
04/16 – 03/21	Coconut Isle Bridge Replacement, Fort Lauderdale, FL – City of Fort Lauderdale Structural Engineer providing structural design services for the Bridge Alternatives Study and complete set of engineering plans for a single-span fixed concrete replacement bridge. Scope of work includes permitting, geotechnical investigation, load rating, drainage, utility coordination, bridge bulkhead wall design, temporary bridge, MOT, public involvement support as well as bid-phase and post-design services.
12/16 – 12/17	Districtwide Miscellaneous Structural Projects & Minor Design, Miami, FL – Florida DOT Structural Engineer responsible for the development of plans, specifications, load rating, and estimates under the Districtwide On-Call Structures contract. For the US 1 Bridge over Channel 2 TWO, the scope consisted of repairs to prestressed AASHTO beams and a reinforced concrete deck. Impressed current cathodic protection was also installed on the six-foot drilled shaft.
04/16 – 12/16	Atlantic Isle Lagoon Bridge, Sunny Isles, FL – Florida DOT Structural Engineer contributing to the feasibility study to rehabilitate Bridge No. 874218 under a Districtwide On-Call Structures contract. Responsible for the condition assessment, as well as the review of previous biennial inspection and load ratings reports, analysis, report study, and the development of several rehabilitation alternatives that would retain the aesthetics and coquina façade of this historic bridge. Constructed in 1925, the crossing is a low-level closed-spandrel-filled cast-in-place reinforced concrete arch. The lagoon bridge, which has substandard traffic barriers and roadway geometry, had been deemed structurally deficient and functionally obsolete, also showed some structural deterioration.
01/19 – 02/19	Beckett Bridge Replacement, Tarpon Springs, FL – Pinellas County Structural Engineer responsible for providing quality control review of the bridge structural systems. Rehabilitation design services for this double-leaf bascule bridge were completed under a Districtwide On-Call Structures contract, Scope included preparation of structural, architectural, mechanical, and electrical plans to repair/rehabilitate this Hopkins Trunnion twin double-leaf bascule span bridge. The rehabilitation included hydraulic machinery retrofit, electrical system improvement & control house modifications.
05/17 – Present	Jupiter Federal Bridge Replacement, Jupiter, FL – Florida DOT Structural Engineer responsible for providing analysis of superstructure leaf and counterweight box, floor beams, and foundation analysis for the preliminary and final design phases of this bascule bridge replacement project. Also, Project Engineer for a new observation deck consisting of three 60-foot spans using Florida Slab Beams (FSB). The FSBs were designed with CFRP/SS strands and GFRP rebar to provide corrosion protection. The intermediate bent caps were designed with GFRP rebar. H&H is serving as Engineer of Record for the project which addresses the structural and functional deficiencies of the existing US-1/SR-5 Jupiter Federal Bridge from CR-A1A (Ocean Boulevard) to Beach Road. Scope includes the development of vertical and horizontal alignment for bridge replacement alternatives and the study of the resulting impacts. The design incorporates intersection improvements and improves traffic functions at both ends of the approximately 2,960-foot long (0.56 mile) project corridor into the bridge replacement design. The project will include ADA access ramps to the eight-foot sidewalks and a new seven-foot buffered bike lane for additional safety.

	Firm employed by	Hardesty & Hanover, LLC		
	Name	Kenneth Pecquet, PE	Years of relevant experience with this employer	7
	Title	Electrical Engineer	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization			B.S. / 2012 / Electrical Engineer	
Active registration number / state / expiration date			Professional Engineer: 47471 / LA / 09/30/2027	
Year registered	2023	Discipline	Electrical and Computer Engineer	
Contract role(s) / brief description of responsibilities			Movable Bridge Electrical Engineer	
Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
07/23 – 12/23	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Electrical Engineer for West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges. The electrical system routine inspection included inspecting accessible components of the main bridge power distribution, bridge grounding system, motor controls, control systems (panel and consoles), electrical systems for the traffic control lighting system, traffic gate assemblies, traffic resistance barriers, span lock motors, span drive braking system, span drive motors, limit switches and related conduit and wiring.			
01/20 – Present	Almonaster Avenue Railroad Bridge over the Industrial Canal Rehabilitation, New Orleans, LA – Port of New Orleans Movable Bridge Electrical Engineer for the bridge assessment, rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Avenue Bridge, a movable Strauss-heel trunnion bridge's electrical system. H&H's 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure.			
10/19 – 12/20	SR 609 Movable Bascule Bridge over Old Fort Bayou Rehabilitation, Ocean Springs, MS – MDOT Movable Bridge Electrical Engineer Intern contributing to the electrical design services for the full rehabilitation of SR 609 bascule bridge, as a task-order to the IDIQ Master Bridge Contract which includes developing standard and special bridge services, statewide for MDOT. Scope of work includes inspection and rehabilitation of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches and development of maintenance and repair plans.			
12/24 – Present	IDIQ Contract for Movable Bridge Preservation Task US 165 Red River MB Ped Gates (Jackson St.), Rapids Parish, LA – LADOTD Electrical Engineer developing plan sheets, creating electrical general plan in accordance with LADOTD policies and standards, adding new operable pedestrian gates for pedestrian walkway on the fixed spans beyond both ends of the lift span.			
08/23 – Present	H.009730.5 LADOTD Movable Bridge Manual, New Orleans, LA – LADOTD Electrical Engineer responsible for the development of the electrical components of the LADOTD Movable Bridge Inspection Manual (including details, photos, illustrations, and specific examples); building a lesson plan and materials for the classroom training from the inspection manual; and providing classroom and field training. The manual will include: bridge inspection principles and overview; movable bridge overview; mechanical, electrical, and structural inspection of movable bridges; operator house; and classroom and field training for electrical, mechanical, and structural).			
08/22 – Present	H.001498.6 (CE&I); LA 24 and LA 16 Company Canal Vertical Lift Bridge, Bourg, LA – LADOTD Electrical Construction Engineer delivering construction engineering and inspection services for a new vertical lift bridge and operator's house. Services include daily monitoring of all construction activities; maintaining all construction field records; coordinating with DOTD, contractor, parish government, and utilities; performing field testing; maintaining records of contractual operations, pay estimates and progress reports; preparing final estimate packages; conducting construction progress meetings; and construction close-out.			

12/19 – 08/24	Bayou Teche Movable Bridge at Oaklawn, Franklin, LA – LADOTD Electrical Engineer providing the electrical design for the movable bridge as well as the bridge parking and walkway lighting. The lighting design includes photometric analysis in accordance with IES standards, selection of luminaires and electrical equipment, and complete change order plan sheets detailing the placement of lights, connections to the existing electrical system, and item lists. H&H performed a field survey and review of bridge plans to complete an arc flash hazard analysis of the bridge electrical system using industry standard analysis software.
11/18 – 08/21	Lake Pontchartrain Causeway Safety Bay Improvements (CE&I), Metairie, LA – Greater New Orleans Expressway Commission Electrical Engineering Construction Inspector responsible for providing construction engineering and inspection services required during the Safety Bay improvement project. Mr. Pecquet's responsibilities included conducting construction engineering and inspection services required during the safety bay improvement project for inspection of all safety bays power, lighting, communication, CCTV, and traffic signal systems. Responsibilities included field inspections, documentation, preparation of daily reports, participation in construction progress meetings, and construction closeout.
02/23 – Present	H.015028.6 Bayou Barataria Movable Bridge Replacement (CE&I), Phase 1, LA 302, Jefferson Parish, LA – LADOTD Electrical Construction Engineer assisting in the construction contract administration and electrical construction engineering and inspection services for the Bayou Barataria Movable Bridge Replacement. This project consists of construction of the movable swing span bridge, operator's house, associated substructure elements, and pier protection system along relocated LA 302 in Jefferson Parish.
04/19 – Present	Jupiter Federal Bascule Bridge Replacement, Jupiter, FL – FDOT Movable Bridge Electrical Engineer Intern contributing to the design of this bascule bridge replacement project. The SWAT process of overlapping the design phase with the PD&E phase requires that the preliminary design phase includes coordination and support of the NEPA process in developing the Type 2 Categorical Exclusion documentation. H&H will serve as Engineer of Record for the project which addresses the structural and functional deficiencies of the existing US-1 / SR-5 Jupiter Federal Bridge from CR-A1A (Ocean Boulevard) to Beach Road. Work includes the development of vertical and horizontal alignment for bridge replacement alternatives and the study of the resulting impacts. The design incorporates intersection improvements and improves traffic functions at both ends of the approximately 2,960-foot long (0.56 mile) project corridor into the bridge replacement design. The project will include ADA access ramps to the 8-foot sidewalks and a new 7-foot buffered bike lane for additional safety.
12/19 – 01/21	Bayou Teche Swing Bridge at Oaklawn (H.002798.6), St. Mary Parish, Louisiana – LADOTD Movable Bridge Electrical Engineer Intern responsible for providing post-design electrical design calculations and plan revisions for the bridge power distribution and relay-based control system for this movable bridge. Built in 1941, the original historically significant bridge was replaced with a new hydraulically operated swing bridge. H&H provided the electrical design for the bridge in line with LADOTD's design requirements and standard design details and coordinated closely with the other design disciplines to ensure success. All design deliverables adhered to the schedule. Due to permitting issues, design was were placed on hold for several years extending the schedule.
08/19 – Present	Lapalco Boulevard Movable Bridge over Harvey Canal, Westwego, LA – Jefferson Parish DPW Electrical Engineer contributing to the pre-design electrical inspection and resulting Bridge Design Report (BDR) for the rehabilitation and widening of the existing four-lane Lapalco Boulevard project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lanes as well as the design of a new three-lane double bascule movable bridge crossing of Harvey Canal to be constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. Improvements to bridge and roadway approaches and development of a Traffic Control Plan was also included. Project is being designed to LADOTD standards and specifications.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name	Dalton Hunt, PE	Years of relevant experience with this employer	4
	Title	Structural Engineer	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			B.S. / 2021 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 51514 / LA / 9/30/2026 Certifications: ATSSA Traffic Control Supervisor and Flagger	
Year registered	2026	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Structural Bridge Inspector	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/22 – 10/24	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation), Statewide, MS – Mississippi DOT Structural Designer for bridge inspection and rehabilitation services under this IDIQ Master Bridge Contract. Scope includes inspections and developing standard and special bridge services for multiple bridges across Mississippi. Services include structural and geotechnical design for bridges and retaining walls; mechanical and electrical bridge components; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; design review services and constructability review. In addition, the contract includes specialized services such as: bridge scope analysis, bridge load rating, bridge safety or repair inspections, and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications.			
03/25 – Present	H4400021516: Bridge Rehabilitation for Five Movable Bridges, Lafourche, Terrebonne, and Pointe Coupee Parishes, LA – LADOTD Roadway Engineer for the inspection, evaluation, and rehabilitation design services for five movable bridges under LADOTD Contract No. 4400021516 as part of the LADOTD Movable Bridge Rehabilitation Program. Supported structural, mechanical, electrical, and architectural rehabilitation efforts to extend bridge service life, improve load capacity, and achieve current code compliance. Project services also included NBIS in-depth inspections, load ratings using AASHTOWare BrR, NDT and strain gage testing, scope and report development, design calculations, PS&E production, technical specifications, permit coordination, construction cost estimates, shop drawing and RFI review, and mechanical/electrical system inspections and functional testing. Four bridges carry historic designations, including the Golden Meadow Bridge Preservation Priority structure, with all rehabilitation designed in accordance with LADOTD historic bridge requirements and the Secretary of the Interior's Standards.			
01/23 – Present	H4400023909: IDIQ Contract for Movable Bridge Preservation, Statewide, LA – LADOTD Structural Designer for several task orders under this movable bridge preservation and rehabilitation IDIQ contract. Services include mechanical, structural, and electrical improvements for swing and lift bridges throughout Louisiana. Projects included the Boudreaux Canal Swing Bridge, Jackson Street Vertical Lift Bridge, and Bayou Teche Swing Bridge. Services include the design, plans/specifications production, and construction-phase services for hydraulic systems, operator facilities, ADA-compliant pedestrian gates, bridge control systems, lighting, traffic signals, standby power, navigation aids, and structural support elements in accordance with LADOTD, AASHTO, NEC, and ADA requirements.			

06/23 – Present	H.009730.5 In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Structural Bridge Inspector for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis, Miller's Bluff, and Krotz Springs) and West Fork, LA 433 over Bayou Bonfouca, and LA 657 over Bayou Lafourche movable bridges have been completed to date.
01/22 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Bridge Designer for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Ave Bridge and a new connector road. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H's 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and the connecting roads were required to return this bridge to its full operating capability. Erik provided the design of steel plate girders for the bridge. The road design services included a new alignment for the connecting road including all drainage structures. H&H also developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.
03/22 – 10/23	H.014363.5 IDIQ Contract for ADA Design Projects Statewide, Slidell, LA – LADOTD Civil Designer responsible for the evaluation and consideration of current sidewalk features of Robert Blvd. in Slidell, LA. Plans were designed and revised in-house in preparation of the overhaul of sidewalks and adding of ADA compliant handicap ramps and landing areas along the roadway to bring the sidewalks up to current LADOTD standards. Services include preliminary plans, final plans, construction engineering, project proposal plans, and inspection for LADOTD Sidewalk Improvements to Conform to ADA Guidelines. The project begins at the intersection of LA 1091 (Robert Blvd) with US 190 (Gause Blvd) in the city limits of Slidell, Louisiana, then continues North along LA 1091 for 2.0+/- miles to a location 175 ft. north of the intersection of LA 1091 with Country Club Blvd. The survey will extend along all major side roads 50 ft. from the PT of the curbing in each direction.
09/22 – Present	I-10 & I-12 College Dr Flyover Ramp Design- Build, Baton Rouge, LA – LADOTD Field Engineer Intern for design and construction quality control/quality assurance for this road and bridge design-build project which is located at the I-10 West exit to College Dr, in advance of the I-10 & I-12 West merge. H&H serves as Design-Builder's Construction Quality Control Firm (CQCF) and oversees all Design Quality Control and Construction Quality Control activities for the project. Scope includes the development and implementation of Comprehensive Quality Plan to ensure the design and construction conforms to all specified requirements. H&H will develop, maintain, and update Contractor Quality Management Plan and provide qualified Inspectors, material sampling, testing, and independent testing labs to ensure contractors and off-site fabrication facilities meet project specifications.
06/22 – Present	H.002798.6 Bayou Teche Movable Bridge at Oaklawn, St. Mary Parish, LA – LADOTD Civil Designer assisting in the design, calculations, and plan preparation of the bridge power distribution and relay-based control system for this movable bridge located in St. Mary Parish, LA. The new through girder swing-span rotates with hydraulically actuated slewing (push-pull) cylinders.
04/22 – Present	H.001498.6; LA 24 and LA 16 Company Canal Vertical Lift Bridge, Bourge, LA – LADOTD Field Engineer Intern delivering construction engineering and inspection services for a new vertical lift bridge and operator's house. Services include daily monitoring of all construction activities; maintaining all construction field records; coordinating with DOTD, contractor, parish government, and utilities; performing field testing; maintaining records of contractual operations, pay estimates and progress reports; preparing final estimate packages; conducting construction progress meetings; construction close-out, etc.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name		Cesar Navarro, PE	Years of relevant experience with this employer
	Title		Structural Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			M.S. / 2021 / Structural Engineer B.S. / 2020 / Structural Engineering	
Active registration number / state / expiration date			Professional Engineer: 150690 / TX / 09/30/2026 Certifications: NHI-130056: Safety Inspection of In-Service Bridges	
Year registered	2023	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Structural Bridge Inspector	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
06/23 – Present	LADOTD In-Depth Bridge Inspection of Complex Structures, Statewide, LA – LADOTD Bridge Inspector for the inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Cesar assisted in inspecting the Jimmie Davis bridge over the Red River. The bridge consisted of a truss system over the Red River with adjacent sections being pin & hanger spans with prestressed concrete girders on the approach spans.			
06/25 – Present	SNBI Data Collection, Statewide, LA – LADOTD Structural Inspector for retrieving and verifying the Specifications for the National Bridge Inventory (SNBI) data for InspectX for hundreds of bridges statewide for Louisiana Department of Transportation and Development (LADOTD). Tasks include review of pertinent documents such as rehabilitation plans, as-built plans, shop drawings, and inspection reports. These documents were obtained from various LADOTD offices including General Files, Bridge Design Section, Bridge Maintenance Section, and District offices. Necessary information will be collected from the site when such information is unavailable from the plans. Cesar assisted with over 40 bridges. Additionally, he performed QA/QC reviews for 20 additional bridges in New Orleans which included concrete and steel members.			
07/23 – 03/24	Routine Bridge Inspection, Statewide, TX – TxDOT Structural Inspector assisted on multiple routine bridge inspection contracts by inspecting for scour, delamination, spalling, cracks, erosion damage and other defects. He assisted in providing bridge inspection and load rating services for the TxDOT Routine Bridge Inspection contract throughout the state of Texas. Cesar was involved in the inspection of over 100 bridge structures. The contract runs from 2022 through 2027.			
01/25 – Present	Structures Management Unit LSC – NBIS Inspections, Statewide, NC – North Carolina DOT Structural Inspector providing NBIS element level inspection and appropriate documentation of the condition of over 40 bridges across North Carolina consisting of timber, steel and concrete.			
06/24 – 03/25	TxDOT CRP Off-System Bridge Replacements, Corpus Christi District, TX – TxDOT Structural Designer for this bridge replacement contract as part of H&H's On/Off-System IDIQ contract for TxDOT. This Work Authorization includes three off-system bridges and three culverts within two TxDOT area office jurisdictions. These six project locations are being delivered in three separate PS&E packages on an accelerated schedule. Cesar contributed to CR 216 at Salt Creek, CR 414 at Salt Branch and Carmel Hills at Beldon Hollow.			

10/22 – 05/23	Campbell Army Airfield (CAAF) Repairs, Fort Campbell, KY – American Engineers Inc. Structural Designer assisted in inspecting concrete slabs throughout the airfield for defects. The defects included popouts, alkaline silica reactions, longitudinal cracks, corner breaks, spalling, joint seal damage, patching failures and settlement among other defects. Mr. Navarro assisted with the PCC conditional assessment, design for the pavement replacement/ repairs and proposed airfield pavement markings design. This project involved the on-site conditional evaluation of over 40,000 PCC panels covering over 1.5 million square yards (SY) of the airfield ramps and taxiways. Civil design plans were developed for the partial repair or full replacement of any damaged PCC panels or aircraft tie-downs. This effort included bringing all the existing airfield runways, ramps and taxiways up to conformance with the latest UFC.
07/23 – 08/23	Engineering Services, Transportation Development and Design, Hillsborough County, FL – Hillsborough County Structural Designer worked on existing and new signal design along with custom spread footer design. This contract involves providing general/civil engineering services to support transportation capital improvements including but not limited to intersection improvements, new signals, traffic signal interconnection, road diets, complete streets, road widening, road resurfacing and reconstruction and bridge rehabilitation and replacement.
01/21 – 02/22	SH 21 at FM 2346 & SH 21 at FM 2000, Madison County & Burleson County, TX - TxDOT Engineering Assistant II for this project consisting of installing a left turn lane along with a mill and overlay on SH 21 at FM 2346. The project also included installing a left turn lane on FM 2000, a right turn lane on SH 21 SB, and extending the existing left turn lane on SH 21 SB along with an overlay on FM 2000. Mr. Navarro compiled the plan set for this project in which he created 3D models, earthwork quantities, summaries, sequence of work, SW3P sheets, General Notes, and construction schedule. He performed hydraulic calculations and managed utility coordination.
05/23 – 05/24	Indiana DOT Design Review, Statewide, IN – Indiana DOT Structural Designer performed multiple plan reviews of roadway projects and bridge projects. The reviews consisted of checking project documentation, standards, correspondence, engineering assessment reports, summary of quantities, maintenance of traffic, design computations, and the submitted plan sets. Design reviews verify compliance with AASHTO guidelines, INDOT Standards and Specifications and constructability.
08/22 – 05/24	Hillsborough School Zone Crossings, Hillsborough County, FL – Hillsborough County Structural Designer worked on existing and new signal design along with custom spread footer design. Assisting in providing preliminary design and engineering and final plans for 15 school zone crossings including multiple signal designs and custom spread footer designs.
07/23 – 04/24	Bikeways and Pedways Project, Wimberley, TX – Hays County Structural Designer assisted in designing a sidewalk in accordance with the Texas Department of Transportation's standards and Hays County's preferences. His work also included the production of the plan set. The sidewalk improvements are part of a multi-phase Wimberley Valley Trails plan and will provide 0.84 mi. of contiguous safe and accessible path that connects Danforth Junior High to the Wimberley Public Library. It includes storm drainage, retaining walls, cross walks, and sidewalks.

	Firm employed by		Hardesty & Hanover, LLC	
	Name		J. Webb Jones, PE	Years of relevant experience with this employer
	Title		Senior Highway Engineer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			B.S. / 2001 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 56950 / Florida / 2/28/2027	
Year registered	2001	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Senior Roadway Engineer	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
07/16 – 9/21	SR A1A North Bridge Replacement, Fort Pierce, FL – Florida DOT Senior Roadway Engineer for the planning and design of a new high-level fixed bridge carrying SR A1A and the East Coast Greenway over the Intracoastal Waterway, FEC Railroad, and Old Dixie Highway. Scope included staged construction to maintain traffic, elimination of at-grade rail crossing, design of new roadway alignments and access roads, and integration of an observation deck. H&H coordinated extensively with utilities, FEC Railroad, adjacent businesses, and permitting agencies. The project also included geotechnical, drainage, hydrogeology, lighting, signals, signage, and maintenance of traffic for both vehicular and marine users.			
07/17 – 06/20	Orlando South Ultimate Interchange, Orange County, FL – Florida’s Turnpike Enterprise Deputy Project Manager responsible for concept development of alternatives. This project includes an evaluation of a complex interchange that provides both direct and indirect ramping between Orange Blossom Trail and the adjacent two limited access highways. The project goals included: construction of direct connection ramps between freeways, an ultimate 10-lane typical section of the turnpike, implementation of AET, consideration of express direct connections, and improvement of surface street operations with two new reliever interchanges. The recommended configuration included improvements to the systems interchange, modification to two adjoining interchanges, and new proposed service interchanges.			
01/16 – 12/17	I-75 (SR 93A) SB Off-Ramp from S of Bypass Canal to EB/WB I-4, Hillsborough County, FL – Florida DOT Project Manager/Engineer of Record responsible for project coordination and oversight. This two-mi. roadway improvement project included the addition of a new auxiliary lane for southbound I-75 from south of the Bypass Canal to the southbound off-ramp and widening the I-75 southbound off-ramp from one to two lanes. A unique aspect of the design approach was the incorporation of this design into a long-term buildout of the interchange. This project was expedited for construction based on no right of way acquisition or impacts to Florida Gas Transmission lines.			
01/16 – 10/17	SR 826/Sunny Isle Twin Bridge Improvements, Sunny Isle, FL – Florida DOT Roadway Design Lead/Signing and Pavement Marking Engineer of Record responsible for signing and pavement marking and roadway design, as well as temporary traffic control (TTC) plans. The project included a vibration study of the bridge control house; design recommendations for improvements, public involvement, permitting, TTC plans, roadway, drainage, signing and pavement markings analysis and plans, and construction cost estimates. Both four-lane bridges have 16 spans with pre-stressed AASHTO concrete and steel beams and a double-leaf trunnion bascule span.			
01/21 – 02/25	SR 826/Palmetto Expressway Capacity Improvement Design-Build, Miami-Dade County, FL – Florida DOT Senior Roadway Engineer responsible for QC on this project. This project improves operations with an additional SB General purpose lane, auxiliary lanes, and improved shoulder widths, requiring major modifications to the NW 103rd St interchange. The project also includes revised access to the NB and SB express lanes, requiring a new toll site and improvements to the adjoining frontage road system. H&H is the lead designer, responsible for roadway, drainage, permitting, traffic control, tolling, and bridge design.			

01/16 – 12/23	Sand Lake Rd Interchange, Orange County, FL – Florida's Turnpike Enterprise Senior Roadway Engineer responsible for the temporary Traffic Control Plans design for the construction of a new interchange located on the Florida's Turnpike and Sand Lake Rd (SR 482) in Orange County, Florida. As part of an innovative design, ramp construction will take place early to allow mainline traffic to be diverted during off peak hours while bridge reconstruction over the Turnpike is ongoing. This project also includes coordination with FDOT District 5 and the reconstruction of Sand Lake Rd.
11/16 – 02/19	Gateway Express Improvements, Pinellas County, FL – Florida DOT Project Engineer responsible for technical oversight of temporary Traffic Control Plans. This project will deliver limited and controlled access connections from the Bayside Bridge on the north, US 19 on the west, and the St. Pete Clearwater International Airport to I-275 general purpose and new express lanes. H&H's scope on this design-build project includes contributing to FDOT's Alternative Technical Concepts (ATC) process; developing temporary traffic control plans design for Segments 2 and 4; project tolls design (four sites) for Segments 1, 2 and 4; and structures design for four bridges in Segment 4.
03/13 – 10/14	Central Polk Pkwy (Segment 1) from Polk Pkwy SR540 to SR 35 (US 17), Polk County, FL – Florida DOT Engineer of Record/Senior Engineer responsible for roadway design and plans production. This project required the use of Corridor Modeler software to aid in the design of a new six-lane expressway facility. The project included the design of a one-mi. new alignment, over two mi. of widening, and a new interchange at SR 540 including over two mi. of new ramp alignments. This segment was among several that were under design to complete the northeasterly connection of Central Polk Pkwy to I-4.
01/14 – 12/15	Gandy Blvd Bridge Approaches, Pinellas Count, FL – Florida DOT Senior Engineer responsible for QA/QC for the Traffic Control Plans for the construction of a 2.5-mi.-long segment of improved grade-separated lanes to increase capacity on the Gandy Bridge approach using design-build delivery. The project is 2.5 mi. long, includes three grade separations, and is being delivered substantially under budget with design-build delivery.
07/13 – 02/14	Turnpike Mainline (SR 91) Interchange at I-4 Design-Build, Orange County, FL – Florida's Turnpike Enterprise Project Engineer responsible for the design and preparation of traffic control and roadway plans. The project included operational improvements, including mainline auxiliary lanes and ramp lane additions. A unique feature of the proposed design was a new ramp structure, replacing the need for widening, to avoid FGT impacts.
04/17 – 03/20	SR 75 (US 231) from SR 30A (US 98) to Pipeline Road, Panama City, FL – Florida DOT Senior Roadway Engineer responsible for preparation of roadway and temporary Traffic Control Plans. The project consists of providing design services for the single point urban interchange (SPUI) at SR 77 over US 231 and CSX RR improvement project. The work includes roadway and drainage design of the intersection, lighting design for the entire project, and design for new 840-ft. steel bridge.
01/16 – 05/20	Districtwide Interstate Program Manager (IPM) – Florida DOT Senior Engineer responsible for concept development and review of plans. This multi-discipline, indefinite quantity contract provided as-needed services to support the Florida DOT work program for all interstate highway improvements in the five-county FDOT District region. The geographic limits include over 150 mi. of I-275, I-4, and I-75 and key contributing arterials.
07/12 – 02/15	SR 212 (Beach Boulevard) Landscaping from St. Johns Bluff Road to San Pablo Road, Duval County, FL – Florida DOT Engineer of Record/Senior Engineer responsible for design and production of traffic control plans. The project involved roadway design for over 5.6 miles, including landscaping and irrigation improvements for proposed bold landscaping within existing medians on Beach Boulevard, from St. Johns Bluff Road to San Pablo Road in Jacksonville.
07/23 – Present	SR 535 Interchange Improvements at I-4 & WB Express Lane Extension from west of SR 536 to west of Daryl Carter Parkway Design-Build, Orange County, FL – Florida DOT Chief Engineer responsible for temporary traffic control design and plans preparation. The interchange improvements will partially reconstruct I-4 and SR 535 (Apopka-Vineland Road) to enhance safety and improve access to and from westbound I-4. The extension project will add a single, buffer-separated, westbound managed lane to I-4 from west of SR 536 to west of Daryl Carter Parkway.



Firm employed by		Hardesty & Hanover, LLC		
Name		J. Lee Adams, PE	Years of relevant experience with this employer	18
Title		Senior Water Resources / Hydraulics Engineer	Years of relevant experience with other employer(s)	12
Years / Specialization			BS / 1995 / Civil Engineering	
Registration number / state / expiration date			Professional Engineer: 41739 / LA / 09/30/2027	
Registered	2017	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Senior Hydraulics Engineer	
Experience dates (mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Hydraulics Engineer for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Ave Bridge and a new connector road. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. H&H's 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and the connecting roads were required to return this bridge to its full operating capability. The road design services included a new alignment for the connecting road including all drainage structures. H&H also developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.			
11/22	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Hydraulics Engineer for the design of a six-lane bascule bridge parallel and adjacent to the existing bridge. The new bridge will carry three westbound lanes, and the existing bridge will be modified to carry three eastbound lanes plus a pedestrian and bicycle path. Project scope includes the design of a new three-lane double-leaf bascule bridge and approach spans that will be north of and parallel to the existing bridge, as well as design modifications to the existing bridge to reconfigure it to include three eastbound lanes plus a pedestrian and bicycle path. H&H's preliminary design work included a visual structural inspection of the fracture critical elements, primary and secondary structural members, as well as electrical and mechanical systems inspections. Responsible for evaluating the scour susceptibility of the sites planned improvements.			
Present	Route 42 Bridges over Blackwood Railroad Trail, Gloucester, Camden County, NJ – New Jersey DOT Deputy Project Manager/Stormwater Management Task Leader responsible for coordinating all disciplines in the preparation of Preliminary Engineering services. The project involved replacing a pair of three-span, fixed bridges conveying the northbound and southbound freeways over the former railroad ROW, with a single tunnel structure. Multistage construction and extensive utility relocation were involved. The project included acceleration and deceleration lane improvements and triggers State Storm Water Management Rules due to proposed impervious coverage. Design work was performed per the NJDEP regulations at NJAC 7:8. NJAC 7:13 compliance is also a factor as several storm outfalls discharge to the regulated floodplain. Prepared highway spread calculations and developed storm water management plan involving stormwater pipe hydraulic grade line. Calculations were performed using rational method per NJDOT RDM Chapter 10. Prepared the design of storm water management detention and retention basin for water quality, quantity, and recharge. Utilized NRCS TR-55/TR-20 flood routing calculations and methodologies to size basin and outlet features. Recharge requirement was evaluated using the State's NJGRS Spreadsheet. Water quality was achieved by retaining the water quality storm event beneath the low-level outlet. Quantity reduction was achieved by detaining storms more than the WQ event.			
Present	Rehabilitation of Dock Bridge, Newark, Essex County, NJ – Amtrak Lead Hydraulics & Hydrology Engineer for the rehabilitation design of Dock Bridge, a complex, three-span-driven vertical lift rail bridge that crosses the Passaic River between Newark and Harrison. The purpose of the project is to bring the bridge to a state of good repair. Responsible for securing NJDEP Waterfront Development Permitting and USACE Nationwide Permits.			

10/17 – 10/18	Rehabilitation of Route 202 Bridge over Housatonic River, Litchfield County, CT – Connecticut DOT Lead Hydraulics Engineer for the rehabilitation of the Connecticut DOT Route 202 over Housatonic River. The bridge is a single span simply supported Pratt through truss variant carrying two lanes of traffic. Constructed in 1953, this steel truss bridge is comprised of a combination rolled and built-up truss members framed into riveted gusset plates. The site is subject to flood flows that carry woody debris and inundate the span. Mr. Adams assessed the debris loading risk, modeled design flows, and estimated lateral hydraulic forces on the superstructure to assist the structural design team with bridge seat rehab design.
05/16 – 06/20	Bridge Street Bridge over Passaic River, Newark & Harrison, NJ – North Jersey Transportation Planning & Authority Hydraulics Team Leader responsible for evaluating stream stability and coastal site conditions for the existing bridge and replacement alternatives for the federally funded Local Concept Development (LCD) phase for major rehabilitation or replacement of this deteriorating swing span bridge. Mr. Adams also evaluated stormwater management system operation, capacity impacts, and environmental permitting implications for same.
08/23 – Present	Phase II – Hydraulic Analysis and Scour Evaluation of Various Turnpike & Parkway Bridges, Statewide, NJ – New Jersey Turnpike Authority Project Engineer and Lead Hydraulics Engineer for the Phase II scour evaluation of two major bridges and 33 routine bridges over waterways on the NJ Turnpike and the Garden State Parkway facilities. Phase II Scour Evaluations are being performed in accordance with FHWA Hydraulic Engineering Circular No. 18 (HEC-18), "Evaluating Scour at Bridges" that includes preparation of individual report for each bridge. Work efforts involve preparation of field inspection, geotechnical sample collection, Hydrologic and Hydraulic Analysis, Scour Analyses, Foundation Stability Assessment, and a prioritized list of bridges recommended for development of a Plan of Action and/or Scour Countermeasure design and construction.
11/21 – Present	Replacement of Structure No. W112.72B/Interchange 16W–Ramp over Berry Creek Canal, Bergen County, NJ – New Jersey Turnpike Authority Lead Hydraulics Engineer for the preliminary and final engineering design to replace the existing structure with a three-span continuous steel girder bridge supported on deep foundations and the rehabilitation of a culvert (Str. #W112.26). As lead hydraulic engineer, developed SMS SRH-2D global model to estimate and route the tidal prism and define the boundary conditions in accordance with HEC-25 methodologies. Developed finer detailed 2D model to determine proposed bridge scour parameters and estimate scour per HEC-18 for tidal bridges in cohesive materials.
12/12 – 12/13	Rumson – Seabright Bridge Over Shrewsbury River, Monmouth County, NJ – County of Monmouth Hydraulics Engineer responsible for evaluating scour vulnerability for the existing Rumson Road Bridge S-32 and several replacement alternatives during the Local Concept Development Phase. Prepared cost estimates for scour countermeasure alternatives and performed field condition inspection of bridges and culverts. Performed hydraulic vulnerability analysis per NJDOT guidance and developed hydraulic modeling per FHWA's HEC-25 guidance. During Preliminary Design, responsible for assessing stormwater management NJDEP regulatory requirements, evaluating existing system capacity, and designing stormwater system improvements for the Preliminary Engineering Phase of work. Prepared final design stormwater system improvements and prepared the final bridge hydraulics analysis, including modeling tidal hydraulic conditions during the stages of construction, and supported the engineering effort necessary for NJDEP Waterfront Development, USCG, and USACE permitting.
01/22 – 12/22	Strong River Scour Analysis, Scott, MS – Mississippi DOT Sr. Hydraulics Engineer for hydrology and hydraulics to perform a qualitative and quantitative analysis of the channel and develop a Scour Analysis Report according to MDOT's Bridge Scour Evaluation Study Phase I & II guidelines. The two-phase approach began with preliminary findings and conclusions based on a survey of conditions and application of simple geomorphic concepts. This initial data collection phase supported the second phase, which was dedicated to engineering analysis and quantitative measurements of the structure and surrounding environment.
05/17 – 12/20	Route 25A Bridge Over Brackett Brook, Grafton County, NH – New Hampshire DOT Supervising Hydraulics Engineer for the rehabilitation or replacement of this NHDOT Red Listed bridge. Responsible for supervising the hydrologic and hydraulic analysis necessary to define the floodplain, floodway, and existing conditions; determine design loads, scour depths; and provide quality control. The two-span concrete deck bridge was in poor condition and considered scour critical during floods. Scope of work included an engineering feasibility study and report detailing type, span, and location (TS&L); preliminary and final design; permitting; and construction support services.

	Firm employed by		Hardesty & Hanover, LLC		
	Name		John Witthohn, PE	Years of relevant experience with this employer	10
	Title		Water Resources / Hydraulics Engineer	Years of relevant experience with other employer(s)	13
	Degree(s) / Years / Specialization			BS / 2003 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 41575 / LA / 09/30/2027		
Year registered	2017		Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Hydraulics Engineer		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
11/20 – Present	H.014530: Almonaster Ave Bridge Rehabilitation and New Connector Road, New Orleans, LA – Port of New Orleans/LADOTD Hydraulics Engineer for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Ave Bridge and a new connector road. H&H’s 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge revealed that improvements to the electrical and mechanical systems, superstructure, and the connecting roads were required to return this bridge to its full operating capability. The road design services included a new alignment for the connecting road including all drainage structures. H&H also developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.				
01/22 – 12/22	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Hydraulics Engineer for the design of a six-lane bascule bridge parallel and adjacent to the existing bridge. The new bridge will carry three westbound lanes, and the existing bridge will be modified to carry three eastbound lanes plus a pedestrian and bicycle path. Project scope includes the design of a new three-lane double-leaf bascule bridge and approach spans that will be north of and parallel to the existing bridge, as well as design modifications to the existing bridge to reconfigure it to include three eastbound lanes plus a pedestrian and bicycle path. H&H’s preliminary design work included a visual structural inspection of the fracture critical elements, primary and secondary structural members, as well as electrical and mechanical systems inspections. Responsible for evaluating the scour susceptibility of the sites planned improvements.				
03/23 – Present	NJ Route 179 Bridge Replacement over Back Brook, Hunterdon County, NJ – New Jersey DOT Hydraulics Engineer for the Conceptual Design of the replacement of Route 179 Bridge over Back Brook. Responsible for hydrologic and hydraulic analysis of existing and proposed bridge hydraulics, and the design of a wider bridge opening to provide natural stream banks and terrestrial species passage in compliance with NJDEP Flood Hazard Area rules on threatened and endangered species in fragmented habitat, per the NJAC 7:13.				
01/22 – 12/22	Strong River Scour Analysis, Scott, MS – Mississippi DOT Hydraulics Engineer responsible for hydrology and hydraulics to perform a qualitative and quantitative analysis of the channel and develop a Scour Analysis Report according to MDOT’s Bridge Scour Evaluation Study Phase I & II guidelines. The two-phase approach began with preliminary findings and conclusions based on a survey of the conditions and the application of simple geomorphic concepts. This initial data collection phase supported the second phase, which was dedicated to engineering analysis and quantitative measurements of the structure and its surrounding environment. H&H performed a hydraulic analysis, evaluated the stability of the channel, and assessed scour depths for the dual-bridge crossing and recommended NBIS Item 113 coding.				
12/19 – 01/22	East Haddam Swing Bridge over the Connecticut River Rehabilitation, Haddam, CT – Connecticut DOT Hydraulics Engineer responsible for the rehabilitation of this 4-span truss swing bridge. The bridge, which opened in 1913 and has been posted on the National Register of Historic Places, carries two lanes of Route 82 traffic over the Connecticut River and includes a deck truss span, through truss span, and a 465-foot-long through truss swing span. Rated elements included gusset plates, pins, tension and compression members, truss chord box members subject to bending, floorbeams, and stringers. The structural feasibility study evaluated the addition of an external sidewalk to allow pedestrian access across the bridge, which has a narrow 24.5-foot roadway. Responsibilities include design coordination and development for all architectural components of the project.				

10/18 – 06/19	Grand Avenue Bridge over Quinnipiac River, City of New Haven, CT – Connecticut DOT Hydraulics Engineer responsible for performing independent technical reviews and QA/QC reviews of the hydrologic and hydraulic analyses, and the bridge scour analysis for the rehabilitation or replacement design of this bridge. The multi-span moveable bridge is in poor condition and certain piers considered scour susceptible during coastal floods. The bridge superstructure is vulnerable to wind and wave forces during coastal flood conditions, which affects the structural rehabilitation and retrofit of the bridge bearings. John's participation in the review of the hydraulic forces calculations as a result of tidal floods, wind, waves, and debris blockage forces, aided in developing predictions of mean sea-level rise for future resiliency during the project's design life.
05/17 – 12/20	Route 25A Bridge Over Brackett Brook, Grafton County, NH – New Hampshire DOT Hydraulics Engineer for the preliminary design of the replacement of Rt 25A Bridge over Brackett Brook. Responsible for hydrologic and hydraulic analysis of existing 45°skewed bridge and two proposed bridge spans alternatives in accordance with NHDOT Bridge Design Manual; the design of a wider bridge opening in compliance with NHDES Stream Crossing Guidelines for wildlife continuity and terrestrial species passage; and scour analysis and countermeasure design on the selected alternative. Also prepared the hydraulic sections of the Rehabilitation Study Report (RSR) and the Type Size & Location (TSL) Study Report, currently under review by NHDOT.
01/16 – 07/18	NJ Route 17, Sprout Brook Culvert Replacement, Paramus, NJ – New Jersey DOT Hydraulics Engineer responsible for Preliminary Engineering Phase and Final Design Phase of hydrologic and hydraulic analysis of existing and proposed drainage conditions of this bridge replacement and highway widening project, and the design of the proposed stormwater management system. The project involves replacing a pair of three-span, fixed bridges conveying the NB and SB freeways over the former railroad ROW, with a single tunnel structure, in accordance with NJDOT and NJDEP requirements.
12/16 – 06/20	Saugus Draw Bridge Rehabilitation, Saugus, MA – Massachusetts Bay Transportation (MBTA) Hydraulics Engineer responsible for providing conceptual hydrologic and hydraulic analysis and scour evaluation in support of the rehabilitation and/or replacement evaluation of Bridge No. S-05-040 (A53) over the Saugus River, in Essex County. The Saugus Draw Bridge is a multi-span, single-leaf bascule bridge that carries MBTA's Newbury Port/Rockport Commuter Rail Service and freight trains over the river estuary, which is the only bridge linking this "eastern route" with the City of Boston. Responsibilities included the review and evaluation of all existing hydrologic and hydraulic data, tidal records, topographic and bathymetric mapping, and bridge as-built data, in order to provide a bridge scour evaluation suitable for the Conceptual Design Alternatives Analysis phase of this project.
05/17 – 12/20	Route 25A Bridge Over Brackett Brook, Grafton County, NH – New Hampshire DOT Hydraulics Engineer for the rehabilitation or replacement of this NHDOT Red Listed bridge. Responsible for supervising the hydrologic and hydraulic analysis necessary to define the floodplain, floodway, and existing conditions; determine design loads, scour depths; and provide quality control. The two-span concrete deck bridge was in poor condition and was considered scour critical during floods. Scope of work included an engineering feasibility study and report detailing type, span, and location (TS&L); preliminary and final design; permitting; and construction support services.

	Firm employed by		Hardesty & Hanover, LLC	
	Name		Lauren Peytavin, EI	Years of relevant experience with this employer
	Title		Water Resources Designer	Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization			MS Certificate / 2021 / Coastal Engineering BS / 2018 / Civil Engineering	
Active registration number / state / expiration date			Engineer in Training: 33772 / LA / 09/30/2026	
Year registered	2018	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Hydraulics Designer	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
05/22 – 01/24	Almonaster Bridge Environmental Assessment, New Orleans, LA – Port of New Orleans Project Designer responsible for the assessment of the Almonaster Ave. Bridge Rehabilitation and New Connector Road project. The Almonaster Ave Bridge crosses over the Industrial Canal and provides two vehicular lanes and a single railroad track crossing down the center of the span. Lauren prepared Environmental Assessment/Environmental Impact documentation for the project that meets the criteria for LADOTD, LA DEQ, FHWA, NEPA and all federal and state compliance standards. Lauren was responsible for the analysis and estimation of project impact across a comprehensive panel of criteria, including recommendations of design alternatives as needed. She drew on her experience with roadway construction, wetland, and waterway permits to assist in permit acquisition for the Port of New Orleans for this project.			
06/25 – Present	H.004396 Lapalco Blvd. Movable Bridge over Harvey Canal, Jefferson Parish, LA – Jefferson Parish DPW/LADOTD Water Resources Designer for the design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Blvd. to provide a facility carrying three lanes of traffic in each direction. The new bridge will be constructed as an independent structure adjacent to and north of the existing bridge with a new operator house. The project includes rehabilitation of the existing four-lane bridge with three lanes of traffic and a new pedestrian and bicycle lane, improvements to bridge and roadway approaches, and development of a Traffic Control Plan. John is performing quality control on the roadway elements of this project. All design work is in accordance with LADOTD Standards and Specifications and reviewed by LADOTD.			
07/25 – Present	SR 33 Bridge Replacements, Franklin County, MS – Mississippi DOT Hydraulics Designer for the Phase A Final Right-of-Way Plans for roadway design and roadway hydraulic design for four bridge replacements along SR 33 (Bridge Nos. 31.9, 34.6, 34.9, and 35.3). The project scope includes roadway realignment, roadway hydraulic design, preliminary right-of-way design, and final right-of-way design. H&H is providing the realignment of the roadway to run parallel to the existing and redesigning of one intersection at the end of the project. A hydraulic study and report are to be completed to resize the existing pipes, if necessary, and to verify sizing for a reinforced box culvert. A set of preliminary right-of-way plans are to be created following Mississippi Department of Transportation's (MDOT) guidelines and using the approved alignment from MDOT. Final right-of-way plans will be delivered after hydraulic design and roadway design have been finalized and a plan set has been created.			
06/20 – 01/24	RR082 Lakeshore Group E - Roadway Rehabilitation and Repair, New Orleans, LA – New Orleans Department of Public Works Assistant Project Engineer assisted in the design of the full reconstruction of two blocks of Ring St. in the Lakeshore Neighborhood. Design objectives included removal and replacement of the existing roadway surface, redesign of the roadway profile, and non-paving incidental repairs. Lauren was responsible for cost and materials estimates and preparation of final design plans utilizing AutoCAD Civil3D.			
06/25 – Present	Clay Street Bridge over Passaic River, Newark, NJ – Hudson County New Jersey Water Resources Designer for the Preliminary Drainage Design and Report for the replacement of the Clay Street swing bridge in New Jersey. The project scope includes Hydraulics and Hydrology Report production, including assessment of existing and proposed conditions in compliance with New			

	Jersey Administration Code and New Jersey Department of Transportation engineering standards. Ms. Peytavin created models for Hydrologic assessment and Hydraulic assessment of existing and proposed project affects under prerequisite storm events, quantifying the project in accordance with New Jersey and the Department of Environmental Quality. These regulatory model results were then recorded in a formal report to be submitted in project preliminary planning.
05/23 – 01/24	Clayton's Pond Drainage Analysis and Design, Norco, LA – St. Charles Parish Dept of Public Works Hydraulics Modeler responsible for review and hydraulic analyses of the hydraulic design models provided by St. Charles Parish in anticipation of survey completion. Lauren evaluated the input elements of the models per expectations of the project area, such as soil quality, storm runoff, design storms, and model scenario output of the existing drainage system in anticipation of updating these models to illustrate Gaea's design recommendations. Lauren coordinated project needs with the St. Charles Parish Department of Public Works, attended conceptual meetings, and facilitated clarification of survey scope on behalf of the subcontractor.
01/22 – 01/24	Orpheum Levee Slope Pave, New Orleans, LA – Southeast Louisiana Flood Protection Authority Project Designer provided engineering design, drainage analysis, quantifying materials, and cost estimate for approximately 3,000 linear ft. of levee slope pave on the west side of the 17th Street Canal. She designed the pave of the levee slope for the purpose of mitigating rutted slope due to large vehicular traffic along Orpheum Ave. and preserving structural integrity of the levee. Assessed the potential impacts of paving the protected side of the levee on adjacent drainage infrastructure by quantifying storm runoff and time of concentration. She provided full-scope design direction and input, including alternative methods to direct rainfall and runoff, and review of plans for submittal. She also navigated permit requirements for this project.
06/18 – 01/24	RR031 Dillard A Roadway Rehabilitation and Repair, New Orleans, LA – New Orleans Department of Public Works Project Designer for the engineering and design of 186 blocks of roadway reconstruction, including full road rehabilitation and replacement, utility design, and incidental road repair. Lauren utilized existing survey data to establish new road profiles, performed drainage calculations with HYDRWIN hydraulic computer software developed by the LADOTD, designed upgrades and improvement to the stormwater drainage and incidental road repair, and designed new utilities, including water, sewage, and drainage. Project deliverables included typical sections, summary of quantities, plan and profile sheets, construction cost estimates, and cross-section profiles.
11/17 – 01/24	RR011 Broadmoor Group C, New Orleans, LA – City of New Orleans Project Designer for this FEMA-funded roadway enhancement and reconstruction project located in the Broadmoor Neighborhood of New Orleans. Lauren assisted in the design of two full block removals and replacements, including surface asphalt, upgrade of utilities including water and storm drainage, implementation of ADA-compliant ramps, and point repairs of the sidewalk and driveways. She utilized drainage calculations, performed with the use of the HYDRWIN for the drainage system design and upgrade. Tasks for this project include site visits, design meetings, design deliverables, and resolution of review comments.
05/18 – 11/21	Hagan-Lafitte Drainage Design and Green Infrastructure, New Orleans, LA – City of New Orleans Hydraulics Modeler for engineering design and PCSWMM modeling for this large FEMA-funded project to improve drainage and reduce flooding in the Hagan-Lafitte Neighborhood. With the use of the PCSWMM model, Lauren identified areas most vulnerable to flooding within the neighborhood to strategically design and place green and grey infrastructure facilities for the greatest possible flood reduction. She assisted with production of project drawings and flood maps, as well as project inspection while work was under construction.
11/17 – 07/18	Tennessee River Conditions at RM 260.25 (Wilson Lake) with Respect to Boat Collision with Barge, Lauderdale County, AL – USACE Hydraulic Data Analyst performed a forensic analysis of Tennessee River conditions at River Mile 260.25 to determine the cross-sectional velocity distribution at RM 260.25. Lauren evaluated stage and discharge data provided by the Tennessee Valley Authority in conjunction with pool stage data provided by the Navigation Branch of Nashville U.S. Army Corps of Engineers (USACE) to determine velocity at the time and point of interest. She mapped bathymetric survey data provided by the Navigation Branch of the Nashville District USACE in both ArcGIS and AutoCAD software programs.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name	Dan Tarantino, AIA, RA, LEED AP	Years of relevant experience with this employer	9
	Title	Senior Architect	Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization			B.A. / 2008 / Architecture	
Active registration number / state / expiration date			9255 / LA / 12/31/2026	
Year registered	2019	Discipline	Architecture	
Contract role(s) / brief description of responsibilities			Architect	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/25 – Present	H.013818 Golden Meadow Vertical Lift Bridge Rehabilitation, Golden Meadow, LA – LADOTD Project Architect for this inspection and rehabilitation project for a 200-foot-long steel vertical lift bridge. After performing an In-Depth inspection of the bridge is complete, a LRFR load rating will be performed based on the inspection findings. A recommended rehabilitation scope of work will be created and once approved by the client, the plans will begin development. This bridge is considered a Historic Preservation Priority bridge therefore the rehabilitation will need to take extra care in maintaining as much as possible of the appearance and function of the bridge to when it was first built.			
10/22 – 11/22	Reconstruction of the Shore Road Bridge, Bronx, NY – New York City DOT Senior Architect for replacement of a rolling lift bridge over the Hutchinson River. Responsibilities include leading the overall aesthetic design of the bridge, coordinating the architectural and the engineering design, and leading the 3D visualizations and VR production for the project. Located entirely within Pelham Bay Park, the Shore Road Bridge spans the Hutchinson River and is a link on the NYC Mosholu-Pelham Bay Greenway bike and pedestrian route. The bridge is a 90-ft.-long Scherzer double-leaf rolling lift bascule span with three earth-filled concrete spandrel arch approach spans on each end. The total structure length is 865 ft. The bridge is 52-ft.-wide with two non-standard ten-foot lanes in each direction and a 7.5foot sidewalk on the south side. The clear channel width is 59 feet and the vertical clearance at mean high water is about 12.5 feet. The 108-year-old bridge was eligible for inclusion on both the New York State and National Registers of Historic Places. The unique architectural towers, or pylons, on the bridge were described in contemporary documents from 1910 as a means of emphasizing the gateway to vessels. The bridge has been rehabilitated and repaired several times in recent decades to extend its service life, including most recently in 2002, but the main steel members and the concrete approach spans have continued to deteriorate. The project includes studies, alternate assessment, NYSDOT design approval, and preliminary and final design for this locally administered federal aid project.			
10/17 – 09/20	Replacement of the US-1 Jupiter Bridge over ICWW Bridge, Jupiter, FL – Florida DOT Senior Architectural Designer for this bascule bridge replacement project. The SWAT process of overlapping the design phase with the PD&E phase required the preliminary design phase coordination and support of the NEPA process in developing the Type 2 Categorical Exclusion documentation. Serving as Engineer of Record of the project, H&H is addressing the structural and functional deficiencies of the existing US-1 / SR- 5 Jupiter Federal Bridge from CR-A1A (Ocean Blvd) to Beach Road and developed vertical and horizontal alignments for bridge replacement alternatives in context with environmental. The project included coordination with the historic Jupiter Inlet US Navy Married Men’s Quarters (1942) and the Jupiter Inlet Lighthouse (1860). Consensus building with local stakeholders was necessary for the planned detour during construction. This resulted in incorporating intersection improvements and TSM&O features along the detour route that will improve traffic functions at both ends of the approximately 2,960-foot-long (0.56 mile) project corridor.			

10/17 – 12/21	Gateway Express Improvements Design-Build, Pinellas County, FL – Florida DOT Project Architect responsible for developing architectural plans for the Gateway Express improvement project which will deliver toll facilities and needed limited and controlled access connections. H&H's scope for this design-build project includes contributing to FDOT's Alternative Technical Concepts (ATC) process; developing temporary traffic control plans (TTC) design for Segments 2 and 4; TTC coordination among Segments 1 through 4; tolls design for Segments 1, 2, and 4; and structures design for four bridges in Segment 4.
09/17 – 02/19	Replacement of the Raritan River Drawbridge, Perth Amboy and South Amboy, NJ – NJ Transit Senior Architect for the replacement of the Raritan River Drawbridge on North Jersey Coast Line. Mr. Tarantino's responsibilities include design coordination and development for all architectural components of the project. These components included the control house, machinery house, and access to the structure. Mr. Tarantino also provided the material and aesthetic considerations for the main span, house, and approach structures. The project includes a 0.5-mi.-long structure with a movable swing span at the navigational channel and more than 3,000 linear ft. of approaches between the Perth Amboy and South Amboy stations in NJ. This bridge replacement will be done off-line while maintaining full rail operations during construction. The project is funded by an FTA grant under its post-Sandy Emergency Relief Program, intended to protect major infrastructure components that are in danger of being damaged during extreme climate events. As such, the replacement bridge is required to have sufficient flood resilience to remain in operation after a major hurricane and the project must be implemented within a very tight timeframe. Historically, the bridge suffered frequent vessel collisions due to poor channel geometry; NJ TRANSIT intends to implement feasible navigational improvements to the extent possible without delaying the project delivery. The scope of work includes a feasibility study of various alignments and bridge replacement alternatives. The new bridge is likely to be a vertical lift with a minimum vertical clearance of 110 ft. and a navigational channel of 300 ft. The key issues include obtaining necessary permits and approvals to meet the timeframe specifies in the FTA grant requirements while minimizing the impact on NJ TRANSIT operations, as well as the adjacent properties and environment.
07/17 – 03/19	Replacement of the US 17 Swing Bridge over the Perquimans River, Perquimans County, NC – North Carolina DOT Senior Architectural Designer for this bridge replacement project. Responsibilities included design coordination and development for all architectural components of the project. The existing swing bridge over the Perquimans River will be replaced with a new, off-line bridge. H&H's responsibilities include the complete design of the new swing span, including structural, mechanical, electrical, and geotechnical engineering. The swing span structure consists of a center-pivot Warren through truss supporting the concrete deck. Although similar in appearance to the existing swing span, the new span improves geometrics, increases load carrying capacity and vertical clearance, and includes all the conveniences of a modern operational system.
01/19 – 10/22	Final Design of the Amtrak Connecticut River Bridge, Old Saybrook, CT – Amtrak Project Architect for the in-depth condition inspection of the structural, mechanical, and electrical systems on the existing Connecticut River Bridge. H&H performed a feasibility and conceptual design study for rehabilitation or replacement of the bridge. Various alignment and profile layouts for various rail gradient options were developed and studied.
06/18 – 08/18	Rehabilitation of the Nostrand Avenue Station, Brooklyn, NY – Long Island Railroad Senior Architectural Designer for this rail station rehabilitation project, which involved restoring the platforms to a state-of-good-repair to ensure ADA compliance and an overall improved facility. Design items included replacement of the station platforms, railings, and canopy roofing system, replacement of the four stairs and overpasses with ADA-compliant prefabricated stairs and overpasses, installation of two new elevators, and upgrades to station signage, lighting, electrical, and communications systems. Designs were developed in compliance with LIRR Station Design Guidelines, NYS Building Code, applicable requirements of ADA, and passenger safety features. Nostrand Avenue Station is found along the Atlantic Branch of the LIRR. Originally built during 1903-1905, the station was later rebuilt in the 1980s reflected and required updating.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name	Drew Delledonne, RA	Years of relevant experience with this employer	19
	Title	Principal Architect	Years of relevant experience with other employer(s)	25
Degree(s) / Years / Specialization		B.S. / 1981 / Architecture		
Active registration number / state / expiration date		Registered Architect		
Year registered	1989	Discipline	Architecture	
Contract role(s) / brief description of responsibilities		Architect		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
06/12 – 10/20	Andrew Avenue Bascule Bridge over the New River – Broward County Project Architect responsible for the design, plan preparation for various architectural options, final design of the control house rehabilitation, and post design as part of the rehabilitation of this hydraulically operated Hopkins trunnion single-leaf bascule span bridge. The architectural improvements included replacement of the control tower roof, windows, doors, wrap-around external stairs and internal spiral staircase, pedestrian railing on external stairs, pedestrian ramp, bascule span, and a new Terracotta rainscreen on the control tower. The ADA modifications to the pedestrian ramp consist of ramp slope modifications, ramp landing extensions, and ADA handrails. ADA modifications to the north approach spans and bascule spans include ADA railing and new pedestrian and bicycle bullet railing.			
03/25 – Present	H.013818 Golden Meadow Vertical Lift Bridge Rehabilitation, Golden Meadow, LA – LADOTD Project Architect for this inspection and rehabilitation project for a 200-foot-long steel vertical lift bridge. After performing an In-Depth inspection of the bridge is complete, a LRFR load rating will be performed based on the inspection findings. A recommended rehabilitation scope of work will be created and once approved by the client, the plans will begin development. This bridge is considered a Historic Preservation Priority bridge therefore the rehabilitation will need to take extra care in maintaining as much as possible of the appearance and function of the bridge to when it was first built.			
06/18 – 12/18	Almonaster Avenue Railroad Bridge over the Industrial Canal – Port of New Orleans Project Architect for the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Avenue Bridge, a movable Strauss-heel trunnion bridge. H&H's 2019 assessment of the circa-1920 bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. H&H developed necessary design plans to replace the span drive and span lock machinery, operating strut, guide assembly, live load bearings, counterweight trunnion pin, and bushing. The main trunnion bearings were rehabilitated and repositioned.			
05/17 – 7/19	US 17 Swing Bridge over the Perquimans River Design-Build – North Carolina DOT Project Architect providing preliminary and final engineering analysis and design services to replace the existing swing bridge with a new, off-line bridge. H&H's responsibilities include the complete design of the new swing span, including structural, mechanical, electrical, and geotechnical engineering. The swing span structure consists of a center-pivot Warren through truss supporting the concrete deck. Although similar in appearance to the existing swing span, the new span will improve geometrics, increase load carrying capacity and vertical clearance, and include all the conveniences of a modern operational system.			
05/17 – 5/20	Jupiter Federal Bridge Replacement – Florida DOT District 4 Project Architect responsible for the development of architectural design elements during the preliminary and final design phases of this bascule bridge replacement project. H&H served as Engineer of Record and our design addressed the structural and functional deficiencies of the existing US-1 / SR-5 Jupiter Federal Bridge from CR-A1A (Ocean Boulevard) to Beach Road. The project included a high level of aesthetics, including the bridge			

	control house, gatehouse, and bridge, ADA compliant access ramps to eight-foot sidewalks, and a new seven-foot buffered bike lane for additional safety.
02/20 – 02/23	Johns Pass Bridge Rehabilitation – Florida DOT District 7 Project Architect responsible for developing architectural plans for double-leaf trunnion bascule bridge rehabilitation of John Pass Bridge which carries SR 699 (Gulf Boulevard) over Johns Pass. The scope of work for this bascule span bridge project includes control house renovations which involved the replacement of control level doors and windows, roof and gutter repairs, mechanical repairs that involve the span lock replacement and adjustment of live load shoes, and an extensive electrical rehabilitation including replacement of the PLC system CCTV system, control console, and pier-mounted aesthetic lighting.
10/17 – 12/21	Gateway Expressway Improvements Design-Build – Florida DOT District 7 Senior Architect/Architect of Record responsible for developing architectural plans for the Gateway Expressway improvement project. This project will deliver limited and controlled access connections from the Bayside Bridge on the north, US 19 on the west, and the St. Pete Clearwater International Airport to I-275 general purpose and new express lanes. H&H's scope on this design-build project includes developing temporary traffic control (TTC) plans design for Segments 2 and 4; project tolls design (four sites) for Segments 1, 2 and 4; and structures design for four bridges in Segment 4.
02/14 – 05/16	SW 1st Street/SR 968 Bridge Replacement – Florida DOT District 6 Senior Architect responsible for developing architectural design plans for the new control house structure during the replacement of the nationally registered historic SW 1st St Bridge. The original 650.5-foot, 13-span bridge, constructed in 1929, is the gateway crossing into downtown Miami. The new 507-foot long bridge includes a 315-foot double-leaf bascule span over a widened 125-foot navigation channel. The architectural design of the control house and bridge was coordinated with local agencies and stakeholders and SHPO.
02/18 – 02/19	Raritan River Bridge Replacement – NJ Transit Project Architect for a \$500 million post-Sandy resiliency project, which involves replacement of the Raritan River Bridge on the North Jersey Coast Line and reconstruction of approximately one mile of railroad tracks between Perth Amboy and South Amboy Stations. The project is funded by an FTA Grant under the post-Sandy Emergency Relief Program, and as such is focused on flood resiliency and hardening to prevent infrastructure damage during future weather events.
03/16 – 12/18	Sarah Mildred Long Bridge – Maine DOT Project Architect for construction support services for a new vertical lift bridge. H&H was responsible for providing design services and design support during construction, including providing plans, design computations, ratings, specifications, and estimates. Drew was responsible for specifications during design and was the project manager for the construction support phase. The project was constructed using CMGC delivery. The new bridge carries crucial commercial traffic and heavy freight rail between Portsmouth, NH, and Kittery, ME. Sarah Mildred Long Bridge has won numerous regional and national awards.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name	Elizabeth Carroll, RA, ENV SP	Years of relevant experience with this employer	9
	Title	Architect	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			B.A. / 2017 / Architecture	
Active registration number / state / expiration date			Registered Architect	
Year registered	2024	Discipline	Architecture	
Contract role(s) / brief description of responsibilities			Architect	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/25 – Present	H.013818 Golden Meadow Vertical Lift Bridge Rehabilitation, Golden Meadow, LA – LADOTD Architectural Designer for this inspection and rehabilitation project for a 200-foot-long steel vertical lift bridge. After performing an In-Depth inspection of the bridge is complete, a LRFR load rating will be performed based on the inspection findings. A recommended rehabilitation scope of work will be created and once approved by the client, the plans will begin development. This bridge is considered a Historic Preservation Priority bridge therefore the rehabilitation will need to take extra care in maintaining as much as possible of the appearance and function of the bridge to when it was first built.			
07/17 – 08/21	Structural Rehabilitation of Four Overhead Bridges over the Metro-North Railroad – Metro-North Railroad Architectural Designer for a project involving the superstructure replacement and substructure rehabilitation of the following four overhead vehicular bridges spanning the Metro-North tracks in the City of Mount Vernon, New York: 6th Avenue Bridge (NH 13.51): a 61-foot span steel through girder bridge; 10th Avenue Bridge (NH 13.31): a 106-foot span steel deck truss bridge; 14th Avenue Bridge (NH 13.10): a 92-foot span steel pony truss bridge; Fulton Avenue Bridge (NH 14.07): a 159-foot span through truss bridge.			
10/18 – 03/25	Total Design for the Component Rehabilitation of 10 Bridges – New York City DOT Architectural Designer providing design services for the component rehabilitation of 10 bridges located in the Bronx, Brooklyn, Queens, and Staten Island, under a contract with NYCDOT. The objective of this project is to repair or replace bridge components which have low ratings, including abutments/piers, deck, and the primary members, as well as bridge façades, parapets, and railings, wearing surface, pedestrian walks, drainage, and lighting system. The component rehabilitation program restores these elements to a state of good repair and aesthetics, improves pedestrian and traffic safety and extends the remaining service life of the bridge. The project requires preparation of a Design Approval Document with multiple alternatives for each bridge, after which the preferred alternatives are progressed through Final Design and Construction.			
01/17 – 05/25	Replacement of the Raritan River Bridge – New Jersey Transit Architectural Designer for the concept development and final design of the offline replacement of the Raritan River Bridge that was damaged in Super Storm Sandy. Concept development includes investigation of various movable bridge types, control house types, and associated bridge housing types. The replacement will be done off-line while maintaining full rail operations during construction. Responsibilities include design coordination and development for architectural components of the project. This encompasses a control house, machinery house and access to all portions of the structure, with attention to material and aesthetic considerations. In addition, code and egress calculations are developed to assist in design and functionality.			
03/18 – 04/24	Final Design for the Rumson Road Bridge, S-32 – County of Monmouth Architectural Designer responsible for completing the federally funded Local Concept Development (LCD) phase for major rehabilitation or replacement of this deteriorating double leaf bascule span bridge. The project required coordination with the NJTPA's Planning Group, Monmouth County, and NJDOT. Effort includes schematic through final design of bridge houses, survey/mapping, code considerations, public outreach/community			

	involvement, development and comparison of alternatives, selection of a Preliminary Preferred Alternative (PPA), and preparation of CPM schedules, cost estimates, and the Concept Development Report. Construction cost estimated at \$53 million.
05/18 – 10/19	Preliminary and Final Design for the Grant Avenue Swing Bridge – City of New Haven Architectural Designer for rehabilitation design of the Grand Avenue Swing Bridge, a six-span structure, constructed in 1900, comprised of a through truss rim bearing swing span with four girder/floor beam/stringer approach spans and a Control House located on the lift span of the bridge. Rehabilitation includes full replacement of the approaches with new welded steel girder structures, an Exodermic deck, new abutments, and substructure, and a new Exodermic deck on the swing span, coordinated with updated mechanical and electrical systems. Responsibilities included deck, abutment, and structural steel repair design and the development of contract drawings. Architectural rehabilitation of the Control House included new windows, doors, floor tiles, and the design of necessary connections. Additionally, the work includes the restoration and replacement, where necessary, of the building's exterior siding and interiors finishes.
05/19 – 05/20	Reconstruction of Two Bridges, CR0-530B – New York DEP Architectural Designer for the reconstruction of two NYCDEP watershed bridges. The Cross River Inlet Bridge, located in the Town of Lewisboro, requires repairs to the deteriorated existing concrete closed spandrel concrete arch, including but not limited to parapet walls, roadway slab, wing wall caps, replacement of approach pavement, and installation of waterproofing membrane, guide rails, curbs, and concrete repair. The Baptist Church Road Bridge, located in the Town of Yorktown, includes complete replacement of this existing historic arch bridge due to its poor structural conditions. Replacement includes a new roadway alignment to eliminate geometrical substandard features. The historic granite capstones from the parapet and wingwalls are reused on the reconstructed bridge. This project required direct coordination with NYCDEP BWS, NYCDEP BEDC, Public Design Commission, State Historic Preservation Office (SHPO) and the various towns for permit approvals.
07/19 – 05/23	Design Services for the Replacement of the Jupiter Federal Highway – Florida DOT, District 4 Architectural Designer for this bridge replacement project which includes replacement of twin double-leaf bascule span carrying US-1 over the Loxahatchee River, part of the Atlantic Intracoastal Waterway. H&H is serving as Engineer of Record for the project. The design phase was overlapped with the PD&E phase and addresses the identified purpose and need for structural deficiency and functional obsolescence of the existing US-1/SR-5 Jupiter Federal Bridge from CR-A1A to Beach Road. To address impacts to the community resulting from the detour required during bridge construction, the project incorporates intersection improvements, including ITS, along the detour route. The project will include ADA access ramps to the eight-foot sidewalks and a new seven-foot buffered bike lanes. Other activities included preparing and presenting to stakeholders at the public meeting and reviewing the permit application.
05/18 – 03/20	Design-Build for the Replacement of the Perquimans River Bridge – North Carolina DOT Architectural Designer responsible for providing design and plan preparation services to replace the existing control house and swing bridge with a new off-line bridge. Responsibilities include schematic through final design of the bridge Control House and associated post-design services. H&H's responsibilities included the complete design of the new swing span, including structural, mechanical, electrical, and geotechnical engineering. The swing span structure consists of a center-pivot Warren through truss supporting the concrete deck. Although similar in appearance to the existing swing span, the new span improves geometrics, increases load carrying capacity and vertical clearance, and includes all the conveniences of a modern operating system.

	Firm Employed by		Hardesty & Hanover, LLC	
	Name	Arsanious Guirguis, PE	Years of relevant experience with this employer	15
	Title	Geotechnical Engineer	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		MS / 2014 / Geotechnical Engineering BS / 2011 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 41969 / LA / 03/31/2028		
Year registered	2017	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Geotechnical Engineer		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/19 – 06/19	H.004396 Lapalco Blvd Movable Bridge over Harvey Canal, Jefferson Parish, Louisiana – Jefferson Parish DPW/LADOTD Geotechnical Engineer for a six-lane bascule bridge parallel and adjacent to the existing bridge. The new bridge will carry three westbound lanes and the existing bridge will be modified to carry three eastbound lanes plus a pedestrian and bicycle path. The project scope includes the design of a new three-lane double-leaf bascule bridge and approach spans that will be north of and parallel to the existing bridge, as well as design modifications to the existing bridge to reconfigure it to include three eastbound lanes plus a pedestrian and bicycle path. H&H's preliminary design work included a visual structural inspection of the fracture critical elements, primary and secondary structural members, as well as electrical and mechanical systems inspections.			
01/23 – Present	Replacement of the Park Avenue Viaduct Design-Build, New York, NY – Metropolitan Transit Authority Lead Geotechnical Engineer providing design-build services for the full replacement of the Park Avenue Viaduct between the north side of East 115th Street and the south side of East 123rd Street along Park Avenue. The section of the Viaduct to be replaced within the scope of this project is an elevated steel structure, between Bent 21 and Bent 53, carrying four, third rail powered tracks. Approximately 750 trains per day travel the Harlem, Hudson, and New Haven lines on the Viaduct to enter Grand Central Terminal servicing hundreds of thousands of customers per day. Mr. Guirguis is responsible for the foundation design that comprised of 16-inch diameter micropiles socketed into bedrock constructed below the existing Park Avenue Viaduct structure while in service in low overhead room conditions. Also responsible for the subsurface exploration program, load testing program, preparation of foundation design reports, and CSS submittals and field work falling under the geotechnical discipline.			
05/22 – 12/22	New Bridge Superstructure Replacement, Woolwich-Wiscasset, Maine – Maine DOT Geotechnical Engineer providing all geotechnical engineering design and construction services required for the rehabilitation of this 33-foot single-span bridge. The existing bridge carries two lanes, with a timber deck and timber railing on steel stringers. The existing integral abutments are comprised of concrete caps on steel piles and are to remain. The proposed is a single span multi-steel girder bridge with cast-in-place deck. Mr. Guirguis is responsible for analyzing the existing substructure, integral abutments, and pile foundation design.			
03/18 – 03/20	Promenade over FDR Drive from East 81st Street to East 90th Street, New York, NY – New York City DOT Lead Bridge Geotechnical Engineer for a project involving the rehabilitation or replacement of superstructure and substructure elements. The scope also includes protection or replacement/relocation of all utilities on the structure as well as protection or replacement/relocation of all electrical and mechanical systems within the project limits; landscape design; ADA compliance; and new pedestrian. Reconstruction and repair of structural elements required work from the top of the promenade deck within the park and from the southbound FDR Drive roadway level located beneath the promenade. Maintenance of vehicular, pedestrian, and bicycle traffic throughout construction was a critical concern. Constructability and staging guided the overall approach to the project.			

08/12 – 10/18	Harlem River Drive Viaduct over East 127th Street, New York, NY – New York City DOT Geotechnical Bridge Engineer responsible for providing field inspection of borings as well as rock corings and overseeing crosshole seismic testing. Assisted in preparing subsurface (boring) investigation, created final bore logs and subsurface profile, and developed geotechnical report. Geotechnical Engineer in charge of preliminary design and final design of pier foundations (drilled shafts). Also, responsible on all responses related to geotechnical Request for Information and submittals. Engineer in charge of reviewing and inspecting all drilled shaft load tests (O-Cell's), video inspection of rock socket and drilled shaft remediation. Provided field engineering support as required to resolve technical and construction issues. The Harlem River Drive project included the full replacement of the ten-span Harlem River Drive Viaduct over the entrance ramp at East 127th Street in the Borough of Manhattan.
04/22 – 08/25	Tuttle Road Bridge, Cumberland, Maine – Maine DOT Geotechnical Engineer providing all geotechnical engineering services required for the design of the replacement of this two-lane, nine span structure carrying Tuttle Road over I-295, Route 1, and a railroad track. Project scope includes a Preliminary Design Report, preliminary design, final design, and construction support services. Mr. Guirguis is responsible for embankment design with lightweight fill, pile foundation design, and inspection of borings.
08/21 – 04/24	Northfield Bridge Replacement, Northfield, VT – Vermont Agency of Transportation Lead Geotechnical Engineer for this three-span bridge replacement project. The proposed structure is a single span multi-girder integral abutment bridge located in downtown Northfield. The bridge replacement will take place during a 12-week traffic closure and utilizes ABC methods to accelerate construction. Mr. Guirguis was responsible for administering the subsurface exploration program, preparing the lab assignment, developing the geotechnical design report that included characterizing the subsurface conditions, evaluating proposed foundation alternatives, presenting a foundation recommendation and discussing construction considerations. The foundation evaluation for the proposed integral abutments comprised of a single pile analysis using L-Pile following VTrans design guidelines and axial geotechnical pile capacity analysis.
10/19 – 10/21	Design-Build for Access Improvements to the Hunts Point Interstate, Contract 1, Bronx, NY – New York State DOT Geotechnical Engineer involved in reviewing Geotechnical related design and CSS submittals. This is a \$1.7 billion, 3-phase design-build project to improve access between the Hunts Point Peninsula and the Sheridan and Bruckner Expressways for vehicular traffic and to address structural and operations deficiencies related to the existing infrastructure. The project includes 12 bridges and viaduct structures, and the site covers more than 1.5 miles of existing infrastructure including highways, expressways, services roads and city streets, parkland, and pedestrian accessways.
04/15 – 10/18	Structural Rehabilitation of Four Overhead Bridges, Mount Vernon, NY – Metro-North Railroad Geotechnical Engineer for a project involving the superstructure replacement and substructure rehabilitation of the following four overhead vehicular bridges spanning the Metro-North tracks in the City of Mount Vernon, New York: 6th Avenue Bridge (NH 13.51): a 61-foot span steel through girder bridge; 10th Avenue Bridge (NH 13.31): a 106-foot span steel deck truss bridge; 14th Avenue Bridge (NH 13.10): a 92-foot span steel pony truss bridge; Fulton Avenue Bridge (NH 14.07): a 159-foot span through truss bridge. Mr. Guirguis is responsible for the subsurface (boring) investigation and developing a geotechnical report for each bridge. He is in charge for designing rock anchors to resist current seismic loads and provided an assessment of the existing foundation's ability to support new bridge loads.

	Firm employed by: A P S Engineering and Testing, LLC			
	Name	Sergio Aviles, PE, M. ASCE	Years of relevant experience with this employer	14
	Title	President / Geotechnical Manager	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization		BS Civil Engineering/2001/Geotechnical		
Active registration number / state / expiration date		Professional Engineer: 0033571 / LA / 03/31/2028 ATSSA Work Zone Traffic Control Technician, Flagger, Water Well Contractor's License		
Year registered	2007	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Geotechnical Design Manager, Meets MPR 9		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
09/19 – Present	Project No. H.0041005.5 and .6: I-10 LA415 to Essen Lane on I-10 and I-12 Geotechnical Engineer for the Geotechnical Investigation comprised the advancement of 77 deep borings along the project alignment, spanning from the Washington Street Exit to the LSU Lakes. A P S performed 16 over-water borings utilizing barge-mounted drilling platforms and 61 land-based borings using truck-mounted rigs. Subsurface characterization included Shelby tube sampling, Standard Penetration Testing (SPT), and split-spoon recovery to obtain representative soil profiles. Laboratory testing included approximately 1,000 tests, including Unconsolidated Undrained (UU) Triaxial Compression tests for shear strength evaluation and Atterberg Limits for plasticity classification, in accordance with ASTM standards. Pile foundation performance was assessed through dynamic testing services, including Pile Driving Analyzer (PDA) instrumentation and signal matching via CAPWAP analysis. These tests provided real-time data on pile capacity, drivability, and soil-pile interaction, supporting axial load design and installation recommendations. Mr. Aviles serve as Geotechnical Manager, providing technical oversight across all phases—from field exploration and lab testing to analysis and reporting. His leadership ensured conformance with DOTD specifications, QA/QC protocols, and schedule adherence.			
06/20 – 04/23	Rural Bridge Replacement Initiative Phase I Geotechnical Engineer for this project. The scope included geotechnical investigation and design for the replacement of 60 bridge structures along the LA state highway system. Geotechnical Investigation consisted of drilling, laboratory testing, soil classification, and site characterization. Engineering analysis included slope stability analysis (when applicable) and pile capacity analysis for foundations to support the new bridge structures. Mr. Aviles served as Geotechnical Manager for the Geotechnical Investigations and Design Team, overseeing every phase of the project with hands-on leadership to ensure technical excellence and on-time delivery.			
03/19 – 05/25	Project No. H.001344 US 190: LA 437 to US 190 BUS Geotechnical Engineer for the Geotechnical Investigation and Design of the proposed new bridge. The scope of work included the drilling and testing of 19 deep borings to support bridge foundation design recommendations. In addition to deep foundation investigations, A P S performed site-specific testing of subsurface soils, base materials, and concrete placement zones to evaluate compliance with structural and geotechnical performance criteria. Laboratory testing supported classification, strength, and constructability assessments for proposed bridge elements. A P S also provided PDA instrumentation, testing, and CAPWAP analysis. Mr. Aviles served as Geotechnical Manager for the investigation and design team. He provided direct oversight of field operations, laboratory analysis, and engineering deliverables, ensuring technical accuracy, and timely completion across all phases of the project. overseeing every phase of the project with hands-on leadership to ensure technical excellence and on-time delivery.			

01/22 – 05/24	Project No. H.001352.6 and H.002273.5 Comite River Diversion Bridge at LA 67, LA 19, and LA 19 RR Bridge Geotechnical Engineer for the Design of this Diversion CMAR project. A P S performed the Geotechnical Investigation and design for the project. The scope also included testing of subsurface soils, base materials, and concrete placement areas to evaluate compliance with design standards for the proposed roadway and bridge structures. A P S performed four Pile Driving Analyzer (PDA) tests during construction monitoring to assess pile performance and verify installation criteria. Mr. Aviles served as Geotechnical Manager for the Geotechnical Investigations and Design Team, overseeing all phases of exploration, analysis, and reporting.
09/21 – 05/24	Port Hudson-Pride Road (LA-964 – LA-19) Geotechnical Engineer. The scope included Geotechnical Investigation to enable an evaluation of an acceptable foundation for the proposed pavement rehabilitation and new bridge. A total of 26 borings were drilled and tested for Geotechnical recommendations for the City of Baton Rouge. Mr. Aviles served as Geotechnical Manager for the investigation and Design Team, overseeing every phase of the project with hands-on leadership to ensure technical excellence and on-time delivery.
11/19 – 12/23	Project No. H.010155: US 90 Railroad Overpass SE of LA 85 Geotechnical Engineer. A P S was selected as part of the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of 12 deep borings were drilled and tested for Geotechnical recommendations. Mr. Aviles served as Geotechnical Manager for the Geotechnical Investigations and Design Team, overseeing every phase of the project with hands-on leadership to ensure technical excellence and on-time delivery.
03/21 – 11/22	Nicholson Drive Segment 2 (Bluebonnet Blvd-Ben Hur Rd.) Geotechnical Engineer. The scope included a comprehensive geotechnical investigation to support foundation recommendations for proposed pavement rehabilitation and new bridge construction. A total of 32 borings were drilled and tested to characterize subsurface conditions and develop geotechnical design parameters for the City of Baton Rouge. Mr. Aviles served as Geotechnical Manager for the Geotechnical Investigations and Design Team, providing hands-on leadership and technical oversight throughout all phases of the project to ensure accuracy, quality, and timely delivery.
03/15 – 04/15	Holly Drive Bridge Replacement- St. Tammany Parish Geotechnical Engineer. The scope included Geotechnical Investigation for the replacement of a bridge structure in Covington, Louisiana. A P S performed piles vertical resistance analyses for square PPC piles with sizes ranging 16-inch, 18-inch and 24-inches, roadway design, and culvert design. Mr. Aviles served as Geotechnical Manager for the Geotechnical Investigations and Design Team, overseeing every phase of the project with hands-on leadership to ensure technical excellence and on-time delivery.

	Firm employed by: A P S Engineering and Testing, LLC				
	Name	Sairam Eddanapudi, PE		Years of relevant experience with this employer	14
	Title	Chief Geotechnical Engineer		Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization			ME / 2002 / Civil Engineering BE / 1999 / Civil Engineering,		
Active registration number / state / expiration date			Professional Engineer: 35129 / LA / 03/31/2028 ATSSA Work Zone Traffic Control Technician		
Year registered	2009	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Geotechnical Engineer/Laboratory QA Manager		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
09/19 – Ongoing	Project No. H.0041005.5 and .6: I-10 LA415 to Essen Lane on I-10 and I-12 Geotechnical Engineer. The Geotechnical Investigation comprised the advancement of 77 deep borings along the project alignment, spanning from the Washington Street Exit to the LSU Lakes. A P S performed 16 over-water borings utilizing barge-mounted drilling platforms and 61 land-based borings using truck-mounted rigs. Subsurface characterization included Shelby tube sampling, Standard Penetration Testing (SPT), and split-spoon recovery to obtain representative soil profiles. Laboratory testing included approximately 1,000 tests, including Unconsolidated Undrained (UU) Triaxial Compression tests for shear strength evaluation and Atterberg Limits for plasticity classification, in accordance with ASTM standards. Pile foundation performance was assessed through dynamic testing services, including Pile Driving Analyzer (PDA) instrumentation and signal matching via CAPWAP analysis. These tests provided real-time data on pile capacity, drivability, and soil-pile interaction, supporting axial load design and installation recommendations. Mr. Eddanapudi serves as Chief Engineer for the Project Design Team, providing technical Design leadership and managing quality assurance for all laboratory testing to ensure accuracy, compliance, and reliability of geotechnical data. His leadership ensured conformance with DOT specifications, QA/QC protocols, and schedule adherence.				
11/19 – 12/23	Project No. H.010155: US 90 Railroad Overpass SE of LA 85 Geotechnical Engineer. A P S was selected with the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of 12 deep borings were drilled and tested for Geotechnical recommendations. Mr. Eddanapudi served as Chief Engineer for the Project Design Team, providing technical Design leadership and managing quality assurance for all laboratory testing to ensure accuracy, compliance, and reliability of geotechnical data.				
03/19 – 05/25	Project No. H.001344 US 190: LA 437 to US 190 BUS Geotechnical Engineer. A P S was selected as part of the winning team for the Geotechnical Investigation and Design of the proposed new bridge. The scope of work included the drilling and testing of 19 deep borings to support bridge foundation design recommendations. In addition to deep foundation investigations, A P S performed site-specific testing of subsurface soils, base materials, and concrete placement zones to evaluate compliance with structural and geotechnical performance criteria. Laboratory testing supported classification, strength, and constructability assessments for proposed bridge elements. A P S also provided PDA instrumentation, testing, and CAPWAP analysis. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise, and acted as Team Leader for Pile Dynamic Analyzer (PDA) testing and analysis.				

06/20 – 04/23	Rural Bridge Replacement Initiative Phase I Geotechnical Engineer. The scope included geotechnical investigation and design for the replacement of 60 bridge structures along the LA state highway system. Geotechnical Investigation consisted of drilling, laboratory testing, soil classification, and site characterization. Engineering analysis included slope stability analysis (when applicable) and pile capacity analysis for foundations to support the new bridge structures. Mr. Eddanapudi served as Chief Engineer for the Project Design Team, providing technical Design leadership and managing quality assurance for all laboratory testing to ensure accuracy, compliance, and reliability of geotechnical data.
03/19 – 05/25	Project No. H.001344 US 190: LA 437 to US 190 BUS Geotechnical Engineer. A P S was selected with the winning team for the Geotechnical Investigation and Design of the proposed new bridge. A total of 19 deep borings were drilled and tested for foundation recommendations. The scope also includes conducting testing on the subsurface, base and concrete placement at the site to enable an evaluation of an acceptable standard for the proposed structures. Mr. Eddanapudi served as Chief Engineer for the Project Design Team, providing technical Design leadership and managing quality assurance for all laboratory testing to ensure accuracy, compliance, and reliability of geotechnical data.
01/22 – 05/24	Project No. H.001352.6 and H.002273.5: Comite River Diversion Bridge at LA 67, LA 19, and LA 19 RR Bridge Geotechnical Engineer. A P S was selected as part of the winning team for the Design of the Diversion CMAR project. A P S performed the Geotechnical Investigation and Design for the project. The scope also included testing of subsurface soils, base materials, and concrete placement areas to evaluate compliance with design standards for the proposed roadway and bridge structures. A P S performed four Pile Driving Analyzer (PDA) tests during construction monitoring to assess pile performance and verify installation criteria. Mr. Eddanapudi served as Chief Engineer for the Project Design Team, providing technical Design leadership and managing quality assurance for all laboratory testing to ensure accuracy, compliance, and reliability of geotechnical data.
09/21 – 05/24	Port Hudson-Pride Road (LA-964 – LA-19) Geotechnical Engineer. The scope included Geotechnical Investigation to enable an evaluation of an acceptable foundation for the proposed pavement rehabilitation and new bridge. A total of 26 borings were drilled and tested for Geotechnical recommendations for the City of Baton Rouge. Mr. Eddanapudi served as Chief Engineer for the Project Design Team, providing technical Design leadership and managing quality assurance for all laboratory testing to ensure accuracy, compliance, and reliability of geotechnical data.
03/15 – 04/15	Holly Drive Bridge Replacement- St. Tammany Parish Geotechnical Engineer. The scope included Geotechnical Investigation for the replacement of a bridge structure in Covington, Louisiana. A P S performed piles vertical resistance analyses for square PPC piles with sizes ranging 16-inch, 18-inch and 24-inches, roadway design, and culvert design. Mr. Eddanapudi served as Chief Engineer for the Project Design Team, providing technical Design leadership and managing quality assurance for all laboratory testing to ensure accuracy, compliance, and reliability of geotechnical data.

	Firm employed by A P S Engineering and Testing, LLC			
	Name	Surendra Pathak, PE	Years of relevant experience with this employer	11
	Title	Senior Supervisor Engineer	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization		MSCE / 2013 / Civil Engineering BE / 1998 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 43487 / LA / 09/30/2027 ACI Certified Technician Pile Dynamic Analyzer Proficient Rank ATSSA Work Zone Traffic Control Supervisor, Flagger		
Year registered	2019	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Geotechnical Engineer/QA-QC Field Testing, PDA Testing Leader		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
09/19 – Ongoing	Project No. H.0041005.5 and .6: I-10 LA415 to Essen Lane on I-10 and I-12 Geotechnical Engineer. The Geotechnical Investigation comprised the advancement of 77 deep borings along the project alignment, spanning from the Washington Street Exit to the LSU Lakes. A P S performed 16 over-water borings utilizing barge-mounted drilling platforms and 61 land-based borings using truck-mounted rigs. Subsurface characterization included Standard Penetration Testing (SPT), Shelby tube sampling, and split-spoon recovery to obtain representative soil profiles. Laboratory testing included approximately 1,000 tests, including Unconsolidated Undrained (UU) Triaxial Compression tests for shear strength evaluation and Atterberg Limits for plasticity classification, in accordance with ASTM standards. Pile foundation performance was assessed through dynamic testing services, including Pile Driving Analyzer (PDA) instrumentation and signal matching via CAPWAP analysis. These tests provided real-time data on pile capacity, drivability, and soil-pile interaction, supporting axial load design and installation recommendations. Mr. Pathak serves as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise, and acted as Team Leader for Pile Dynamic Analyzer (PDA) testing and analysis.			
11/19 – 12/23	Project No. H.010155: US 90 Railroad Overpass SE of LA 85 Geotechnical Engineer. A P S was selected as part of the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of 12 deep borings were drilled and tested for Geotechnical recommendations. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise.			
03/19 – 05/25	Project No. H.001344 US 190: LA 437 to US 190 BUS Geotechnical Engineer. A P S was selected as part of the winning team for the Geotechnical Investigation and Design of the proposed new bridge. The scope of work included the drilling and testing of 19 deep borings to support bridge foundation design recommendations. In addition to deep foundation investigations, A P S performed site-specific testing of subsurface soils, base materials, and concrete placement zones to evaluate compliance with structural and geotechnical performance criteria. Laboratory testing supported classification, strength, and constructability assessments for proposed bridge elements. A P S also provided PDA instrumentation, testing, and CAPWAP analysis. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise, and acted as Team Leader for Pile Dynamic Analyzer (PDA) testing and analysis.			

03/19 – 05/25	Project No. H.001344 US 190: LA 437 to US 190 BUS Geotechnical Engineer. A P S was selected as part of the winning team for the Geotechnical Investigation and Design of the proposed new bridge. The scope of work included the drilling and testing of 19 deep borings to support bridge foundation design recommendations. In addition to deep foundation investigations, A P S performed site-specific testing of subsurface soils, base materials, and concrete placement zones to evaluate compliance with structural and geotechnical performance criteria. Laboratory testing supported classification, strength, and constructability assessments for proposed bridge elements. A P S also provided PDA instrumentation, testing, and CAPWAP analysis. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise, and acted as Team Leader for Pile Dynamic Analyzer (PDA) testing and analysis.
06/20 – 04/23	Rural Bridge Replacement Initiative Phase I Geotechnical Engineer. The scope included geotechnical investigation and design for the replacement of 60 bridge structures along the LA state highway system. Geotechnical Investigation consisted of drilling, laboratory testing, soil classification, and site characterization. Engineering analysis included slope stability analysis (when applicable) and pile capacity analysis for foundations to support the new bridge structures. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise.
01/22 – 05/24	Project No. H.001352.6 and H.002273.5: Comite River Diversion Bridge at LA 67, LA 19, and LA 19 RR Bridge Geotechnical Engineer. A P S was selected as part of the winning team for the Design of the Diversion CMAR project. A P S performed the Geotechnical Investigation and Design for the project. The scope also included testing of subsurface soils, base materials, and concrete placement areas to evaluate compliance with design standards for the proposed roadway and bridge structures. A P S performed four Pile Driving Analyzer (PDA) tests during construction monitoring to assess pile performance and verify installation criteria. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise, and acted as Team Leader for Pile Dynamic Analyzer (PDA) testing and analysis.
09/21 – 05/24	Port Hudson-Pride Road (LA-964 – LA-19) Geotechnical Engineer. The scope included Geotechnical Investigation to enable an evaluation of an acceptable foundation for the proposed pavement rehabilitation and new bridge. A total of 26 borings were drilled and tested for Geotechnical recommendations for the City of Baton Rouge. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise, and acted as Team Leader for Pile Dynamic Analyzer (PDA) testing and analysis.
03/15 – 04/15	Holly Drive Bridge Replacement- St. Tammany Parish Geotechnical Engineer. The scope included Geotechnical Investigation for the replacement of a bridge structure in Covington, Louisiana. A P S performed piles vertical resistance analyses for square PPC piles with sizes ranging 16-inch, 18-inch and 24-inches, roadway design, and culvert design. Mr. Pathak served as the Senior Supervisor Engineer on the Project Design Team, providing foundation design expertise, and acted as Team Leader for Pile Dynamic Analyzer (PDA) testing and analysis.

	Firm employed by Bridge Diagnostics Inc. (BDI)				
	Name	Graham Bettis, PE		Years of relevant experience with this employer	1
	Title	Vice President		Years of relevant experience with other employer(s)	26
Degree(s) / Years / Specialization			B.S., / 1999 / Architectural Engineering		
Active registration number / state / expiration date			Professional Engineer: 51019 / LA / 09/30/26		
Year registered	2021	Discipline	Structural Engineer		
Contract role(s) / brief description of responsibilities			Bridge Instrumentation		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
09/25 – Present	Bridge Diagnostics, Inc. (BDI) – Mr. Bettis joined the BDI team in 2025 with the goal of focusing on the National Bridge Inspection program and working with Infrastructure Owners on their Bridge Preservation and Asset Management strategies. He remains highly engaged in national bridge efforts to ensure there are tools and techniques in place to prioritize responsible preservation actions for all bridges, not just those that have fallen into disrepair. Mr. Bettis brings valuable structural and professional experience to BDI and helps position BDI at the forefront of the bridge inspection, maintenance, and preservation sector. His comprehensive understanding of structural materials, composition, and mechanics make him a valuable asset to BDI’s bridge evaluation and preservation program.				
10/25 – Present	Bonnet Carre Spillway I-10 Deck Evaluation in St. Charles Parish, LA – BDI performed nondestructive evaluation testing of the I-10 bridge over the Bonnet Carre Spillway in St. Charles Parish to assess the condition state of the bridge deck and evaluate any appropriate means of preservation that could be necessary for the bridge’s longevity. Mr. Bettis served as a Subject Matter Expert throughout the lifespan of the project; responsible for QA/QC and testing plan development.				
11/24 – 08/25	Michael Baker International (MBI) – Mr. Bettis joined the MBI team to run their statewide design, inspection, and preservation programs in Texas. Soon after starting at MBI, Graham developed short- and long-term goals for the Bridge Team and prepared a detailed Tactical Action Plan focused on business development in Texas and beyond.				
05/06 – 10/24	Texas Department of Transportation (TxDOT) – Mr. Bettis moved from the private to public sector in 2006, joining the Texas Department of Transportation. From 2006 to 2010, Mr. Bettis worked in TxDOT’s Structures Lab where he was responsible for overseeing the statewide QC/QA program for largescale structural bridge members, including precast concrete girders, structural steel, segmental units, bearings, pipes, and numerous other elements. A majority of his time was spent in prefabrication plants assessing damage or other nonconforming items and determining appropriate solutions. In 2011 Mr. Bettis moved to TxDOT’s Bridge Division, where his primary technical focus was on structural forensics, assessment, load rating, and preservation. His specialty was in performing in-depth damage evaluations and condition assessments to determine options and best courses of action for repair, rehabilitation, or replacement. Mr. Bettis performed load ratings on dozens of bridges, which in most cases included in-depth field evaluations to ensure the analyses were representative of actual conditions. During this time, he authored the first edition of TxDOT’s Concrete Repair Manual, and was responsible for writing or updating many other structural specifications and manuals. Mr. Bettis also routinely responded to emergency events (e.g. flooding, hurricanes, over-height bridge impacts, train derailments, etc.) to quickly assess damage and determine what steps must be taken to quickly but safely return damaged structures to service. In 2015 Mr. Bettis was named Field Operations Section Director, where his responsibilities included oversight of the federally-mandated bridge inspection program (Routine, Fracture Critical/NSTM, and Underwater inspections). From 2018 to 2024 Mr. Bettis served as Texas’ State Bridge Engineer. In that role he was responsible for overseeing all design, construction, inspection, and maintenance activities on an inventory of over 57,000 bridges. He personally developed and implemented a Four-Year Bridge Plan program for each of TxDOT’s 25 Districts that focused on early-age preservation and maintenance activities for bridges. This asset management approach included the use of newly developed metrics and dashboards to measure progress and improve accountability. Those plans resulted in significant reallocation of priorities, including funding, towards bridge preservation and maintenance activities, and resulted in significant improvement to bridge conditions all over the state.				

	Firm employed by Bridge Diagnostics Inc. (BDI)				
	Name	Brice Carpenter, PE		Years of relevant experience with this employer	17
	Title	Senior Engineer		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		B.S., Civil Engineering, May 2007 M.S., Civil Engineering, May 2009			
Active registration number / state / expiration date		Professional Engineer: 39341 / LA / 03/31/2027			
Year registered	2014	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities		Bridge Instrumentation			
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
07/09 – Present	Mr. Carpenter joined BDI in 2009 and serves as a Senior Technical Engineer, Engineering Department Lead, and Subject Matter Expert in data-driven structural evaluation for bridge asset management. He has led the non-destructive testing and evaluation of hundreds of bridges, delivering reliable data to support lifecycle planning and preservation decision-making. His experience includes planning and executing field investigations; deploying instrumentation and data acquisition systems; analyzing structural response data; performing routine and complex structural evaluations and developing actionable results and recommendations. He is proficient in advanced evaluation methods, including conventional and field-verified load rating analysis, as well as structure- and component-specific assessments in accordance with specifications relevant to this proposal: AASHTO (ASD, LFD, LRFD) and LADOTD BDEM standards. Throughout his career, Mr. Carpenter has focused on delivering accurate, actionable results that enable transportation agencies to optimize maintenance, extend service life, and maximize the value of bridge assets through effective, data-driven preservation strategies.				
10/24 – Ongoing	Multi-Phase Field-Verified Evaluation of the Bayou Ramos Bridges - Louisiana Department of Transportation and Development / Morgan City Project Engineer. The Bayou Ramos bridges are currently load posted due to deterioration present along many of the prestressed concrete girder ends. To reevaluate these structures' current live-load capacity, BDI was contracted to provide a multi-phase evaluation. This evaluation included an initial load rating evaluation where multiple strut-and-tie method (STM) procedures were considered and evaluated, a diagnostic load test-based evaluation used to validate both structural behavior and STM capacity assumptions, and a monitoring program set to provide crucial information on the current activity level of the observed deterioration. Brice Carpenter served as project engineer responsible for testing/monitoring plan development and application, evaluation team management, and QA/QC of various project tasks.				
07/24 – 02/25	Refined Load Rating of Falmouth Bridge for Emergency Repair Response - Virginia Department of Transportation/ Fredericksburg District Project Engineer. Inspections on the Falmouth Bridge carrying Cambridge St. (US-1) over the Rappahannock River in Falmouth, VA showed significant advancement of corrosion of steel members, especially floorbeams and beam/girder ends near deck expansion joints. BDI performed diagnostic load testing and used the accumulated data to calibrate a finite-element model of the bridge for use in a load rating evaluation. Load rating results indicated that the deterioration of the girders and floorbeams resulted in significantly deficient ratings for these members. BDI's assessment informed emergency repairs for this structure. Mr. Carpenter served as project engineer responsible for overseeing the testing plan design, development and implementation, field-verified finite element modeling, load rating, and reporting.				
01/25 – 02/25	Bayou La Loutre Bridge Balance Testing- CEC Project Engineer. As part of CEC's rehabilitation of this vertical lift bridge in Yscloskey, LA, BDI provided bridge balance testing services. This evaluation was performed by installing torque sensors attached to the operating shafts and using the collected response data to compute balance criteria for the structure. Brice served as the project engineer, responsible for client coordination, design and implementation of instrumentation plans, data processing and assessment, balance calculations, and reporting.				

01/24 – 03/24	Load Test & Field-Verified Load Ratings for CFRP Retrofit Bridge - VDOT Fredericksburg District Project Engineer. As part of the structure's repair plan, the condition of this historic reinforced concrete T-beam bridge was assessed following a CFRP retrofit. BDI was contracted to perform diagnostic load testing and subsequent field-verified load rating as part of the approval process for the repair strategy utilized. Submittals included load testing and rating reports presenting the collected data and providing results of the evaluation. Brice Carpenter served as lead analysis and load rating engineer for this project, responsible for instrumentation and testing plan design and implementation, field-verified finite-element modeling, load rating calculations, and reporting.
10/21 – 05/22	Load Test and Field-Verified Load Ratings of 10 Structures, LA - LADOTD/Forte & Tablada Lead Analysis Engineer. BDI performed refined load ratings of ten structures based on diagnostic load testing of each structure. The evaluated structures ranged from short-span reinforced concrete slabs to culverts of various types with minimal fill depths. In all cases, the bridges were selected for refined analysis based on their inability to meet posting requirements using more standard evaluation techniques. BDI's approach served to validate structure response characteristics in an effort to increase or remove posting requirements. Mr. Carpenter was the lead analysis engineer for the project and provided instrumentation plan design, finite-element model calibration and analysis, load rating calculations, and related reporting.
04/21 – 05/21	Bayou Teche Pier Testing, LA - LADOTD Project Engineer. As part of a Forte and Tablada DOTD complex inspection task order, BDI assisted the inspection team quantify movement observed by their team in the center pier of this swing bridge during operation. Rotation and displacement of the pier were measured during bridge openings to access this inspection finding. Mr. Carpenter was the project engineer responsible for testing plan development, installation of instrumentation and data acquisition, assessment of data quality during testing procedures, analysis and interpretation of accumulated data, and report generation.
07/20 – 01/21	LA507 Over I-20 ABC Span Move Monitoring - JB James Construction LLC Field/Analysis Engineer. During the replacement of this bridge's superstructure, accelerated bridge construction was utilized where spans were cast nearby and moved into place during short outages. BDI provided monitoring services during the span moves. Mr. Carpenter was a field/analysis engineer responsible for installation of instrumentation and data acquisition, data collection during span move operations, on-site data analysis and interpretation, data processing and reporting.

	Firm employed by Bridge Diagnostics Inc. (BDI)				
	Name	Brett Commander		Years of relevant experience with this employer	36
	Title	Vice President		Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization			BS / 1986 / Civil Engineering MS / 1989 / Structural Engineering		
Active registration number / state / expiration date			Professional Engineer: 35864 / LA / 03/31/27		
Year registered	2010	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Bridge Instrumentation		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
10/89 – Present	Mr. Commander is a co-founder of BDI and has led the engineering team for more than 36 years. He started his engineering career developing software and analytical methods for realistic assessment of structural performance through load test results. His work provided field verified load ratings by utilizing actual load paths with calibrated FEA models. Mr. Commander’s experience with vehicle load considerations includes Bridge Weigh-in-Motion research and numerous super-heavy load tests and permit load ratings on more than 1000 highway and railway bridges using a variety of design codes such as AASHTO, LADOTD BDEM, and many state-specific codes including LADOTD specifications. Mr. Commander now leads a team of engineers to accurately assess bridge performance through instrumentation and data-driven methods. He is currently a licensed professional engineer in 30 states (including Louisiana), primarily since heavy permit truck routes typically cross state lines. Mr. Commander has also designed/overseen capacity testing projects of concrete and steel structures using various NDE techniques and has implemented hundreds of structural monitoring systems.				
01/23 – Ongoing	UNITED STATES ARMY CORPS OF ENGINEERS, INSTRUMENTATION AND MONITORING IDIQ <i>US Army Corps of Engineers, Walla Walla District</i> Brett serves as the Principal-in-Charge responsible for instrumentation, structural testing, and structural health monitoring of mechanical and structural systems at several dams in the northwest region. Mr. Commander’s role is to address issues presented by USACE project personnel and develop instrumentation methods that best answer complex problems regarding the condition and behavior of structural systems. He manages BDI engineers in the design and implementation of testing and monitoring programs to achieve this goal. This IDIQ \$7M/5-year contract is available to all districts in the northwest region.				
02/23 – Ongoing	VIRGINIA DOT STATEWIDE INSTRUMENTATION AND MONITORING ON-CALL <i>Virginia Department of Transportation (VDOT)</i> As Subject Matter Expert in the areas of instrumentation, structural testing, and monitoring for the duration of this contract, Mr. Commander’s role is to develop monitoring and quality control plans to address specific structural concerns on bridges, tunnels, and ancillary systems. This includes developing monitoring scopes, provisioning instrumentation and data acquisition, and overseeing teams of engineers and technicians to install and maintain monitoring systems. Various monitoring methods and structural evaluation techniques are implemented, from Automated Total Stations to strain gage installation and load testing to geotechnical monitoring systems. The current IDIQ is a \$7M per year contract for up to four years. BDI held the previous contract 2017-2022, which was a \$3 million two-year contract with two renewable terms.				
07/22 – 09/22	NONDESTRUCTIVE EVALUATION OF THE EIGHT (8) USDA FOREST SERVICE BRIDGES, MT AND ID <i>USDA Forest Service / Great West Engineering</i> BDI performed nondestructive evaluation (NDE) of eight bridges around Missoula, Montana, and northeastern Idaho. These structures are owned and managed by the National Forest Service and are a combination of reinforced concrete slabs, prestressed concrete slabs, prestressed double tees, and concrete arches. Due to the lack of available as-built drawings, various non-destructive and minimally destructive techniques were utilized to determine critical information and calculate load ratings. Techniques included ground penetrating radar (GPR), Ultrasonic Shear Wave Tomography (USWT), and removal of concrete cover at selected locations to assess bar/strand size, shape, and cover depth. The collected data helped determine information such as reinforcing steel and prestressing strand location, orientation, size, shape, spacing, and cover depths at each bridge. Overall geometric information				

	such as span length, width, and member dimensions were also obtained and used to prepare a report and develop CAD drawings for each structure. Great West Engineering used this information to calculate load ratings for each structure. Mr. Commander provided PE oversight, review, and sealing of all deliverables.
10/21 – 05/22	LOAD TEST AND FIELD-VERIFIED LOAD RATINGS OF 10 STRUCTURES, LA <i>Louisiana Department of Transportation and Development (LADOTD)/Forte & Tablada</i> BDI performed refined load ratings of ten structures based on diagnostic load testing of each structure. The evaluated structures ranged from short-span reinforced concrete slabs to culverts of various types with minimal fill depths. In all cases, the bridges were selected for refined analysis based on their inability to meet posting requirements using more standard evaluation techniques. BDI's approach served to validate structure response characteristics in an effort to increase or remove posting requirements. Load rating calculations were performed within the requirements of LADOTD and AASHTO, and load rating reports meeting LADOTD requirements were submitted for each structure. Mr. Commander was Principal Engineer for the project and provided PE Review of all deliverables.
11/12 – 09/22	US-90 BAYOU RAMOS BRIDGE LOAD TESTING AND MONITORING, LA <i>Louisiana Department of Transportation and Development (LADOTD)</i> Due to unexpected cracking in PS concrete AASHTO beams, BDI performed load tests to determine the cause and effect of cracks in continuous multi-span prestressed concrete girders. Field-verified load ratings were also calculated according to LADOTD specifications, based on a finite-element model calibrated using the collected testing data. After the completion of the initial evaluation, BDI designed and installed monitoring systems on two sections of the structure to monitor its condition. BDI has maintained the structural health monitoring system throughout the project duration, and data collection is still ongoing. As a technical advisor/principal engineer, Mr. Commander oversaw live-load and thermal load monitoring that was performed during and after repairs to evaluate the performance of the retrofit.
01/17 – 01/22	RETAINER CONTRACT FOR TESTING UNKNOWN FOUNDATIONS STATEWIDE (DOTD CONTRACT NO. 4400009224) <i>Louisiana Department of Transportation and Development (LADOTD)</i> Mr. Commander was the principal investigator for NDT-E services to determine the unknown foundations of 1,857 piles in Louisiana. The project utilized multiple methods of NDT-E, including ultra-seismic testing, parallel seismic survey, sonic echo/impulse response, and guided wave. Thousands of piles have been tested to determine the embedded depth for subsequent NBIS 113 scour evaluation and reporting. BDI also assisted LADOTD in FHWA reporting these items by uploading all reports into AssetWise.

	Firm employed by Bridge Diagnostics Inc. (BDI)			
	Name	Steven M Fall, Jr, PE	Years of relevant experience with this employer	7
	Title	Project Manager	Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization		BS / 2019 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 0048637 / LA / 09/30/2026		
Year registered	2024	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Non-Destructive Testing Lead		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
05/18 – Present	General Experience – Beginning work for BDI in May of 2019, Mr. Fall has spent more than 7 years in the private sectors in both non-destructive testing and evaluation and routine infrastructure inspection and monitoring and is the current office manager of the Louisiana office. Mr. Fall has been involved with non-destructive testing and evaluation of hundreds of structures including bridges, buildings, and hydro-structures such as lock gates and spill gates. His involvement in these projects included project management, planning, implementation, installation of instrumentation, testing, data processing, data review, and reporting. Previously, Mr. Fall worked with HNTB inc. working in the transportation and civil department performing inspections of substructures and bridges on various jobs. He is a member of ASCE and ACI in the Louisiana chapter. Mr. Fall is a certified Professional Engineer, SPRAT L1 ropes access technician, ASNT Level I GPR inspector, and Team Lead under FHWA guidelines for routine inspections. He is also a certified traffic control supervisor, traffic control technician, and flagger in the state of Louisiana. He also has worked with various NDE methods for fracture critical techniques including but not limited to Magnetic Particle Testing, Ultrasonic Testing (UT), and Dye Penetrant Testing. He graduated from the University of New Orleans with a bachelor's degree in civil engineering.			
05/23 – Present	Retainer Contract for Non-Destructive Evaluation of Statewide Structures (DOTD Contract 4400025002) Project Manager. Louisiana Department of Transportation awarded BDI with the retainer contract for Non-Destructive Evaluation of Statewide Structures. This IDIQ has 8 Task Orders awarded and will continue until 2025. These task orders include but are not limited steel inspection using Ultrasonic testing and Magnetic Particle Testing; deck evaluations via non-destructive testing methods including SoundAR, Ground Penetrating Radar, Infrared Thermography, and High Resolution Imaging; material sampling using coring; NHI routine and fracture critical inspections; and emergency response efforts. Mr. Fall serves as the project manager for this contract and is responsible for the testing plan development and application, team management, and QA/QC of various project tasks.			
11/23 – 12/23	Paris Road Emergency Bridge Inspection in Chalmette, LA Inspection Lead. After noting a critical finding in a routine inspection on bridge recall 001621 by LADOTD on Paris Rd., BDI was called to perform an emergency in-depth inspection on the underside of the structure along with an NDE of the deck. The inspection results lead to repairs on the bridge and the reopening of the structure. Mr. Fall was the inspection lead on this project for both the NBIS emergency inspection and the Non-destructive testing and evaluation of the structure. He was also responsible for the project management and reporting on the structure.			
01/21 – 05/23	Task Orders for Retainer Contract for Non-Destructive Evaluation of Statewide Structures (DOTD Contract 4400017163) Staff Engineer. Louisiana Department of Transportation awarded BDI with the retainer contract for Non-Destructive Evaluation of Statewide Structures. This IDIQ had 13 Task Orders awarded and lasted until 2023. These task orders include but are not limited steel inspection using Ultrasonic testing and Magnetic Particle Testing; deck evaluations via non-destructive testing methods including SoundAR, Ground Penetrating Radar, Infrared Thermography, and High Resolution Imaging; material sampling using coring; NHI routine and fracture critical inspections; and emergency response efforts. Mr. Fall served as a staff engineer for this project and was responsible for the testing plan development and application, team management, and field application of the various project tasks.			

06/22-06/22, 06/23-06/23	Counterweight Balance Testing of the Seabrook Bascule Bridge (Port of New Orleans) in New Orleans, LA Project Engineer. This bridge is a Strauss double heel-trunnion bascule bridge that carries St. Claude Avenue over the Industrial Canal. It is subject to hurricane winds and salt water and therefore has extreme corrosion and operational issues. During an inspection, the counterweight-to-span link bushings were found to be broken and falling out of the bearing hub. BDI was subcontracted by HNTB to measure force and moment in the truss link member and evaluate the span balance and operational friction. Operational test results showed high levels of friction and asymmetry in both the friction and lifting torque. Tests were initially performed to identify operational issues and again after bushings were replaced and drive torque imbalance conditions were addressed. BDI's instrumentation and data analysis was essential to identifying and solving the operational problems. The primary relevance of this project is identification and quantification of operational performance of bascule bridges.
07/2019 – 01/20	Counterweight Balance and Friction Assessment of the St. Claude Bridge (LADOTD) in New Orleans, LA Field Instrumentation / Operational Testing. BDI performed a counterweight Balance and friction assessment of the St. Claude Bridge to assist LADOTD to bring their bridge into lifting specifications and to determine the friction in each member during lifts. Mr. Fall installed all gages on the shafts and some gages on the steel members of the bridge, performed all testing, and helped report on these findings to help LADOTD balance the counterweight in the bridge and analyze the friction in each member. Mr. Fall was a team member responsible for field instrumentation and operational testing.
10/25 – Present	Bonnet Carre Spillway I-10 Deck Evaluation in St. Charles Parish, LA – BDI performed nondestructive evaluation testing of the I-10 bridge over the Bonnet Carre Spillway in St. Charles Parish to assess the condition state of the bridge deck and evaluate any appropriate means of preservation that could be necessary for the bridge's longevity. Mr. Fall served as Project Manager and is responsible for the testing plan development and application, team management, and QA/QC of various project tasks.

	Firm employed by Bridge Diagnostics Inc. (BDI)				
	Name	Jesse Sipple, PhD, PE		Years of relevant experience with this employer	12
	Title	Vice President, Services Division Manager		Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization		PhD / 2013 / Civil Engineering MS / 2008 / Civil Engineering BS / 2007 / Civil Engineering			
Active registration number / state / expiration date		Professional Engineer: 41028 / LA / 03/31/2027			
Year registered	2016	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities		Bridge Instrumentation			
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
05/07 – Present	Dr. Sipple has over 19 years of experience in instrumentation, diagnostic testing, structural health monitoring, and analysis of heavy civil structures, with a focus on bridges. Dr. Sipple's experience includes planning and executing field installations and testing for large, complex projects; project management; development of new methods for monitoring and data processing; and performing detailed analysis and reporting. Dr. Sipple is a licensed Professional Engineer in several states, sits on a variety of technical committees, and was the former chair of the ASCE SEI Methods of Monitoring Structural Performance Committee. Dr. Sipple is the Engineering Division Manager at BDI. His role includes overseeing the testing, monitoring, and engineering groups, including oversight in both the operation of the division as well as technical oversight of active projects. Dr. Sipple's research expertise is in dynamic testing of bridges for the purpose of parameter estimation through finite element model updating. Dr. Sipple's research on parameter estimation for model calibration was using both static and dynamic data to update finite element models based on field measured structural response data.				
07/18 – 08/18 & 07/23 – 08/23	Bear River Bridge Dynamic Testing BDI was contracted by Stantec to perform dynamic tests on the Bear River Siphon Bridge near Auburn, CA. The bridge is a single span suspension bridge carrying a water supply pipe. The testing focused on measuring vibration responses across the bridge to determine the dynamic response of the entire structure. The overall goal of these tests was to validate the predicted structural response. Additionally, cable dynamic testing was performed to determine the in-situ tensile forces in each hanger cable and stay cable. Dr. Sipple performed quality control on the analysis and reporting for this project.				
06/22 – Present	West Seattle High Bridge Investigation and Monitoring, WA <i>Seattle Department of Transportation (SDOT)</i> Dr. Sipple served as Project Manager and Senior Engineer for the West Seattle High Bridge Structural Health Monitoring program during the bridge's closure, repair, and reopening. He developed a temperature-correction methodology for the distributed fiber optic strain (DFOS) system using vibrating wire strain data to improve accuracy and reliability of the distributed measurements. Dr. Sipple also worked with SDOT and WSP to develop monitoring response procedures and emergency action plans supporting construction and reopening activities.				

06/20 – Present	Virgin River Gorge Testing & Monitoring, AZ Dr. Sipple served in progressively senior roles on the I-15 Virgin River Bridges Structural Health Monitoring project, ranging from Project Engineer to Project Manager and ultimately Principal Engineer. Under ADOT's Accelerated Innovation Deployment grant through FHWA's Technology and Innovation Deployment Program, BDI performed load testing and long-term structural health monitoring on multiple fracture-critical bridges along the I-15 corridor through the Virgin River Gorge. Dr. Sipple supported the design, implementation, and ongoing operation of the monitoring systems, including development of reporting methodologies to interpret large volumes of monitoring data. He also led instrumentation, controlled load testing, analysis, and reporting efforts while supporting system deployment and ongoing performance evaluation for this long-term monitoring program.
03/20 – Present	Ballard Bridge Monitoring, WA Dr. Sipple was the Project Quality Control Engineer responsible for QC of the trunnion friction and operating torque monitoring system installed on this double trunnion Strauss bascule bridge. BDI installed strain gages, shaft torque gages, and tiltmeters to monitor changes in trunnion friction, system friction, and shaft torque over a 2-year monitoring period. Jesse managed the analysis team that set up automated computation and reporting for trunnion friction, system friction, and shaft torque.
07/20 – 01/21	LA 507 Over I-20 ABC Span Move Monitoring, LA During the replacement of this bridge, accelerated bridge construction was utilized where spans were cast nearby and moved into place during short outages. Dr. Sipple was a field/analysis engineer responsible for monitoring plan implementation, instrumentation, monitoring during span moves, on-site data interpretation, and data processing and reporting.
02/20 – 11/20	Live Load Testing and Filed-Verified Load Rating of 16 Bridges, VA BDI provided load testing and field-verified load rating of 16 structures in the Fredericksburg and Richmond districts of VDOT. BDI was responsible for the design of load testing requirements, development of instrumentation plans, execution of fieldwork and load testing, data analysis, finite element (FE) model creation and calibration, and eventual load rating per VDOT and AASHTO requirements. Dr. Sipple acted as the quality control manager for this project and all related tasks.
06/19 – 1/20	St. Claude Bascule Bridge Balancing Instrumentation tasks were performed when investigating a bearing failure on the span to counterweight link and whether this failure was connected to an imbalance between the counterweight and lift span. BDI performed strain gage testing on the link frame and counterweight balance procedures. Dr. Sipple was the Project Quality Control Engineer responsible for QC of counterweight/span balance, friction calculations, and structural performance evaluation on this double trunnion Strauss bascule bridge.

	Firm employed by Bridge Diagnostics, Inc. (BDI)				
	Name	Charles Young, PE		Years of relevant experience with this employer	8
	Title	Vice President		Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization			MS / 2017 / Civil Engineering BS / 2012 / Civil Engineering		
Active registration number / state / expiration date			Professional Engineer: 42773 / LA / 03/31/2027		
Year registered	2018	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			NDT Subject Matter Expert		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).				
06/12 – Present	Mr. Young has 14 years of experience in the fields of nondestructive evaluation and testing (NDE/NDT), structural monitoring, and inspection/evaluation of civil infrastructure. Mr. Young is responsible for program management, project management, analysis, and field services related to inspection and NDE/NDT of civil infrastructure. Mr. Young is certified ASNT Level II GPR and IR Inspector, SPRAT Level I certified, is a registered Part 107 UAV Pilot, and holds multiple certifications from NHI including FHWA-NHI-130055 Safety Inspection of In-Service Bridges (2014), FHWA-NHI-130053 Bridge Inspection Refresher Training (2021), and FHWA-NHI-420018 Instructor Development Course (2022). He is a registered Professional Engineer in multiple states including Louisiana.				
12/22 – Present	IDIQ Contract for Nondestructive Evaluation of Structures Statewide (DOTD Contract No. 4400025002) Mr. Young is the Project Manager for statewide NDE of structures for DOTD under this contract. Scope items include testing of bridge decks, concrete substructures, steel elements such as welds and pin and hanger assemblies, unknown foundations, tunnels, culverts, and other highway transportation infrastructure. Mr. Young assists DOTD and the project team with successfully implementing NDE and inspection technologies for application and best methods for analysis and reporting of findings into DOTD's AssetWise.				
10/25 – Present	Bonnet Carre Spillway I-10 Deck Evaluation in St. Charles Parish, LA – BDI performed nondestructive evaluation testing of the I-10 bridge over the Bonnet Carre Spillway in St. Charles Parish to assess the condition state of the bridge deck and evaluate any appropriate means of preservation that could be necessary for the bridge's longevity. Mr. Young served as a Subject Matter Expert throughout the lifespan of the project; responsible for QA/QC and testing plan development.				
05/23 – Present	Twin Spans and Six Mile Bridge Inspection and NDE - The objective of this project is to perform a comprehensive inspection and NDE of the reinforced concrete bridge decks of the Twin Spans and Six Mile Bridges in Louisiana. Also included are supplemental inspection access techniques including unmanned aerial systems (UAS). Nondestructive evaluation includes a multi-technology bridge deck assessment including Deck Acoustic Response, Ground Penetrating Radar, Infrared Thermography, and High-Resolution Imagery. Mr. Young acted as the Project Manager. This work is being performed under LADOTD contract 4400025002.				
01/19 – 12/22	IDIQ Contract for Nondestructive Evaluation of Structures Statewide (DOTD Contract No. 4400015262) Mr. Young is the Project Manager for statewide NDE of structures for DOTD under this contract. Scope items include testing of bridge decks, concrete substructures, steel elements such as welds and pin and hanger assemblies, unknown foundations, tunnels, culverts, and other highway transportation infrastructure. Mr. Young assists DOTD and the project team with successfully implementing NDE and inspection technologies for application and best methods for analysis and reporting of findings into DOTD's AssetWise.				

07/21 – 10/22	I-10 Over Atchafalaya Basin Inspection and NDE - The objective of this project is to perform an NHI routine and fracture critical (NSTM) inspection of the bridge carrying I-10 over the Atchafalaya Basin between New Baton Rouge and Lafayette along with targeted NDE techniques at various critical portions of the structure. Also included are supplemental inspection access techniques including unmanned aerial systems (UAS). Nondestructive evaluation includes a multi-technology bridge deck assessment including Deck Acoustic Response, Ground Penetrating Radar, Infrared Thermography, and High-Resolution Imagery. Mr. Young acted as the Project Manager. This work was performed under LADOTD contract 4400015262.
10/20 – 09/22	Bonnet Carre Spillway Inspection and Nondestructive Evaluation, LA – This project involved an NHI routine and fracture critical (NSTM) inspection of the Bonnet Carre Spillway Bridge and targeted NDE techniques at various critical portions of the structure. Two cycles of Routine and NSTM inspections were conducted for this structure. This work was performed under an IDIQ Contract for Non-destructive Evaluation of Structures for DOTD. Also included were supplemental inspection access techniques including unmanned aerial systems (UAS). Nondestructive evaluation includes a multi-technology bridge deck assessment including Deck Acoustic Response, Ground Penetrating Radar, Infrared Thermography, and High-Resolution Imagery. Mr. Young acted as the Project Manager. This work was performed under LADOTD contract 4400015262.
08/19 – 07/20	NDE of City Park Lake Bridge LA – Mr. Young was the project manager for the NDE of the City Park Lake Bridge in Baton Rouge, LA. This project included a routine inspection of the structure, along with NDE technologies including ground penetrating radar (GPR), deck acoustic response (DAR), infrared thermography (IR), and high-resolution video (HRV). The remote inspection was performed on the substructure utilizing visual inspection and IR. This work was performed under LADOTD contract 4400015262.

	Firm employed by SAM, LLC, formerly SJB Group, LLC			
	Name	Matthew Estopinal, PE, PLS	Years of relevant experience with this employer	4
	Title	Principal	Years of relevant experience with other employer(s)	15
	Degree(s) / Years / Specialization	B.S. in Civil Engineering 2009 LSU B.S. in Microbiology 1996 LSU		
Active registration number / state / expiration date		PE #0039151 Louisiana 3/31/2027 Year Registered: 2014 Professional Engineer PLS #0004955 Louisiana 3/31/2027 Year Registered: 2006 Professional Land Surveyor PE #122184 Tennessee 1/31/2027 Year Registered: 2019 Professional Engineer PE #32982 Mississippi 12/31/2026 Year Registered: 2022 Professional Engineer		
Years Registered	2014, 2006, 2019, 2022,	Discipline	Professional Engineer, Professional Land Surveyor, Professional Engineer, Professional Engineer	
Contract role(s) / brief description of responsibilities			QA/QC - Survey	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/24 – Present	LA DOTD Project No. H.003931 – I-10 Calcasieu River Bridge P3 Project <i>Survey Support/ QA/QC.</i> SJB Group provided an additional Topographic Survey, a Property Survey and Right-of-Way Mapping for this project, which is the largest in LADOTD history. This project covers a 5.5 mile stretch of Interstate 10 and includes 15 bridges and 19 ramps. Mr. Estopinal assisted with title research and boundary analysis, overseeing field activities and supervising the preparation of the primary control sketch, property survey and base right-of-way maps, providing QA/QC for all activities.			
07/21 – 10/23	LA DOTD Project No. H.004100.5 – I-10: LA 415 to Essen on I-10 and I-12 <i>QA/QC.</i> SJB Group provided a Property Survey and Right-of-Way Mapping for approximately 4 miles of I-10 as well as multiple intersecting streets, for which a property map was created that encompassed the parcels affected by acquisition and accessibility.			
08/20 – 04/24	LA DOTD 44-17597 - Rural Bridge Replacement Initiative, Districts 03, 07, 61, 62 <i>QA/QC.</i> SJB Group performed topographic surveying, property surveying, right-of-way maps, and roadway design of 33 bridge replacements in Districts 03, 07, 61, and 62 as a sub-consultant to Burk-Kleinpeter within their contract with LA DOTD. The Surveys were provided in accordance with the current Locations and Survey Manual and Addendum A.			
04/23 – 09/23	LA DOTD Project No. H.017322.5 – Morgan City Sidewalks & Shared Use Path, St. Mary Parish <i>QA/QC.</i> Sub to Digital Engineering. This project included Right-of-Way Mapping, Topographic Surveying, and Subsurface Utility Engineering to assist in the installation of handicapped ramps, drainage structures, and sidewalk improvements. This project included sidewalk and crosswalk evaluations, and design improvements to ADA Standards.			
03/22 – 08/23	LA DOTD Project No. H.012685.5 – LA 385: Ryan Street Intersection Improvements <i>QA/QC</i> Topographic Survey in Calcasieu Parish near the intersection of I-210 and LA 385 near the campus of McNeese State University. The survey data was collected utilizing mobile lidar methodologies and supplemented by conventional data collection in specified areas			
07/21 – 02/22	LA DOTD Project No. H.013715.5 – LA 77 Union Pacific Railroad Crossing (Iberville)			

	QA/QC. This project consisted of Property Surveying, Right-of-Way Mapping and Topographic Surveying for a project that included the depiction of a railroad right-of-way, state-maintained highway, and city streets. The project included preparation of a Property Map, Base Right-of-Way Maps, Final Right-of-Way Maps and the creation of a parcel input file for acquisition descriptions of the subject area.
07/21 – 08/22	LA DOTD Project No. H.002176.50 – LA 10 Bridges QA/QC. The LA 10 Bridges project in St. Landry Parish included Property Surveying and Right-of-Way Mapping for three sites. The property survey depicted the affected properties, the existing Right-of-Way for LA Hwy 10, and multiple state-claimed water bodies.
07/21 – 10/21	LA DOTD Project No. H.007963 – Blackwater Bayou Bridge <i>Project Manager/QA/QC.</i> This project required replacement of the Bayou River Bridge and a diversion road during construction along LA Hwy 410 in East Baton Rouge Parish near the City/Town of Central. This project involved Property Surveys, Right-of-Way maps, and title take-offs.
10/23 – 4/25	LA DOTD Project No. H.15487.5 – New Orleans Pedestrian Improvements QA/QC. SJB Group Conducted Mobile LiDAR scanning for the project which included a Topographic Survey and right-of-way mapping of fifty-five intersections in the downtown area of New Orleans, Louisiana. Additionally, the project included the determination of the existing right-of-way for the specific streets and La DOTD roadways.
07/21 – 05/24	H.012001 LA 339: Canal & Creek Bridges QA/QC The project required the removal and replacement of bridge structures along LA 339 in Vermillion Parish near the Town of Erath. The project encompassed 3 separate sites that required property surveys including right-of-way determination and property analysis. The property map set was produced in accordance with La DOTD requirements
09/16 – 09/18	LA DOTD Project No. H.012232 – LA 3064 to LA 1428 Phase II <i>Surveyor of Record/Project Manager.</i> This project in East Baton Rouge Parish included Property Surveying and Right-of-Way Mapping for the proposed Dijon Drive Extension. The proposed right-of-way was utilized to prepare Base Right-of-Way Maps. Final Right-of-Way Maps and parcel input file descriptions for acquisition parcels. All surveying was performed to La DOTD Location & Survey Section requirements.

	Firm employed by SAM, LLC, formerly SJB Group, LLC			
	Name	Karen Kennedy, PE	Years of relevant experience with this employer	4
	Title	V.P. of Engineering	Years of relevant experience with other employer(s)	30
	Degree(s) / Years / Specialization		B.S./ 1995 / Civil Engineering	
Active Registration Number / State / Expiration			Professional Engineer: 28547 / Louisiana / 09/30/2027	
Years Registered		1999	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Engineering and Subsurface Utility Engineering Lead	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/24 – Ongoing	LADOTD Project No. H.003931 Calcasieu River Bridge Public Utility Coordinator. SJB Group, LLC is providing Utility Coordination for the I-10 Calcasieu River Bridge project—LADOTD’s largest to date. Coordination supports utility relocations in a dense industrial corridor, ensuring timely construction and budget compliance throughout project duration.			
11/20 – 06/24	State Project No. H.013029 Control Section No. 454-01 I-12 @ Sherwood Forest Ped/Bike Safety Engineer of Record. This project consisted of a topographic survey, utility investigation and engineering design for multiuse paths on both sides of S. Sherwood Forest Boulevard extending from S. Harrell’s Ferry Road northward to Old Hammond Hwy. The project aimed to not only improve pedestrian and bicycle mobility by connecting to the existing bike lanes north of Old Hammond Hwy but also had a goal of improving pedestrian safety especially at interstate interchanges. Working with MOVEBR and LADOTD, SJB along with Gresham Smith developed appropriate pedestrian crossings to minimize impact on vehicular traffic, while also greatly enhancing overall safety. The project is the first of its kind for this type of interstate crossing in Baton Rouge and the surrounding regions			
02/23 – 05/25	East Baton Rouge Parish Flood Risk Reduction Project on Jones Creek Channel Improvements, East Baton Rouge Parish Engineer of Record. This project required Quality Level “B” Subsurface Utility Engineering including all subsequent Quality Levels for approximately 4.2 miles of channel improvements along upper Jones Creek and several of its tributaries. SJB Group assisted in development of the project scope to meet all the needs for completion of this critical project. Extensive records research was performed to note all utilities throughout the project limits. Quality Level “B” designating was performed at all bridge crossings along the channel to locate all utility lines. In addition, any standalone utility lines discovered during records research that intersected the channel were investigated to achieve Quality Level “B” data. SJB Group was also tasked with providing Utility Coordination during the design phases of the project.			
08/21 – 04/24	City/Parish Project No. 20-CP-HC-0044 – MOVEBR Widening of Lee Drive (Highland to Perkins) SUE Engineer. This project involved ASCE 38-02 Quality Level C SUE services for all utilities within the project corridor as a sub-consultant. Prior to Quality Level C services, extensive Quality Level D records research was completed to aid in the subsequent SUE design. This corridor is heavily congested with utilities making the accurate location of such a critical part of the ultimate design of the project.			
10/22 – 05/23	City-Parish Project No. 20-CP-US-0099 – MOVEBR Airline Highway, North (Florida Blvd to Interstate I-110). SUE Department Manager/Engineer of Record. SJB Group completed ASCE 38-02 Quality Level D services for the project as a sub-consultant to Huval & Associates. There is a heavy congestion of utilities within these project limits and identification of utility owners and approximate locations is critical to the preliminary design of the project.			

08/22 – 09/23	LADOTD Task Order No. H.001820.5-3 – LA 485 Bridges Near Allen Construction Inspection. SUE Project Manager. SJB Group will provide construction coordination and monitoring for the relocation of three water mains in conflict with the project alignments at three bridge locations.
04/22 – 03/23	City-Parish Project No. 20-CP-US-0100 – MOVEBR Airline Highway, South (Parish Line to Bluebonnet Blvd) SUE Department Manager/Engineer of Record. SJB Group will complete ASCE 38-02 Quality Level D services for the project. There is a heavy congestion of utilities within these project limits and identification of utility owners and approximate locations is critical to the preliminary design of the project.
04/22 – 11/22	LADOTD Project No. H.031797 – LA30: EBR PL I-10 SUE Department Manager/Engineer of Record. Sub to Michael Baker. SJB Group was contracted to provide Property Surveys, GIS, LiDAR Scanning, and SUE as a sub-consultant to Michael Baker to further the feasibility studies of the LA 30 corridor from the East Baton Rouge Parish Line to I-10 in Gonzales. This corridor is a key industrial corridor for rail and freight traffic and needs significant additional roadway capacity. Careful planning was required to ensure a successful project addressing all potential impacts including existing utilities which is often the driving factor in the design of a project. This project required ASCE 38-02 Quality Level "D" services throughout the entire project limits. Due to the significant number of pipelines within the corridor, SJB Group also conducted field observations to determine the order of the pipelines within the right-of-way. These field observations of pipeline markers resulted in several additional pipelines being identified beyond the records that were received.

	Firm employed by SAM, LLC, formerly SJB Group, LLC			
	Name	Ralph D. Burgess, PLS	Years of relevant experience with this employer	1
	Title	Surveyor/ Survey Department Manager	Years of relevant experience with other employer(s)	26
	Degree(s) / Years / Specialization		B.S. in Industrial Technology Design 2004 Southeastern Louisiana University	
	Active registration number / State / Expiration		PLS.0005040 / LA / 09/30/2026	
Years Registered	2010	Discipline	Professional Land Surveyor	
Contract Role(s) / Brief Description of Responsibilities		Survey Manager, Meets MPR 10		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
09/25 – 01/26	LADOTD Project No. H.000112 US 190: UPRR Overpass, Opelousas, LA Surveyor of Record/Project Manager. Managed topographic surveys for the I-49 and UPRR Railroad Bridge in Opelousas, as well as the US 190 and Bayou Teche Bridge replacements. Oversaw crew coordination, topography work, review and integration of Mobile LiDAR data. Traditional Field work and coordination of SUE.			
9/25 – 01/26	Office of Louisiana Highway Construction Bridge Bundle 6 - O.B.2025.03.048, Vermilion Parish, LA Survey Manager/Responsible Charge. This project is a complete topography and property survey for seven bridges. Managed a complete topography and property survey for seven bridge projects, overseeing crew coordination, control and topographic data processing, and property/right-of-way calculations. Directed creation and review of survey control, topographic, and property survey packets to ensure accuracy and compliance with project standards.			
09/25 – 10/25	Office of Louisiana Highway Construction Bridge Bundle 6 - O.B.2025.03.047, Vermilion Parish, LA Survey Manager/Responsible Charge. Oversaw a complete topographic and property survey for a single bridge, ensuring compliance with project standards. Responsibilities included coordinating field crews, processing survey control and topography data, and calculating property boundaries and right-of-way limits. The manager prepared survey control, topographic survey, and property survey packets for submittal and review by the supervising professional, maintaining accuracy and quality throughout the project.			
08/24 - Ongoing	LADOTD Project No. H.003931 – I-10 Calcasieu River Bridge P3 Project, Calcasieu Parish, LA Department Manager. SJB Group provided an additional Topographic Survey and Right-of-Way Mapping for this project, which is the largest in LADOTD history. This project covers a 5.5 mile stretch of Interstate 10 and includes 15 bridges and 19 ramps. The topographic survey component of the project include recovery and verification of existing control, preparation of the primary and secondary control sketch, supplemental topographic survey and dtm preparation.			
09/23 – 12/23	LADOTD Project No. H.015619.5 LA 106, Evangeline Parish, LA Survey Manager/Responsible Charge. This project involved an 8-mile pavement preservation for District 03. It primarily had limited topography with some areas requiring full topography according to LADOTD standards. Mr. Burgess worked with the district to finalize survey scoping, managed and directed the topographic survey, and coordinated with local utility companies for asset locations in areas needing full topography. Upon project completion, Mr. Burgess conducted a comprehensive quality control and assurance review of the topography submittal. The topographic data was gathered using traditional methods.			

07/20 – 10/21	LADOTD Project No. H.013989 Greybow Rd. Palmetto Creek, Beauregard Parish, LA Surveyor of Record/Project Manager. The project included the completion of property surveys, base right of way maps, and final right of way maps that were required for the project. Responsible for field crew coordination, review of title takeoff & title reports, right of way calculations, review production of maps, final QA/QC, and final deliverables to the Client. The Surveys were performed to LADOTD Location and Survey Standard.
02/21 – 07/22	LADOTD Project No. H.013958 Carpenters Bridge Rd. Whiskey Chitto Creek Surveyor of Record/Project Manager. Managed and directed the topographic survey while coordinating with local utility companies for asset location. Conducted thorough quality control and quality assurance reviews of all topography submissions and drainage maps. The topographic data for this project was collected using both traditional means and methods. Additionally, this project included property surveys and right-of-way mapping in accordance with LADOTD standards.
01/21 – 06/21	LADOTD Project No. H.013959 Reeds Bridge Rd. Calcasieu River Relief, Allen Parish, LA Surveyor of Record/Project Manager. Managed and directed the topographic survey while coordinating with local utility companies for asset location. Conducted thorough quality control and quality assurance reviews of all topography submissions and drainage maps. The topographic data for this project was collected using both traditional means and methods. Additionally, this project included property surveys and right-of-way mapping in accordance with LADOTD standards.
07/20 – 04/21	LADOTD Project No. H.001352.5 and H.002273.5 Comite River Diversion Bridge at LA 67, LA 19 and LA 19 Railroad Bridge, East Baton Rouge Parish, LA Survey or Record/Project Manager. Working as a sub-consultant on this project was responsible for topographic surveying the LA 67 and LA 19 sites of the Comite River Diversion project. This included merging of data from a previous survey on one portion of the site and field verifications of that data. The topographic data for this project was collected traditionally.
10/16 – 11/16	LADOTD Project No. H.012728.5 LA 443 Emergency Bridge Replacement, Tangipahoa Parish, LA Surveyor of Record/Project Manager. Mr. Burgess oversaw all surveying activities necessary to support the design and construction phases. This included managing field data collection, ensuring accurate mapping, and verifying critical control points for the replacement structure. I coordinated closely with engineers, contractors, and DOTD representatives to maintain project compliance and resolve technical issues. Additionally, I ensured that all deliverables met DOTD standards and were completed on schedule to support the accelerated emergency replacement timeline.
08/16 – 01/18	LADOTD Project No. H.011235 I-49 Verot School Road, Lafayette, LA Surveyor of Record/Project Manager. Responsible for managing and directing the topographic survey and coordinating with the SUE subconsultant for all utility locates. Reviewed and conducted QC/QA of all topography submittals and drainage maps. The topographic data for this project was collected both traditionally and by utilizing 3D Scanning methods. Collaborated with the SUE subconsultant and firm crews to obtain and incorporate all utility data.

	Firm employed by SAM, LLC, formerly SJB Group, LLC			
	Name	Marshall Pounds	Years of relevant experience with this employer	2
	Title	Utility Coordinator Specialist	Years of relevant experience with other employer(s)	26
	Degree(s) / Years / Specialization		N/A	
Active registration number / state / expiration date		N/A		
Year registered	N/A	Discipline	N/A	
Contract role(s) / brief description of responsibilities		Utility Coordination Specialist		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/24–Ongoing	LADOTD Project No. H.003931 Calcasieu River Bridge Public SUE Field Manager. SJB Group, LLC is providing Utility Coordination for the I-10 Calcasieu River Bridge project—LADOTD’s largest to date. Coordination supports utility relocations in a dense industrial corridor, ensuring timely construction and budget compliance throughout project duration.			
10/23 – 12/24	MA-23-06 LA 73 at LA 74 Roundabout SUE Field Manager. This project included a Property Survey, Topographic Survey, Right-of-Way Mapping, Quality Level “B” Subsurface Utility Engineering, and Quality Level “A” Subsurface Utility Engineering, for a proposed roundabout at the intersection. Utilities included water, gas, telephone, electric, cable, and fiber optic. Topographic survey, geophysical investigation and the utility records were used to complete the drawings prepared in accordance with ASCE 38-02 standards. Engineering judgement was used to correlate records and above ground surveyed features.			
10/23 – 08/24	MA-22-04 LA 73 at Cornerview Roundabout. SUE Technician. Property Survey, Topographic Survey, Right-of-Way Mapping, Quality Level “B” Subsurface Utility Engineering, Drainage Design, Quality Level “A” Subsurface Utility Engineering, Geotechnical Investigation, Roundabout Report, Preliminary and Final Design Plans for a proposed roundabout at the intersection. Utilities included water, gas, telephone, electric, cable, and fiber optic. Topographic survey, geophysical investigation and the utility records were used to complete the drawings prepared in accordance with ASCE 38-02 standards. Engineering judgement was used to correlate records and above ground surveyed features.			
08/21 – 04/24	City/Parish Project No. 20-CP-HC-0044 – MOVEBR Widening of Lee Drive (Highland to Perkins) SUE Field Manager. This project involved ASCE 38-02 Quality Level C SUE services for all utilities within the project corridor as a sub-consultant. Prior to Quality Level C services, extensive Quality Level D records research was completed to aid in the subsequent SUE design. This corridor is heavily congested with utilities making the accurate location of such a critical part of the ultimate design of the project.			
10/22 – 05/23	City-Parish Project No. 20-CP-US-0099 – MOVEBR Airline Highway, North (Florida Blvd to Interstate I-110). SUE Field Manager. SJB Group completed ASCE 38-02 Quality Level D services for the project as a sub-consultant to Huval & Associates. There is a heavy congestion of utilities within these project limits and identification of utility owners and approximate locations is critical to the preliminary design of the project.			

	Firm employed by SAM, LLC, formerly SJB Group, LLC			
	Name	Bradley C. Jacobs, EI	Years of relevant experience with this employer	<1
	Title	Senior Technician	Years of relevant experience with other employer(s)	12
	Degree(s) / Years / Specialization		B.S. in Civil Engineering 2015 LSU	
Active registration number / state / expiration date		EI.0032456 LA 9/30/2027		
Year registered	N/A	Year registered	N/A	
Contract role(s) / brief description of responsibilities		Senior Technician		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/26 – Ongoing	LA DOTD Project No. H.005121 LA 415 Connector - I10 to La 1 <i>Senior Survey Technician</i> Mr. Jacobs established control points, performed construction staking for roadway, drainage, and utilities, and verified grades to ensure compliance with design plans. They conducted as-built surveys, maintained accurate field data, and operated GPS and total station equipment. The role also included supervising survey crews and coordinating with engineers and contractors. Their work ensured precise alignment, elevation accuracy, and adherence to DOTD standards throughout construction.			
09/25 – 01/26	Office of Louisiana Highway Construction Bridge Bundle 6 - O.B.2025.03.048, Vermilion Parish, LA <i>Senior Survey Technician.</i> This project is a complete topography and property survey for seven bridges. Responsibilities included coordination with crews, processing of control and topography, calculating property and right of way, and creating survey control, topographic survey, and property survey packets for submittal and review by supervising professional.			
09/25 – 01/26	LA DOTD Project No. H.000112 US 190: UPRR Overpass, Opelousas. LA <i>Survey Technician.</i> This project is a complete topography for the I-49 and the UPRR Railroad Bridge in Opelousas. This also included topography for the US 190 and Bayou Teche Bridge Replacement. Responsibilities included coordination with crews, topography, reviewing and importing of Mobile LiDAR data, and creating topographic surveys, packet for submittal and review by supervising professionals.			
09/25 – 10/25	Office of Louisiana Highway Construction Bridge Bundle 6 - O.B.2025.03.047, Vermilion Parish, LA <i>Senior Survey Technician.</i> This project involved a complete topographic, hydrographic/bathymetric, and property survey for a single bridge. Responsibilities included coordination with field crews; processing survey control, topographic, and bathymetric data; calculating property boundaries and right-of-way limits; and preparing survey control, topographic, hydrographic/bathymetric, and property survey packets for submittal and review by the supervising professional.			
02/23 – 12/23	LA DOTD Project No. H.012027.5 - I-20 UPRR, Caddo Parish, LA <i>Survey Technician.</i> Topographic Survey for the interstate in North Louisiana. Both traditional means and methods and 3D Scanning were used to collect topographic data for this interstate and overpass improvement project. This project also included coordinate and survey of the Union Pacific Railroad line crossing I-20. Project was completed to LADOTD Location and Survey Standards and practices.			
04/21 – 06/21	LA DOTD Project No. H.01689 - LA 182 @ LA 723 Roundabout, Lafayette Parish, LA <i>Survey Technician.</i> Performed field data collection for topographic and property surveys, establishing survey control and centerlines using GPS and traditional methods. Responsibilities included recovering property corners, locating utilities, and assisting with right-of-way mapping for design purposes. The technician processed field data, verified accuracy, and prepared survey packets for review in compliance with DOTD standards and project requirements.			

	Firm employed by Providence Engineering and Environmental Group LLC				
	Name	Chad Turner		Years of relevant experience with this employer	5
	Title	Director Natural Resource & Coastal Services		Years of relevant experience with other employer(s)	12
Degree(s) / Years / Specialization			BS / 2008 / Biological Sciences		
Active registration number / state / expiration date			Richard Chinn 38-Hour Wetland Delineation Training, N/A, #5680		
Year registered	2009	Discipline	Wetlands		
Contract role(s) / brief description of responsibilities			Environmental Manager, Meets MPR 14		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
05/09 – 06/13	Louisiana Department of Transportation and Development, Environmental Section. Environmental Impact Specialist. Mr. Turner was responsible for NEPA compliance for federal and state transportation projects. His duties included: wetland delineations and reporting; threatened and endangered species surveys and reporting; preparation of in-house Categorical Exclusions and Environmental Assessments; and oversight of third-party NEPA documents and other environmental studies. During his time, Mr. Turner conducted over 100 wetland delineations for a variety of transportation projects, including on- and off-system bridge replacements, road realignments and widenings, and new road construction.				
08/24 – Present	Aucoin & Associates, Inc., Replacement Bridge LA 648: Drain Canal Bridge SPN. H.011963 Project Manager. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the LA 648 bridge over an unnamed drainage canal in Lafourche Parish. Additionally, prepared and submitted a Joint Permit Application to the Louisiana Department of Energy and Natural Resources and the U.S. Army Corps of Engineers.				
01/14 – 09/14	Huval & Associates, Inc, East Baton Rouge Parish Multiple Bridge Replacements. Wetland Biologist. On behalf of the City of Baton Rouge/Parish of East Baton Rouge Department of Public Works, conducted wetland delineation and completed Wetland Findings Reports for the Morvant Road (1 and 2), Milldale Road, and Port Hudson Pride Road bridges in East Baton Rouge Parish. For each location, prepared and submitted a Pre-Construction Notification to the USACE, New Orleans District for authorization under Nationwide Permit 12.				
06/15 – 09/15	City of Baton Rouge Parish of East Baton Rouge, Pecue Lane/I-10 Interchange SPN. H.004104 Project Manager. Provided wetland delineation and reporting for construction of an interchange at I-10 and Pecue Lane adding multiple through lanes on Pecue Lane, entrance/exit ramps on eastbound and westbound I-10. Replacement of two-lane Overpass Bridge and Pecue Lane / Wards Creek bridge, extension to Reiger Road with new intersection at Pecue Lane, and related work. Responsibilities included field investigations, preparation of environmental document, map creation in GIS, and GIS environmental impact analysis.				
02/20 – 09/23	City of Baton Rouge Parish of East Baton Rouge, MoveBR Capacity Project. Project Manager. Mr. Turner served as project manager for four MOVEBR transportation projects in East Baton Rouge Parish: Old Hammond Highway Segment 1, Phases A and B (City-Parish Project No. 19-CP-HC-0034); Bluebonnet Boulevard (Perkins Road to Picardy Boulevard) (City-Parish Project No. 19-CP-HC-0034); Highland Road at Siegen Lane Intersection (City-Parish Project No. 20-CP-HC-0004); Sherwood Forest Extension (Greenwell Springs Road to Joor Road) (City-Parish Project No. 20-CP-HC-0014). Service provided included wetland delineations, preparation of Wetland Data Reports/Requests for Jurisdictional Determination, and submittal of Pre-Construction Notifications to the USACE for authorization under Nationwide Permit 12.				

04/24 – 10/24	Morgan Goudeau & Associates, Inc., Eight Off-System Bridge Replacements across Six Projects (H.014986, H.015013, H.015014, H.015015, H.015016, H.015050). Project Manager. Services provided included wetland delineations and Wetland Findings Reports.
05/24 – Present	Atlas Technical Consultants LLC, MRB South GBR: LA 1 to LA 30 Connector SPN H.013284 Wetland Project Manager. Providence provided NEPA, wetlands, Phase I ESA, and public outreach compliance assistance for the proposed new bridge crossing of the Mississippi River in Iberville Parish, LA. Served as the Wetland Project Manager for the 1,716-acre delineation across 3 proposed alignments. Responsibilities included management of five teams of biologists, coordination with Atlas/DOTD for survey access/landowner permissions, primary Technical Review of Wetland Findings Report, and coordination of a site visit with members of Atlas, LADOTD, and the USACE.

	Firm employed by Providence Engineering and Environmental Group LLC				
	Name	Elizabeth Hunt, RPA		Years of relevant experience with this employer	2
	Title	Principal Investigator		Years of relevant experience with other employer(s)	13
Degree(s) / Years / Specialization			M.A. / Anthropology / 2017 B.A. / Anthropology / 2012		
Active registration number / state / expiration date			Register of Professional Archaeologist, 17020		
Year registered	2017		Discipline	Archaeologist	
Contract role(s) / brief description of responsibilities			Archaeologist, Meets MPR 11 and 12		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
02/21 – 04/21	DOTD, Cultural Resources Survey of 2 acres for the proposed Bonita Bridge replacement site, Morehouse Parish, LA. Project Director. Ms. Hunt served as the Project Director for the survey of approximately two acres in Morehouse Parish, Louisiana. The survey was conducted for the DOTD, on behalf of the Federal Highway Administration (FHWA). The survey was conducted for the proposed replacement site of the Union Pacific Railroad Overpass Bridge. Prior to initiation of fieldwork, Ms. Hunt conducted background and archival research including previously conducted archaeological investigations and previously recorded archaeological sites and historic structures in the region. No archaeological resources were recorded. Given the lack of cultural resources recorded during the survey, a negative findings report was produced for submittal to the Louisiana State Historic Preservation Office (SHPO) as part of consultation under Section 106 of the National Historic Preservation Act (NHPA). Ms. Hunt served as a co-author for this technical report.				
02/26 – Present	Sugar House Road Extension, Rapides Parish, LA. Principal Investigator. A Phase I Cultural Resource Survey was conducted for the Sugar House Road Extension project, which involved evaluating a 26.3-acre Area of Potential Effect (APE) and a 300-foot indirect buffer. Ms. Hunt carried out archival research, a field survey, and documented 15 above-ground resources, all of which were recommended as not eligible for listing on the National Register of Historic Places (NRHP). The survey confirmed that no archaeological sites were present, supporting the conclusion of "no historic properties affected" for compliance with the FHWA regulations.				
01/23 – 08/23	Louisiana Department of Transportation and Development (DOTD), Cultural Resources Survey of 11 acres for the proposed I-49 South, Route US 90 expansion location at Verot School Road, Lafayette Parish, LA. Project Manager. Ms. Hunt served as the Principal Investigator for the survey of approximately 11 acres in Lafayette Parish, Louisiana. The survey was conducted by DOTD, on behalf of the FHWA. The survey was conducted for the proposed expansion of I-49 South, Route US 90 at the segment of Verot School Road. Prior to initiation of fieldwork, Ms. Hunt contacted landowners for permission to survey and conducted background and archival research including previously conducted archaeological investigations and previously recorded archaeological sites and historic structures in the region. Ms. Hunt wrote and prepared the Phase I Cultural Resources Report and provided the document to DOTD for comment before submitting it to SHPO for concurrence.				
04/24 – 10/24	Gulf South Pipeline Company, LLC Phase I Cultural Resources Survey of the Index 301-4 Replacement Project, Bogalusa, Washington Parish, LA. Principal Investigator. Ms. Hunt served as the Principal Investigator for the proposed PN 15340 Index 301-4 Replacement Project in Bogalusa, Washington Parish, Louisiana. The proposed APE measured approximately 61 acres (24.5 hectares). The Phase I Cultural Resources Survey consisted of a pedestrian survey and the 142 shovel test pits across the APE. Additionally, an above-ground resources survey was completed. The survey resulted in the relocation and update of one previously recorded site, identification of one isolated find, and examination of three aboveground resources adjacent to the APE. Based on the findings it was suggested that site 16WA98 was potentially eligible for the NRHP and should be avoided. The client then				

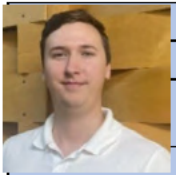
	designed their workplan to have a 50-foot avoidance buffer around the site 16WA98 to avoid any disturbance to the site. Neither the isolated find nor the above ground resources were recommended eligible for the NRHP. No additional archaeological or above-ground resource investigations are recommended for the proposed project. The report was submitted to the SHPO for review and concurrence.
04/23 – 05/24	Cornerstone Chemical Company- UBE C1 Chemicals America, INC., Archaeological and Historical Consultation Letter, Jefferson Parish, LA Principal Investigator. Provided Cornerstone Chemical Company – UBE C1 Chemicals America, Inc., with a letter that initiated consultation to identify historic properties for proposed construction in Jefferson Parish, Louisiana. This letter was submitted to the SHPO in pursuance of Section 106 and the lead federal agency, the United States Army Corps of Engineering (USACE). This letter provided information on the proposed project area, proposed activities, previously conducted investigations and recorded cultural resources within and adjacent to the project area and requested assistance from SHPO for concurrence.
03/24 – 04/25	Phase I Cultural Resources Survey of the Groom Road/Brushy Bayou Storm System Project, East Baton Rouge Parish, LA Principal Investigator. Ms. Hunt served as Principal Investigator for a Phase I cultural resource survey of approximately 4.8 acres in Baker, East Baton Rouge Parish, Louisiana. The survey consisted of 84 STPs. Three positive shovel tests were determined to be isolated finds and are not recommended eligible for the NRHP. No newly recorded archaeological sites or previously recorded sites were identified during the investigation. TerraXplorations Inc. was subcontracted to conduct the aboveground resources survey for the indirect APE. The aboveground resources survey identified one previously recorded LHRI resource, one NRHP-listed property, and 29 newly recorded LHRI aboveground resources. Based on results of the current survey, one previously recorded NRHP-listed property, the Baker High School Auditorium (13001125), remains eligible for listing in the NRHP under Criterion C based on the structure's design and construction which includes a prominent and unique exterior. Ms. Hunt served as a co-author for a technical report that was submitted to the LA DOA, SHPO as part of consultation under Section 106 of NHPA.
01/25 – 04/25	Negative Findings: Phase I Cultural Resources Survey of the PN 16413 BEP-140 Line Lowering Project, Calcasieu Parish, LA Principal Investigator. Ms. Hunt served as the Principal Investigator for the Phase I cultural resources of approximately 14 acres across three project areas. The Phase I cultural resource survey consisted of a pedestrian survey and the excavation of 53 shovel test pits. Based on survey results, no cultural material or archaeological sites were encountered. No aboveground resources 50 years or older were identified using the LA DOA cultural resources online database, historic aerials, topographic maps, or during fieldwork. This will result in a report submitted to SHPO recommending no additional archaeological or above-ground resource investigations for the proposed project.

	Firm employed by Providence Engineering and Environmental Group LLC				
	Name		Christine Halling, RPA	Years of relevant experience with this employer	2
	Title		Senior Archaeologist	Years of relevant experience with other employer(s)	15
	Degree(s) / Years / Specialization		M.S. / Human Biology / 2013 B.S. / Anthropology / 2006		
	Active registration number / state / expiration date		Register of Professional Archaeologist 34906365		
Year registered		2015	Discipline	Archaeologist	
Contract role(s) / brief description of responsibilities			Archaeologist, Meets MPR 11		
Experience dates (mm/yy–mm/yy)		Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/24 – Ongoing		Senior Archaeologist: Phase I Cultural Resources Survey of the Groom Road/Brushy Bayou Storm System Project, East Baton Rouge Parish, Louisiana. Ms. Halling served as Field Director for a Phase I cultural resource survey of approximately 4.8 acres in Baker, East Baton Rouge Parish, Louisiana. The survey consisted of 84 STPs. Three positive shovel tests were determined to be isolated finds and are not recommended eligible for the NRHP. No newly recorded archaeological sites or previously recorded sites were identified during the investigation. TerraXplorations Inc. was subcontracted to conduct the aboveground resources survey for the indirect APE. The aboveground resources survey identified one previously recorded LHRI resource, one NRHP-listed property, and 29 newly recorded LHRI aboveground resources. Based on results of the current survey, one previously recorded NRHP-listed property, the Baker High School Auditorium (13001125), remains eligible for listing in the NRHP under Criterion C based on the structure’s design and construction which includes a prominent and unique exterior. Ms. Halling served as a co-author for a technical report that was submitted to the LA DOA, SHPO as part of consultation under Section 106 of NHPA.			
02/25 – Ongoing		Senior Archaeologist: Phase I Cultural Resources Survey of the Rapides Primary Health Care Center Project, Avoyelles Parish, Louisiana. Ms. Halling served as Field Director for a Phase I cultural resource survey of approximately 1.09 acres in Bunkie, Avoyelles Parish, Louisiana. The survey consisted of 11 shovel test pits (STPs) and there were no new archaeological sites encountered, and no previously conducted surveys or identified archaeological sites overlapped the Area of Potential Effect (APE). The survey did identify 10 new Louisiana Historic Resource Inventory (LHRI) properties from the circa 1950-60’s (eight residential) and 1970’s (two commercial). Ms. Halling will serve as a co-author for a technical report that will be submitted to the Louisiana Division of Archaeology (LA DOA), State Historic Preservation Officer (SHPO) as part of consultation under Section 106 of the National Historic Preservation Act (NHPA).			
08/24 – Ongoing		Senior Archaeologist: Phase I Cultural Resources Survey of the PN 15787 NOLA Lit-Index 293 Encroachment Project, St. Bernard Parish, Louisiana. Ms. Halling served as Field Director for a Phase I cultural resource survey of approximately 39.78 acres in Violet, St. Bernard Parish, Louisiana. Based on the survey, no new cultural material or archaeological sites were encountered and the previously recorded archaeological site 16SB123 was not relocated during this survey. No aboveground resources 50 years or older were identified using the LA DOA cultural resources online database, historic aerials, topographic maps, or during fieldwork. Ms. Halling served as a co-author for a technical report that will be submitted to the LA DOA, SHPO as part of consultation under Section 106 of NHPA.			
01/25 – Ongoing		Senior Archaeologist: Negative Findings: Phase I Cultural Resources Survey of the PN 16413 BEP-140 Line Lowering Project, Calcasieu Parish, Louisiana. Ms. Halling served as Field Director for a Phase I cultural resource survey of approximately 13.9 acres in Iowa, Calcasieu Parish, Louisiana. The survey consisted of 59 pre-plotted STPs. Based on the survey, no cultural material or archaeological sites were encountered. No aboveground resources 50 years or older were identified using the LA DOA cultural resources online database, historic aerials, topographic maps, or during fieldwork. Ms. Halling served as a co-author for a technical report that will be submitted to the LA DOA, SHPO as part of consultation under Section 106 of NHPA.			
03/24 – Ongoing		Senior Archaeologist: Phase I Cultural Resources Survey of the Mile 183 Expansion Project, Ascension Parish, Louisiana. Ms. Halling served as Field Director for a Phase I cultural resource survey of approximately 2.6 acres in Donaldsonville, Ascension Parish, Louisiana, and provided			

	archaeological monitoring for the deep testing survey conducted by a subcontractor. The survey consisted of seven STPs in the APE and deep trenching occurred following shovel testing, conducted via subcontractor TerraXplorations, Inc. and included two trenches within the direct APE. Based on the survey, no new cultural material or archaeological sites were encountered and the previously recorded archaeological site 16AN70 was not relocated during the survey or deep trenching during this project. The aboveground resources survey identified four previously identified historic-age resources within the 1,000-foot visual/indirect APE. None of the previously recorded LHRI properties were recommended eligible for the NRHP. Ms. Halling served as a co-author for a technical report that was submitted to the LA DOA, SHPO as part of consultation under Section 106 of NHPA.
03/24 –12/24	Senior Archaeologist: Addendum 1: New Additions to the Phase I Cultural Resources Survey of the Youngsville Pipeline Replacement Project, Lafayette Parish, Louisiana. Ms. Halling served as Senior Archaeologist for a Phase I cultural resource survey of approximately 19 acres in Lafayette Parish, Louisiana. The survey consisted of 63 STPs and there were no new archaeological sites encountered, and no previously conducted surveys or identified archaeological sites overlapped the APE. No aboveground resources 50 years or older were identified using the LA DOA cultural resources online database, historic aerials, topographic maps, or during fieldwork. Ms. Halling served as field director and conducted the survey for the client for informational purposes. No report was produced.
CHRISTINE HALLING, RPA has over 15 years of archaeology experience and consultation with governmental agencies at the local, state, and federal levels. She has participated in, and supervised, disaster response projects, cemetery desecration response, and archaeological excavations. She has experience in both prehistoric and historic site evaluations and has performed analyses on both prehistoric and historic cultural material, primarily focused on human remains analyses. Her areas of expertise include compliance with state and federal regulations including Section 106 of the National Historic Preservation Act (NHPA) and the Native American Graves Protection and Repatriation Act (NAGPRA) and human remains analysis of the Middle to Lower Mississippi River Valley.	

	Firm employed by Providence Engineering and Environmental Group LLC			
	Name	Morgan Granger, MSHP, MA	Years of relevant experience with this employer	2
	Title	Architectural Historian	Years of relevant experience with other employer(s)	9
	Degree(s) / Years / Specialization		M.S. / 2017 / Historic Preservation M.A. / 2011 / History of Art and Architectural History	
Active registration number / state / expiration date		N/A		
Year registered	N/A	Discipline	Historian	
Contract role(s) / brief description of responsibilities		Architectural Historian, Meets MPR 13		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/25 – 12/25	Contributor: Pecan Valley Golf Course (Fort Worth, Texas). The project required determination of effects for a proposed bridge replacement in the golf course triggering Section 106 of the NHPA due to USACE involvement in the project. Research determined that the bridge is a significant and contributing resource to a potentially NRHP eligible district. The bridge was a significant and original features of the golf course which was designed by one of the nation's renowned golf course architects, Ralph Plummer, during his tenure as president of the American Society of Golf Course Architects. USACE and Texas Historical Commission (THC) determined that the current project scope did not encompass the entire golf course and more research would be required to determine that the potential district was present and therefore determined it was not individually eligible for inclusion in the NRHP.			
01/24 – 12/25	Contributor: Oklahoma Department of Transportation (ODOT) Projects. Various projects supporting ODOT undertakings including the widening of roads, bridge replacements, and creation of new routes or extensions. Projects throughout Roger Mills, Greer, and Beaver Counties have assessed various bridge structures including bridge class culverts for potential project effects and NRHP eligibility in compliance with Section 106 of the NHPA. Many bridges and bridge-class culverts throughout Oklahoma have been previously assessed under several studies and have existing eligibility recommendations established through these reports and programmatic agreements. Many of these projects are still under review by ODOT.			
01/24 – 12/25	Contributor: Texas Department of Transportation (TxDOT) Projects. Various projects supporting TxDOT undertakings including the widening of roads, bridge replacements, and creation of new routes or extensions. This included drafting of Project Coordination Requests (PCRs) and survey reports. Many of these projects are still under TxDOT or THC, acting as the Texas State Historic Preservation Office, review. Projects such as the Primrose Creek Bridges in Waco are currently under review, however, efforts included assessing project impacts under Section 106 of the National Historic Preservation Act (NHPA). The project included assessment of historic bridges and a concrete lined canal. Primrose Creek has been recommended by staff as eligible for listing in the National Register of Historic Places (NRHP) under Criterion A for its association with the Model Cities Program under the areas of community development, social history, and transportation.			
01/22 – 12/24	Contributor: Intensive Level Surveys for PennDOT. The intensive surveys were intended to determine eligibility of resources identified during a reconnaissance level survey for the Pennsylvania Department of Transportation (PennDOT). The Section 106 Compliance projects included extensive deed resource coupled with census and agricultural census data to determine resource significance and development eligibility recommendations. Mrs. Granger also completed architectural descriptions for resources surveyed.			
01/22 – 12/24	Contributor: Reconnaissance and Intensive Level Surveys for TxDOT. The reconnaissance level surveys sought to identify historic resources within the project's area of potential effect in compliance with Section 106 of the NHPA. During reconnaissance level surveys Mrs. Granger utilized historic maps and aerial imagery to identify resources prior to fieldwork. The intensive surveys were intended to determine National Register of Historic Places (NRHP) eligibility of resources identified during a reconnaissance level survey for the Texas Department of Transportation (TxDOT). The projects often included extensive research, deed research, historic map and aerial image review, and fieldwork to determine what resources were extant.			
01/23 – 12/23	Contributor: Nice Bridge Replacement – GEC Services In support of an archaeological data recovery project, the project included genealogical research to locate potential descendants associated with human remains identified during a Maryland Transport Authority (MDTA) bridge improvement project. Mrs. Granger utilized online resources to establish a chain of title, then using data provided by archaeological staff, she attempted to identify living ancestors. Ancestry of the family known to inhabit the property during the estimated dates of the remains were traced matrilineally, and no living			

	ancestors were identified through the maternal line. She then traced ancestry through potential paternal relations and the results of the research were provided to MDTA.
01/22 – 12/22	Author and Surveyor: Historic Resources Survey of Jackson County, Florida. The county-wide survey was funded through the State of Florida utilizing funding from the Emergency Supplemental Historic Preservation Fund in response to Hurricanes Florence, Michael, and Typhoon Yutu. The project included in-depth research, development of a historic context, public outreach, and survey documentation-including completion of FMSF forms-for each historic age resource. The survey identified approximately 8,000 historic age resources. Recommendations were made regarding historic significance and eligibility for inclusion in the NRHP. Mrs. Granger was highly involved in all aspects of the project.
01/22 – 12/22	Contributor: Rock Creek Park Military Road Trail Feasibility. The project sought to determine feasibility of a proposed trail through Rock Creek Park in Washington, DC. The scope included determinations of significance for historic age resources identified within the area of potential effect. Mrs. Granger was responsible for identifying, assessing, and providing determinations of effects for historic resources within the area of effect. These contributions were provided in the final report.
MORGAN GRANGER is an architectural historian who exceeds the Secretary of the Interior's (SOI) Professional Qualification Standards. She has nine years of practice in Cultural Resource Management (CRM) providing preservation, conservation, and historian services to a variety of clients including governmental agencies at the local, state, and federal levels. Ms. Granger has experience with Section 106 NHPA Compliance, Facilities Conditions Assessments for the Department of Veteran Affairs, design guidelines, documentation projects ranging from hand-drawn measured drawings (up to and including Historic American Building Survey [HABS] level) to three-dimensional laser scanning and modeling and has contributed to several grant funded projects. Additionally, she has participated in architectural/cultural/historic resource surveys and building and cemetery condition assessments throughout the United States, and as a student in Bermuda and Scotland. She has worked in several states including Alabama, Arkansas, California, Colorado, Florida, Georgia, Louisiana, Massachusetts, Mississippi, Montana, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Texas, Virginia, Washington, and Washington, DC. Mrs. Granger has experience working with local, state, and federal grant projects and is familiar with requirements and procedures of grant funding. Her areas of expertise include determination of effects, Section 106 compliance, architectural/historic/cultural resource surveys, conditions assessments, resource documentation, and cemetery assessments and mapping.	

	Firm employed by Providence Engineering and Environmental Group LLC		
	Name	Zachary Myers	Years of relevant experience with this employer
	Title	Archaeology Field/ Laboratory Technician	Years of relevant experience with other employer(s)
			2
Degree(s) / Years / Specialization		B.A. / Anthropology / 2017	
Active registration number / state / expiration date		N/A	
Year registered	N/A	Discipline	
Contract role(s) / brief description of responsibilities		Archaeologists- Tech	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
01/23 – 12/24	Archaeological Field/Laboratory Technician: PN 13721 Youngsville Pipeline Replacement Project, Lafayette Parish, LA. Mr. Myers participated in a cultural resource survey to identify cultural resources for a proposed pipeline replacement. He conducted pedestrian a survey and shovel testing within the project area.		
09/24 – Ongoing	Archaeological Field/Laboratory Technician: PN 15828 MLS 26-1 Class Change, DeSoto County, MS. Mr. Myers was involved in a cultural resource survey for a proposed pipeline class change. He conducted a pedestrian survey and shovel testing within the project area, assisted with laboratory analysis, and helped in drafting a technical report.		
01/24 – Ongoing	Archaeological Field/Laboratory Technician: TT Barge Mile 183 Expansion in Donaldsonville, Ascension Parish, LA. Mr. Myers was involved in a cultural resource survey to identify cultural resources that may be potentially impacted by proposed construction activities. He participated in a pedestrian survey and shovel testing within the project area and assisted in drafting a technical report.		
09/24 – Ongoing	Archaeological Technician/Laboratory Technician: TGP Carnes Meter Station Upgrade in Lumberton, Stone County, MS. Mr. Myers assisted in drafting a technical report.		
05/24 – Ongoing	Archaeological Field/Laboratory Technician: Bayou Manchac HDD Project in Prairieville, Ascension and East Baton Rouge Parishes, LA. Mr. Myers was involved in a cultural resource survey to identify cultural resources that may potentially be impacted by a pipeline replacement project. He conducted shovel testing within the project area and assisted in preparing a technical report.		
05/23 – 11/24	Archaeological Field/Laboratory Technician: St. Charles Intermodal Terminal, Killona, St. Charles Parish, LA. Mr. Myers participated in a Phase I cultural resource survey for a proposed industrial facility. He conducted a pedestrian survey and shovel testing within the project area, assisted with laboratory analysis, and assisted in drafting a technical report.		
04/24 – Ongoing	Archaeological Field/Laboratory Technician: Phase I Cultural Resources Survey of 105.05 Acres for Project Souvenir Near Donaldsonville, Ascension Parish, LA. Mr. Myers was involved in a cultural resource survey for the proposed project. He conducted a pedestrian survey and shovel testing within the project area, assisted with laboratory analysis, and helped in drafting a technical report.		
04/24 – 11/24	Archaeological Field/Laboratory Technician: Phase I Cultural Resources Survey of the Index 301-4 Replacement Project, Bogalusa, Washington Parish, LA. Mr. Myers participated in a cultural resource survey to identify cultural resources that may be potentially impacted by a pipeline replacement project. He conducted a pedestrian survey and shovel testing within the project area, assisted with laboratory analysis and technical report preparation.		
ZACHARY MYERS graduated with a B.A. degree from the University of Southern Mississippi in 2017 with a major in Anthropology and a minor in History. He has over ten years of experience as a field archaeologist with projects in Alabama, Arizona, California, Florida, Georgia, Louisiana, Mississippi, New Jersey, North Carolina, Tennessee, and Texas. He is most familiar with historic and precontact archaeology and artifacts in the southeastern United States. He has experience performing Phase I surveys with some notable projects including work at the Bienville and Osceola National Forests, Redstone Arsenal in Alabama, and the Naval Air Station (NAS) Pensacola Base in Florida. Mr. Myers also has extensive experience performing excavations on Phase II and Phase III investigations including projects for the Tennessee Valley Authority, the United States Customs and Border Patrol, and the USACE. Along with experience as a field technician, Mr. Myers has served in crew chief roles and has laboratory experience. He has experience working with Total Stations and handheld GPS units. In the lab, he has processed and analyzed artifacts to proper curation standards.			



Firm employed by Providence Engineering and Environmental Group LLC				
Name	Christopher Coyne		Years of relevant experience with this employer	5
Title	Biologist III		Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			B.S. / 2020 / Natural Resource Ecology and Management	
Active registration number / state / expiration date			Richard Chinn 38-Hour Wetland Delineation Training, N/A, #8969	
Year registered	2021	Discipline		
Contract role(s) / brief description of responsibilities			Wetland Biologist	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i>, “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/21 – 10/21	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Crawford Road / Tiger Branch, SPN H.014229.5, Caddo Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Crawford Road Bridge over Tiger Branch in Caddo Parish.			
08/21 – 9/21	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Nation Road/ Coulee Duralde, SPN. H.014220.5, Acadia Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Nation Road Bridge over Coulee Duralde in Acadia Parish.			
08/21 – 12/21	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Ruffin Drive Over Drain to Youngs Bayou, SPN. H.014232.5, Ouachita Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Ruffin Drive Bridge over a drain to Youngs Bayou in Ouachita Parish.			
08/21 – 12/21	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Auguillard Road Over Coulee, SPN. H.014226.5, St. Martin Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the St. Martin Auguillard Road Bridge over an unnamed coulee in St. Martin Parish.			
03/22 – 03/22	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Doshie Road Over Cherry Winche Creek Tributary, SPN. H.014263.5, Tangipahoa Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the North Hoover Road Bridge over an unnamed creek in Tangipahoa Parish.			
09/21 – 12/21	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Randall Road Over Yellow Water River SPN. H.014262.5, Tangipahoa Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Randall Road Bridge over Yellow Water River in Tangipahoa Parish.			
02/24 – 05/24	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Hales Road Bridges SPN. H.014986.5, Richland Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Hales Road Bridges over Hurricane Creek and an unnamed creek in Richland Parish.			

04/24 – 05/24	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program North Joseph St Over Creek SPN. H.015016.5 Jefferson Davis Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the North Joseph Street Bridge an unnamed creek in Jefferson Davis Parish.
04/24 – 04/24	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Stateline Rd Over Creek SPN. H.015014.5 Tangipahoa Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Tangipahoa Stateline Road Bridge an unnamed creek in Tangipahoa Parish.
07/24 – 08/24	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Gravolet Road Over Drainage Canal SPN. H.015050.5, Plaquemines Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Gravolet Road Bridge over an unnamed drainage canal in Plaquemines Parish.
07/24 – 08/24	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Sibley Rd and Chappedeela Rd Bridges SPN. H.015013.5 Tangipahoa Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Sibley Road Bridge over Morgan Branch and the Chappedeela Road Bridge over Brushy Branch in Tangipahoa Parish.
07/24 – 10/24	Morgan Goudeau & Associates, Inc., Off-System Highway Bridge Program Zeagler Cutoff Over Creek SPN H.015015.5 LaSalle Parish, LA. Field Biologist. Conducted a wetland delineation and completed a Wetland Findings report for the replacement of the Zeagler Cutoff Bridge over an unnamed creek in LaSalle Parish.
08/24– Present	Aucoin & Associates, Inc., Replacement Bridge LA 648: Drain Canal Bridge SPN. H.011963, Lafourche Parish, LA. Field Biologist. Conducted wetland delineation and completed a Wetland Findings report for the replacement of the LA 648 bridge over an unnamed drainage canal in Lafourche Parish. Additionally, prepared and submitted a Joint Permit Application to the Louisiana Department of Energy and Natural Resources and the U.S. Army Corps of Engineers.
05/24 – Present	Atlas Technical Consultants LLC, MRB South GBR: LA 1 to LA 30 Connector SPN H.013284, Multiple Parishes, LA. Field Biologist. Providence provided NEPA, wetlands, Phase I ESA, and public outreach compliance assistance for the proposed new bridge crossing of the Mississippi River in Iberville Parish, LA. Role in the project included conducting wetland delineations on 3 alignment alternatives covering approximately 1,716 acres, subsequent wetland data reporting, and assisting with Phase I Environmental Site Assessment field surveys.

	Firm employed by KTA-Tator, Inc.			
	Name	Jayson Helsel, PE	Years of relevant experience with this employer	27
	Title	Senior Coating Consultant	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization		MS / Chemical Engineering / University of Michigan BS / Applied Science with High Honors / US Coast Guard Academy		
Active registration number / state / expiration date		Professional Engineer: 30090 / LA / 9/30/2026 Certifications: AMPP Senior Certified Coatings Inspector (#N-7356) Protective Coatings Specialist (#2011-930-152) Certified Concrete Coatings Inspector (#25374)		
Year registered	2002	Discipline	Chemical Engineer	
Contract role(s) / brief description of responsibilities		Senior Coatings Consultant / Structure Asset Management Plan Development		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/26 – Present	St Francisville Bridge over the Mississippi River, St. Francisville, Louisiana Senior Coatings Consultant. As a subconsultant to HNTB Corporation (HNTB) KTA has completed a corrosion assessment of the St Francisville Bridge over the Mississippi River located in St. Francisville, Louisiana. The purpose of this assessment was to determine the condition of the exposed weathering steel members and the condition of the existing coatings on the painted portions of the structure in order to develop a maintenance painting strategy. As part of the preliminary design services, Mr. Helsel provided a coating condition assessment (visual, coating thickness, adhesion) sampling, laboratory testing (infrared spectroscopy and lead, cadmium, and chromium testing), chloride testing/remediation, provided maintenance painting recommendations for this project, and provided an opinion of probable construction costs.			
04/25 – 11/25	Dulac Bayou Bridge, Dulac, Louisiana Senior Coatings Consultant. The Dulac Bayou Bridge in Dulac, Louisiana carries LA0057 and two lanes of traffic plus two sidewalks for pedestrians over the Dulac Bayou. The total bridge length is 460 feet with a swing span length of 135 feet, including an open grid deck design. The bridge was constructed in 1971, and most of the structure reportedly still has the original coating system. As a subconsultant to TRC Engineers, as part of the preliminary design services, Mr. Helsel provided a coating condition assessment (visual, coating thickness, adhesion) sampling, laboratory testing (infrared spectroscopy and lead, cadmium, and chromium testing), chloride testing/remediation, provided maintenance painting recommendations for this project, and provided an opinion of probable construction costs.			
05/17 – 06/19	Betsey Ross Bridge, Philadelphia, PA Senior Coatings Consultant. In 2017 – 2019, KTA provided Coating-Related Support for DRPA on the Betsy Ross Bridge. In 2017-2019, as a subconsultant to STV Incorporated (STV), KTA provided as-needed technical coatings-related support services on this project involving the painting and steel repairs to the New Jersey approach to this bridge (Contract BR-19-2016 Phase I). Specifically, KTA assisted STV in the review of coatings-related contractor submittals (e.g., Containment Working Drawings/Procedures (SSPC Guide 6), Lead Health and Safety Compliance Program, Waste Handling Plan, Environmental Compliance Plan, Surface Preparation and Painting Plans, Coating Materials Submittals, etc.) for general conformance with the requirements of the project construction specification. Mr. Helsel provided coatings engineering/consulting services (coatings submittal review).			
06/17 – 06/20	On-Call Structural Coating Consulting Agreement, Various Locations Senior Coatings Consultant. KTA provided coatings-related services on a third consecutive on-call structural coating consulting agreement (426-17-050A – 2017-2020). Structural coating consulting services consisted of performing coating condition assessments, conducting coating condition analyses, proposing painting priorities for steel structures, laboratory paint testing for composition and physical properties, coating failure analysis, developing technical specifications for the cleaning and painting of steel structures. Mr. Helsel provided coatings engineering/consulting services on this contract.			

	Firm employed by KTA-Tator, Inc.			
	Name	James Kretzler	Years of relevant experience with this employer	15
	Title	ASNT Level III	Years of relevant experience with other employer(s)	14
Degree(s) / Years / Specialization		High School Graduate		
Active registration number / state / expiration date		ASNT Level III MT, PT, RT, UT (#186946, expiration 10/31/2030) AWS Certified Welding Inspector (#07020431, expiration 2/1/2028) AAMP Basic Coatings Inspector (#54804, expiration 09/30/2026)		
Year registered	n/a	Discipline		
Contract role(s) / brief description of responsibilities		ASNT Level III / Structure Asset Management Plan Development		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
07/15 – Present	Various Fabrication Projects for Clients in the Transportation Industry NDE Department Manager managing the NDE Department of the KTA Steel, Concrete, and NDE Group. He has financial and operational responsibilities along with business development, hiring, and training for non-destructive examination services. He is providing Level III services internally for KTA and externally for clients that includes writing and reviewing NDE procedures and certifying NDE technicians. He is also providing NDE training services for Level II Magnetic particle, Level II Dye Penetrant inspection as well as Ultrasonic Level I and Level II classes covering UT thickness, straight beam, and angle beam inspections.			
10/21 – 12/21	Various Bridges throughout North Dakota – North Dakota DOT Project Manager for Phased Array Ultrasonic Testing (PAUT) on various bridges throughout the state. KTA was a subconsultant to another engineering firm.			
3/16 – 5/16	I-10 Calcasieu Bridge, Baton Rouge, LA – Louisiana DOTD NDE Supervisor for the UT inspection of the bridge pins on this structure. Mr. Kretzler reviewed the inspection data and issued an opinion regarding the condition of the pins. KTA was a subconsultant to another engineering firm.			
06/15 – 12/19	Steel Fabrication Inspection Contract Statewide – New York State DOT Project Manager for the CWI/NDT inspection and coating inspection services during the fabrication of bridge girders at various shop locations. KTA also provided material sampling services for flat bar and rebar, and verified welding tests in accordance with NYSDOT standards. KTA was the prime consultant for this contract.			
12/12 – 8/15	Steel and Concrete Fabrication Inspection Contracts Statewide – Connecticut DOT Project Manager on three consecutive multi-year contracts for steel and concrete fabrication inspection and coatings inspection services during fabrication operations at various shops. KTA was and is the prime consultant for all of these contracts.			
12/12 – 07/15	Steel Fabrication Inspection Contracts Statewide – Pennsylvania DOT NDE Supervisor overseeing the responsibilities of QA inspectors on bridge fabrication projects in various shops throughout Pennsylvania and Ohio. He reviewed NDE procedures, completed site audits on NDE technicians, and oversaw all NDE activities on various projects.			
06/08 – 12/12	Employee of A&A Consultants, McKees Rocks, PA NDE/CWI Inspector providing these services to three inspection consultant companies as a subconsultant. Mr. Kretzler conducted these inspections for Pennsylvania DOT bridge projects involving girders, cross frames, and tooth dams. He managed and trained a staff of 9 inspectors.			
05/08, 12/09, 1/10	Employee of A&A Consultants, McKees Rocks, PA Inspector performing various inspections for the North Shore Connector Project in Pittsburgh, PA. He performed visual and dye penetrant weld examinations for a temporary bridge and shoring on Tony Dorset Drive spanning the “cut and cover” portion of the light rail system (served as A&A			

	Consultants' Structural Steel Inspection Supervisor). Mr. Kretzler also provided inspections of 30 light poles for this project at Jett Industries, Ellwood City, PA in December 2009, and completed MT/VT inspection of splice plate welds on retaining wall pilings and smoke wall rebar in January 2010.
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	Firm employed by KTA-Tator, Inc.				
	Name	Robert Lanterman		Years of relevant experience with this employer	24
	Title	Supervisor-Other (Senior Coatings Consultant)		Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization			BE / 1999 / Chemical Engineering		
Active registration number / state / expiration date			AMPP Senior Certified Coatings Inspector (#13505; expiration 5/23/2028) AMPP Certified Protective Coatings Specialist (#2015-820-136; expiration 12/31/2027)		
Year registered	n/a		Discipline		
Contract role(s) / brief description of responsibilities			Senior Coatings Consultant / Sampling and Laboratory Testing		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
06/25 – Present	Pennsylvania Department of Transportation, Harrisburg, PA. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman is providing sampling services and is supervising laboratory heavy metals testing services for the rehabilitation of the coating system on the Fort Duquesne Bridge in Pittsburgh, PA. KTA is serving as a subconsultant.				
03/24 – 04/24	Louisiana Department of Transportation and Development, Baton Rouge, LA. Coatings Consultant. Mr. Lanterman performed document review and coating condition assessment services for the US 190 Krotz Springs Bridges (eastbound and westbound) in St. Landry Parish. He prepared a report detailing the findings of the assessment and providing recommendations for the maintenance of the coating system on this bridge. KTA served as a subconsultant.				
03/22 – 03/22	South East Philadelphia Transportation Authority (SEPTA), Philadelphia, PA. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman evaluated the existing coating condition (visual examination, coating thickness and adhesion measurements, substrate examination, and coating sample procurement) on the eastern end of the Market Street Frankford Elevated Viaduct and provided recommendations on appropriate maintenance strategies, opinions of probable construction cost, and modification of the existing SEPTA surface preparation and coating application specifications for use in bidding the work to prospective contractors. KTA served as a subconsultant.				
09/21 – 12/21	Louisiana Department of Transportation and Development, Baton Rouge, LA. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman performed a coating condition assessment and assisted with the development of surface preparation, coating application, and environmental/worker protection and containment specifications/drawing notes for the rehabilitation of the IWGO Bridge in Baton Rouge. KTA served as a subconsultant.				
07/20 – 08/20	Cuyahoga County (OH) Department of Public Works, Cleveland, OH. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman provided coating condition assessment supervision for coatings laboratory testing, development of a maintenance painting strategy and recommendations, and development of an opinion of probable costs for the maintenance painting of the Denison Harvard Bridge in Cleveland. KTA served as a subconsultant.				
02/20 – 05/20	Louisiana Department of Transportation and Development, Baton Rouge, LA. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman provided coating condition assessment services, supervision of coatings laboratory testing, and report preparation for the rehabilitation of the coating system on the Jackson Street (Red River) Lift Bridge in Alexandria, LA. KTA served as a subconsultant.				
02/18 – 06/19	Delaware River Port Authority, Camden, NJ. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman provided coating consulting and project engineering services for a coating condition assessment of the NJ approach spans to the Walt Whitman Bridge in Gloucester, NJ. He performed a coating condition assessment of the spans to develop future maintenance painting strategies. KTA served as a subconsultant.				

03/17 – 05/17	Louisiana Department of Transportation and Development, Baton Rouge, LA. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman performed a coating condition assessment, supervised coatings laboratory testing, and prepared a report with recommendations for the rehabilitation of the coating system on the US 90 Morgan City Bridge and Nearby Structures in Morgan City, LA. KTA served as a subconsultant.
02/17 – 03/17	Louisiana Department of Transportation and Development, Baton Rouge, LA. Coatings Consultant / Sampling and Laboratory Testing. Mr. Lanterman performed a condition assessment of the weathering steel tower and girders on the I-310 Luling Bridge in Luling, LA. He prepared a report detailing the conditions found and providing recommendations for the remediation of the corrosion problems on this bridge. KTA served as a subconsultant.

	Firm employed by Urban Systems, Inc.			
	Name	Alison Catarella-Michel, P.E., PTOE, PTP, RSP _{2i}	Years of relevant experience with this employer	25
	Title	President/Transportation Engineer	Years of relevant experience with other employer(s)	3
Degree(s) / Years / Specialization		BS / 1997 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 30261 / Louisiana / 03/31/2027 Professional Traffic Operations Engineering: 1023 / Louisiana / 11/06/2026 Professional Transportation Planner: 626 / 11/20/2026 Road Safety Professional 2i: 148 / 03/20/2029		
Year registered	2002	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Traffic Engineering Manager / QA-QC		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/21 – 05/23	Huey P. Long Bridge Widening - (Westbank and Eastbank Approaches and Main Bridge Deck Widening) Lead Traffic Engineer/Traffic Engineering Manager. The contractor for the Huey P. Long Widening in Jefferson Parish, LA brought on USI about half-way into construction to improve the flow of traffic during required closures. Ms. Michel prepared traffic control devices plans (TCDP) for multiple phases of construction. The TCDPs also included the design of a traffic signal plan for the installation of temporary signal heads to control lane shifts.			
05/09 – 05/10	LA 1088/I-12 Interchange Lead Traffic Engineer/Traffic Engineering Manager. Ms. Michel updated the permanent signage plans for the interchange on I-12 at LA 1088 in St. Tammany Parish, LA to reflect the new alignment. TCDP were designed based on the sequence of construction drawings and two phases of construction. Specifications for required S-items and a construction cost estimate were provided.			
02/10 – 07/10	US Army Corps of Engineers LPV 16.2 Bonnaville Boulevard Floodgate Lead Traffic Engineer/Traffic Engineering Manager. Ms. Michel designed the traffic control devices plans for construction of the LPV 16.2 Bonnaville Blvd. Floodgate in Jefferson Parish, LA. Plans included: haul routes, bypass for the ramp tie in to Bonnaville; diverting Bonnaville SB traffic to the temporary bypass ramp; and diverting NB traffic to Bonnaville SB travel lanes. Plan changes due to unforeseen conditions included details for floodwall construction diverting Bonnaville NB and SB traffic to the temporary roadway and closing Bonnaville Boulevard. The plans met USACE, Jefferson Parish and MUTCD standards. Inspections were conducted after any changes to the traffic control plan and/or at 30-day intervals.			
01/14 – 08/19	US 90 (I-49 South) Albertson’s Parkway to Ambassador Caffery Design-Build, Lafayette Parish, LA (LADOTD) Lead Traffic Engineer/Traffic Engineering Manager. Ms. Michel was a key member for this design-build project which converted US 90 to a controlled access facility by converting at-grade intersections to an interchange. The bridge structure had to span the intersection and railroad. She supervised the design and analysis and performed QA/QC for temporary and permanent signal plans, permanent signage plans, temporary traffic control plans and the Transportation Management Plan. Prepared Signal Plans using DOTD’s latest TSI format. Analysis included developing design hour volumes for the design year and modeling signals in Synchro. Phasing and timing were developed for both permanent and temporary signal operation.			
12/18 – 05/19	Manhattan Signal Controller Upgrades Lead Traffic Engineer/Traffic Engineering Manager. Traffic signal modification plans for 11 intersections along the Manhattan Boulevard corridor in Jefferson Parish, Louisiana were prepared in accordance with Jefferson Parish and Manual on Uniform Traffic Control Devices (MUTCD) standards. The			

	modifications included controller component upgrades, video detection and pedestrian accommodations at select intersections. During the project Ms. Michel offered her technical expertise from over 17 years of designing traffic signals and preparing technical specifications for Jefferson Parish.
02/20 – Present	LA 23: Belle Chasse Bridge & Tunnel (LADOTD) Lead Traffic Engineer/Traffic Engineering Manager. Ms. Michel is managing USI's tasks for Owner Verification services focused on reviewing design plans for traffic related submittals from the design-builder. These submittals included capacity analysis, plans for traffic signals, signage and striping. Ms. Michel conducted QA/QC reviews to confirm adherence with LADOTD standards and the MUTCD. During construction, Ms. Michel will provide support by reviewing Traffic Control Devices Plans for proposed lane closures, detours and advanced warning signage.

	Firm employed by Urban Systems, Inc.			
	Name	Nicole Stewart, PE, PTOE	Years of relevant experience with this employer	20
	Title	Vice President / Transportation Engineer	Years of relevant experience with other employer(s)	1.5
Degree(s) / Years / Specialization		BS / 2004 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 34750 / Louisiana / 09/30/2027 Professional Traffic Operations Engineering: 2923 / Louisiana / 08/14/2027		
Year registered	2009	Discipline	Civil Engineer	
Active registration number / state / expiration date		2923 / Louisiana / 08/14/2027- Professional Traffic Operations Engineering		
Contract role(s) / brief description of responsibilities		Traffic Engineer / Design Analysis and TMPs		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
02/15 – 06/16	Bridge Preventative Maintenance District 61 (LADOTD) Ms. Stewart was the Principal In Charge for Traffic Management Plans (TMP) for bridge replacement and repairs for various locations in Louisiana. This included developing various levels of TMP's based on LADOTD EDSM guidelines. Tasks included conducting capacity analysis, safety analysis, detour analysis and developing proposed mitigations where applicable. For the reconstruction of the LA 1 bridge over the Intracoastal Waterway, a detailed Level 3 TMP was prepared. For this TMP, detailed work zone impact management strategies were developed to help minimize the project's impact on mobility.			
04/10 – 09/11	I-10 Crossing - Irish Bayou Bridge Ms. Stewart was the Project Manager for this project which involved designing traffic control devices plans for the I-10 Highway Crossing Levee Enlargement project at Irish Bayou Road in New Orleans East. The plans included multiple and phased road closures of a six (6) lane section of Interstate 10 including nighttime closures. In addition to managing the project, she was responsible for QA-QC.			
07/23 – 10/23	LA 67 (Plank Road) over US 61 (Airline Highway) Ms. Stewart served as Lead Traffic Engineer . A Level 3 Transportation Management Plan was prepared for the repairs to the Plank Road Bridge over Airline Highway. This effort was managed by Ms. Stewart. She led data collection and identified the traffic management challenges that would be faced during construction. She identified alternate routes that could be used while the necessary repairs were made and evaluated the expected traffic operations along the detour roadways. Ms. Stewart also played a key role in identifying traffic control phasing that would minimize the impact to motorists.			
05/18 – 04/19	TMP for I-10: West of 108 to I-210 Interchange: Rubblize and Overlay (LADOTD) As the Lead Engineer for this Traffic Management Plan, Ms. Stewart was responsible for the preparation of the safety analysis. She conducted the analysis per the guidelines set forth by LADOTD in <i>Guidelines for Crash Data Analysis</i> for this TMP in Lake Charles, LA. She conducted queue analysis to identify when lane closures would be permitted, identified the construction impact area and reviewed crash data for more than 350 collisions. Ms. Stewart identified trends and calculated crash rates and determined that the section of I-10 that was going to be rubblized had a crash rate that was higher than the statewide average and required mitigation.			
09/11 – 02/12	Williams Boulevard Floodgate Ms. Stewart served as Project Traffic Engineer . The design of Traffic Control devices Plans including haul routes were prepared for the two phased closure of Williams Boulevard at the Lake Pontchartrain Levee Floodgate by Ms. Stewart. The plans were prepared in accordance with Jefferson Parish and MUTCD Standards. Once the plan was implemented Ms. Stewart conducted inspections.			

06/24 – 02/25	LA 1: Port Allen Bridge Replacement Ms. Stewart was the Principal In Charge of the safety review for the design exception required for the construction of the LA 1 northbound bridge of the Intracoastal Waterway. She performed the final quality assurance check of the safety evaluation including reviewing the existing crash summaries and crash modification factor determination.
06/11 – 03/12	Southeast Louisiana Urban Flood Control Project Improvements To Two-Mile Canal (Patriot Street Canal), Phase I, Barataria Blvd To First Avenue Canal Ms. Stewart served as Project Traffic Engineer . Ms. Stewart designed the Traffic Control Devices Plans for the improvements to the Two Mile Canal. These plans included traffic closure details, signage, flagmen, and haul routes. Ms. Stewart conducted inspections throughout construction to confirm compliance with the plans that had been approved by Jefferson Parish.
03/12 – 11/13	MacArthur Interchange Signal Modification/ Signage & Striping / Traffic Control Devices Plans (LADOTD) Ms. Stewart served as Project Traffic Engineer . The traffic study to evaluate the existing and projected operating conditions of the lower Westbank Expressway was prepared by Ms. Stewart. In the second phase, Ms. Stewart designed the new traffic signals for the interchange and adjacent signalized intersections. She prepared the striping and signage plans to accommodate the ramp changes and prepared Traffic Control Devices Plans for the various stages of construction
03/10 – 07/10	USACE Traffic Control Devices Plans Ms. Stewart served as Project Traffic Engineer . Ms. Stewart has designed numerous Traffic Control Devices Plans to meet US Army Corps of Engineers, LADOTD and MUTCD standards. The plans and specifications included, but were not limited to, the proper placement of temporary Traffic Control Devices (signs, barricades, drums, roadway markings, etc.) to facilitate traffic safely and efficiently through the traffic control zone. Haul routes were designated when necessary. Many of the plans were for Corps of Engineers' projects.

	Firm employed by Urban Systems, Inc.				
	Name	Christine M. Darrah, PE		Years of relevant experience with this employer	11
	Title	Transportation Engineer		Years of relevant experience with other employer(s)	20
Degree(s) / Years / Specialization			BS / 1997 / Civil Engineering		
Active registration number / state / expiration date			Professional Engineer: 28528 / LA / 09/30/2027		
Year registered	1999	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Traffic Engineer		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
03/21 – 04/21	Entergy Louisiana, I-610 Transmission Line Crossing at Frenchman Ms. Darrah was the Project Engineer for the interstate closure project to assure public safety during overhead transmission lines repairs, this included a full closure of both directions of I-610 and westbound on ramp Elysian Fields Ave, in New Orleans. Ms. Darrah coordinated the six hour interstate closure and associated detours with LADOTD and City of New Orleans, LA . She designed Traffic Control Devices Plans applying MUTCD, LADOTD and City of New Orleans standards for proper placement of traffic control devices including portable changeable message boards. Ms. Darrah utilized AutoCAD to assist in final preparation of plans.				
04/18 – 01/22	N. Peters Sidewalk Expansion The Project Manager for the N. Peters sidewalk expansion project was Ms. Darrah. She prepared construction drawings and specifications for the reconstruction of the sidewalk adjacent to Canal Place Shopping Center in the Downtown Development District (DDD). The plans included the geometric layout, grading, drainage, street lighting, striping and traffic control. The plans followed all DDD, MUTCD, ADA, New Orleans DPW and S&WB requirements. Ms. Darrah also provided Construction Management Services. This included field inspections, responding to inquiries and reviewing contractors invoices.				
09/14 – 12/14	SELA 26 Widening of Florida Ave. Canal Phase II and III (LADOTD) As Traffic Engineer , Ms. Darrah designed Traffic Control Devices Plans to meet US Army Corps of Engineers, LADOTD and MUTCD standards. The plans and specifications included, but were not limited to, the proper placement of temporary Traffic Control Devices (signs, barricades, drums, roadway markings, etc.) to facilitate traffic safely and efficiently through the traffic control zone. Haul routes were designated when necessary.				
01/14 – 07/17	North Terminal Louis Armstrong New Orleans International Airport As Traffic Engineer , Ms. Darrah led the design of the Maintenance of Traffic plans for the landside access roadways. The plans were designed in accordance with the Manual of Uniform Traffic Control Devices and LADOTD standards. Ms. Darrah also prepared specifications for the maintenance of traffic items.				
06/22 – 10/22	KCS Acadian Thruway This project included lane closures and full closure of Acadian Thruway at the KCS bridge near the I-10 interchange in East Baton Rouge Parish. As Traffic Engineer , Ms. Darrah prepared the Traffic Control Devices Plans applying MUTCD and LADOTD standards for proper placement of traffic control devices. Additional project efforts included designing lane closures on an I-10 onramp for laydown access and police-controlled haul routes.				
03/17 – 03/18	Port of New Orleans, Milan St Terminal As the project's Lead Engineer Ms. Darrah designed Construction Sequencing and Permanent Striping Layouts and Signage plans. Construction				

	sequencing included keeping port tenants fully operational through each phase of construction. All plans were prepared in accordance with LADOTD and MUTCD guidelines.
07/22 – 08/22	Mossville Traffic Control Devices Plan As the Project Manager Ms. Darrah designed Traffic Control Devices Plans for two rolling closures of I-10 and associated ramps in Lake Charles, LA for transmission line repairs. Efforts included designing plans for interstate closures and detours. Ms. Darrah coordinated with LADOTD and Calcasieu Parish in identifying optimal locations for Dynamic Message Signage.
01/14 – 07/17	North Terminal Louis Armstrong New Orleans International Airport As Traffic Engineer, Ms. Darrah led the design of the Maintenance of Traffic plans for the landside access roadways. The plans were designed in accordance with the Manual of Uniform Traffic Control Devices and LADOTD standards. Ms. Darrah also prepared specifications for the maintenance of traffic items.
11/20 – 02/23	US 190 at Northshore and Camp Villere Roundabouts As Project Engineer, Ms. Darrah oversaw the design of permanent striping & signage plans per LADOTD standards and specifications. She also managed the design of temporary traffic signals that will be required during the multiple phases of roundabout construction. A level 2 Traffic Management Plan (TMP) was also prepared. Ms. Darrah coordinated with the prime-consultant, St Tammany Parish, and LADOTD as needed.

	Firm employed by Urban Systems, Inc.			
	Name	Matthew Morgan, PE, PTOE	Years of relevant experience with this employer	13
	Title	Transportation Engineer	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		BS / 2009 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 47060 / LA / 03/31/2027		
Year registered	1999	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Traffic Engineer		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
09/20 – 07/21	Port Allen Canal Bridge TMP Mr. Morgan assisted with the preparation of the Port Allen Traffic Management Plan by leading the traffic data collection and analysis efforts. His responsibilities included collecting and reviewing traffic count data, turning movement volumes, and queue observations at key intersections throughout the project area. Mr. Morgan performed detailed queue length analyses to evaluate intersection performance and identify potential congestion and delay points under both existing and proposed conditions. He also contributed to the safety assessment by reviewing field observations, identifying areas with elevated risk of conflict, and developing recommendations to enhance safety during construction activities. In addition, he assisted in compiling data summaries and supporting materials for inclusion in the final Traffic Management Plan report.			
09/23 – Ongoing	I-10 NO CBD3 (Poydras-Louisa) The project objective was to identify strategies to minimize traffic delays and enhance safety within the I-10 corridor through downtown New Orleans during construction activities. Mr. Morgan contributed to the preparation of the Transportation Management Plan (TMP) by leading the safety analysis and developing the traffic management documentation in accordance with LADOTD’s TMP requirements. He analyzed crash data within the project impact area to establish baseline safety performance and identify potential areas of concern. In addition, Mr. Morgan assisted with the preparation of temporary traffic control plan elements to support safe and efficient traffic operations throughout the construction period.			
03/22 – 09/22	Hundred Oaks Broussard Bridges TCDP Traffic Control Devices Plans (TCDP) in East Baton Rouge Parish, LA were to provide adequate advanced notice and signage to drivers for the closure of two local road bridges. Mr. Morgan led the design of the TCDP for each bridge closure which incorporated local municipalities’ standards, and the Manual on Uniform Traffic Control Devices (MUTCD). Mr. Morgan used aerial photography to designate placement of detour and advanced warning signage. He oversaw the creation of the plans in AutoCAD.			
01/25 – Ongoing	Bonnabel Drainage Improvements The objective of the project was to design a traffic signal modification to accommodate construction of a culvert on the west side of the signalized intersection of Bonnabel Blvd at Veterans Blvd. Mr. Morgan assisted in the development of signal modification plans in accordance with Jefferson Parish standards and the Manual on Uniform Traffic Control Devices (MUTCD). He contributed to adjustments in signal equipment and layout to maintain safe and efficient traffic operations during construction. Mr. Morgan also assisted in the preparation of Traffic Control Device Plans (TCDP) to support the phased construction activities.			

06/20 – 08/20	Districtwide Intersection Improvement Project (District 6) Mr. Morgan assisted the lead designed for a project to develop low-cost safety improvements at 16 intersections throughout District 6 in Mississippi including striping and signage. Tasks he performed included field visits at each intersection to confirm existing conditions and assist with developing a plan targeted at improving safety based on the type of intersection and level of severity previously determined by MDOT. The tasks also included evaluating each intersection to identify underlying safety issues such as sight distance and pavement conditions. Mr. Morgan assisted in developing construction/stripping plans and cost estimates using MDOT's templates and standards.
01/23 – 11/24	Inner Harbor Navigation Canal (IHNC) Lock Replacement Traffic Study Mr. Morgan was the lead Engineer for a traffic study to analyze existing and projected vehicular operational and safety conditions for the Inner Harbor Navigational Canal (IHNC) lock replacement near the St. Claude, Claiborne, and Florida Bridges. He conducted field observations and assisted in the collection of vehicular volume, class and speed data. Mr. Morgan reviewed the vehicular data along with historical bridge logs, which included when bridges opened to allow marine vessels to pass and halted vehicular traffic, to identify peak periods for analysis. He reviewed the Regional Planning Commission's Regional Transportation model data to estimate the anticipated growth in the study area. Mr. Morgan reviewed crash/safety history to identify crash characteristics, the Level of Service of Safety (LOSS) for major intersections, existing safety concerns, and high crash locations. He analyzed existing and future conditions using VISSIM microscopic traffic simulation software and compared measures of effectiveness. Mr. Morgan prepared technical reports that summarized the data collection, safety findings, and analysis results. He participated in weekly meetings with stakeholders to communicate and coordinate project milestones.

	Firm employed by Moffatt & Nichol Inc.			
	Name	Chace Hulon, PE	Years of relevant experience with this employer	11
	Title	Project Manager – Engineering Condition Assessment Lead; Asset Management	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization		BS / 2005 / Civil Engineering		
Active registration number / state / expiration date		Professional Engineer: 39701 / LA / 09/30/2027 Certifications: Bridge Inspection Refresher Training; Safety Inspection of In-Service Bridges; Underwater Bridge Repair, Rehabilitation and Countermeasures; Stream Stability and Scour at Highway Bridges for Bridge Inspectors; NSTM Inspection Techniques for Steel Bridges; Work Zone Traffic Control for Maintenance Operations; Society of Professional Rope Access Technicians; ADCI Dive Supervisor		
Year registered	2015	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Underwater Inspections		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/14 – Present	H.009730.5: Underwater Bridge Inspections, Statewide, LA - LADOTD Project Manager and Inspection Team Leader for M&N's fourth consecutive contract to provide NBIS Underwater Bridge Inspections across the state, but focused in Districts 07, 03, 61, and 62. When completed, a total of 2,712 bridges will be inspected under all task orders combined. Managed and led in-depth inspections on signature bridges over large waterways with deep foundations and dynamic channel conditions. Inspections augmented high resolution multibeam acoustic imaging technology to accurately monitor streambed conditions and structural deficiencies between inspection cycles. Immediately responded to several emergency requests for engineering condition assessments and repair recommendations.			
01/23 – 02/26	H.009730.5: IDIQ for Complex Bridge Inspection, Statewide, LA - LADOTD Project Manager and Chief Editor for updates to 2020 bridge maintenance manuals to incorporate the 2022 NBIS Final Rule. Delivered On-System, Off-System, and Coding & Field Guides, published in Dec 2024 for full compliance by 2025 and FHWA audit readiness. Collaborated with LaDOTD, led monthly progress meetings, and streamlined inspection forms and guidance for usability. Performed inspections on complex movable, long-span, cable-stayed, and fracture-critical bridges using rope access, UAS, and nondestructive testing. Installed SHM systems, assessed NSTM deficiencies, and evaluated structural conditions. Managed QC review processes and applied traffic-minimizing inspection methods.			
06/22 – 12/24	USACE Vicksburg District and ERDC, Bridge Inspection Services at USAG Fort Polk, Leesville, LA - USACE Project Manager and Team Leader for the condition assessments reportable bridges in the Fort Polk inventory. M&N was tasked with three consecutive projects at Fort Polk from 2022-2024 to inspect a total of 156 roadway and railroad bridges. Structure types included multi-beam reinforced concrete bridges, reinforced concrete pipe and box culverts, and corrugated metal arch bridges and pipe culverts. Led and supervised the underwater inspection of four bridges with high water levels to assess undermining of spread footings and provided repair recommendations and ROM cost estimates for repair. Performed final quality assurance report reviews and coordinated the submittal packages.			
11/23 – 06/25	MDOT 2023 IDIQ Underwater Bridge Inspections, Statewide, MS - MDOT Project Manager responsible for a three-year retainer contract for Level I, II, and III underwater inspections of 69 bridges in MDOT Districts 5 and 2 in accordance with FHWA BIRM, AASHTO MBE, current NBIS requirements and the MDOT PONTIS Inspection Manual for Bridges. Reviewed and			

	evaluated critical structural conditions and communicated necessary actions of remedy. Responded within 24 hours to an emergency inspection request. Underwater acoustic imaging techniques were deployed to map out limits of scour and quantities required for a riprap repair. M&N is currently on our third IDIQ retainer contract.
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	Firm employed by Moffatt & Nichol Inc.				
	Name	Bryan Tyson, PE, ADCI		Years of relevant experience with this employer	6
	Title	Engineering Condition Assessment Lead; Structural Engineer; ADCI Diver		Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization			MS / 2010 / Civil Engineering BS / 2008 / Civil Engineering		
Active registration number / state / expiration date			Professional Engineer: 43425 / LA / 03/31/2027 Certifications: Bridge Inspection Refresher Training; Safety Inspection of In-Service Bridges; Underwater Bridge Inspection; FAA Remote Pilot; NSTM Inspection Techniques for Steel Bridges; ATSSA TCS Work Zone Safety; Society of Professional Rope Access Technicians; ADCI Air Diver		
Year registered	2015	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Engineer – Diver for Bridge Investigations		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
04/24 – Present	H.009730.5: In-Depth Inspections of Complex Bridges, Statewide, LA – LADOTD Inspection Team Leader for in-depth inspection (fulfilling both routine and fracture critical inspections) of several large bridges within Louisiana. Provided site mob/demob and bridge inspections. Level III inspections were completed in accordance with FHWA, BIRM, AASHTO Manual for Bridge Evaluation, AASHTO BEIM, and the LaDOTD Bridge Inspection Manual. Bridges included Interstate 10 (John James Audubon) Bridge over Mississippi River, Ventress with in-depth inspection of structure’s towers and cable stays using rope access techniques.				
02/23 – 12/25	H.009730.5: In-Depth Inspections of Complex Bridges, Statewide, LA - Specifications for the National Bridge Inventory (SNBI) Program Development and Manual Publications - LADOTD Structural Engineer for update & further development of Bridge Inspection Manual (including off-system directives), Bridge Load Rating Manual, and Coding & Field Guide. Update resulted from recent NBIS changes in CFR & implementation of SNBI. Manual will be fully compliant with the FHWA SNBI Program Metrics in accordance with published timeline. The manual will be uniquely ordered in a systemic fashion with appendix to store vital updated forms for Bridge Inspection Program. M&N has been retained for 5 years to provide critical updates following NBIS changes.				
06/22 – Present	H.009730.5: Underwater Bridge Inspections, Statewide, LA - LADOTD Inspection Team Leader for two tasks (to date) under M&N’s third, consecutive contract to provide UW NBIS bridge insp. statewide. When completed, a total of 699 bridges will be inspected under those two tasks. Includes in-depth UWI on signature bridges over large waterways with deep foundations and dynamic channel conditions. Inspections augmented NDE acoustic imaging technology to consistently monitor streambed changes and structural deficiencies between inspection cycles. Responded to several emergency requests for inspection within hours to days utilizing local personnel.				
06/17 – 04/18	H.009730.5: Underwater Bridge Inspection of Large River Crossings, Statewide, Louisiana - LADOTD Structural Engineer and Inspection Team Leader/Diver for two tasks under a five-year, open-end retainer contract to perform underwater bridge inspections throughout Louisiana. Provided Level I, II, and III inspections of submerged elements in accordance with FHWA, BIRM, AASHTO MBE, current NBIS requirements, and LADOTD Engineering & Maintenance Directives. Bridge types included movable swing span, bascule, truss, timber stringer, cable-stayed, single & multi-span bridges up to 8 miles long. Assisted with preparation of NBIS inspection reports. During the two tasks, Bryan provided inspection of 41 major bridges over large waterways with deep foundation & dynamic channel conditions. Assisted preparation of NBIS inspection reports.				

 Firm employed by Moffatt & Nichol Inc.					
Name		Christopher "Chip" Eschenbach, ADCI, CWI		Years of relevant experience with this employer	8
Title		Survey and Subsurface Investigations Lead; NBIS Team Leader; ADCI Dive Supervisor		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			AS / 2015 / Welding		
Active registration number / state / expiration date			Certifications: Bridge Inspection Refresher Training; Safety Inspection of In-Service Bridges; Underwater Bridge Inspection; Certified Weld Inspector; NSTM Inspection Techniques for Steel Bridges; ATSSA TCS Work Zone Safety; Society of Professional Rope Access Technicians; ADCI Dive Supervisor		
Year registered	N/A		Discipline	N/A	
Contract role(s) / brief description of responsibilities			NBIS Underwater Team Leader and Marine Mapping Specialist		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
07/21 – Present	H.009730.5: Underwater Bridge Inspections, Statewide, LA – LADOTD NBIS Team Leader, Dive Supervisor, and Surveyor responsible for bridge inspection records and ratings, preparing dive safety plans and supervising high risk dive operations, and deploying the high resolution multibeam sonar system for data collection surveys. All bridge inspections over large waterways with high-risk environmental conditions were augmented with acoustic imaging technology. Hydrographic surveys were performed using the NORBIT WINGHEAD i77h (now the WINGHEAD X) multibeam sonar using a transducer array. Measurements are collected with integrated GNSS/INS systems and can be further processed with NOAA Continuously Operating Reference Stations (CORS) Network (NCN) to reduce measurement uncertainties. Two-and-three dimensional bathymetric maps can be produced to provide a georeferenced model of the riverbed near the structure. Provided quality control reviews of each visualization is through the QPS QINSy product, Qimera, and Applanix POSPac MMS systems. Provided report development and reviews for accuracy and standardization across teams.				
09/19 – 03/20	H.009730.5: Underwater Bridge Inspection of Large River Crossings, Statewide, Louisiana – LADOTD NBIS Inspector for the five-year retainer contract to perform Level I, II, and III underwater bridge inspections in accordance with NBIS and AASHTO Manual for Bridge Element Inspection. Completed underwater inspection fieldwork, inspection reports, and quality control reviews. Underwater acoustic imaging techniques were used to locate structural deficiencies, identify potential undermining, observe the limits of scour, and document the limits of riprap installations.				
10/20 – 12/23	H.009730.5: In-Depth Inspections of Complex Bridges, Statewide, LA – LADOTD NBIS Inspector for routine bridge inspections throughout Louisiana, including 100% visual inspections in accordance with NBIS requirements. Performed a routine bridge inspection of the cable-stayed Audubon Bridge above the deck utilizing rope access techniques in St. Francisville. Responsibilities included preparing SPRAT and climbing gear for inspection, coordinating with the other climbing teams, performing inspection on each cable for cable-stay bridge using rope access and performing inspection on the cable-stay towers, relaying defects and photographing defects found.				
04/24 – 07/25	2023 IDIQ Underwater Bridge Inspections, Statewide, MS – MDOT Engineering Technician Diver responsible for maintaining the diving and inspection equipment, planning and preparing all necessary tools and information, and providing field notes and observations. Maintaining the inspection equipment entails routine maintenance, proper record keeping, using the manufacturer's recommendations to maintain high standards for our inspections, and ensuring that the industry standards are met before anything is used. Planning and preparation have included the tools that are available for use and that all safety concerns are addressed. Providing field notes and observations using a diver or a non-diving inspection and taking photos or video.				

	Firm employed by Moffatt & Nichol Inc.				
	Name	Jeffrey Gazarek, COSS, COSM		Years of relevant experience with this employer	11
	Title	Safety Manager; NBIS Team Leader; ADCI Dive Supervisor		Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization			ADCI / 2005 / Divers Institute of Technology		
Active registration number / state / expiration date			Certifications: Bridge Inspection Refresher Training; Safety Inspection of In-Service Bridges; Underwater Bridge Inspection; Certified Weld Inspector; NSTM Inspection Techniques for Steel Bridges; ATSSA TCS Work Zone Safety; Society of Professional Rope Access Technicians; Certified Occupational Safety Specialist and Manager; OSHA MEWP Trainer; ADCI Dive Supervisor		
Year registered	N/A	Discipline	N/A		
Contract role(s) / brief description of responsibilities			NBIS Underwater Team Leader and Dive Safety Officer		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
07/21 – Present	H.009730.5: Underwater Bridge Inspections, Statewide, LA – LADOTD Site Safety Specialist and Senior Dive Supervisor responsible for maintaining the diving and inspection equipment, planning and preparing all necessary tools and information, providing field notes and observations, and writing reports. Provides routine maintenance of the inspection equipment and proper record keeping, uses the manufacturer's recommendations to maintain high standards for our inspections, and ensures that the industry standards are met before anything is used. Identifies the inspection locations for planning and preparation, reviews previous inspection data, identifies the proper lodging and safety accommodations, confirms tools are available for use, and confirms that safety concerns are addressed. Provides field notes and observations of the field data collection process, using a diver or non-diving inspector, and taking photos, video, or using acoustic imaging to collect data.				
09/19 – 03/20	H.009730.5: Underwater Bridge Inspection of Large River Crossings, Statewide, Louisiana - LADOTD NBIS Inspector for the five-year retainer contract to perform Level I, II, and III underwater bridge inspections in accordance with NBIS and AASHTO Manual for Bridge Element Inspection. Completed underwater inspection fieldwork, inspection reports, and quality control reviews. Underwater acoustic imaging techniques were used to locate structural deficiencies, identify potential undermining, observe the limits of scour, and document the limits of riprap installations.				
10/20 – 12/23	LADOTD IDIQ Contract for In-Depth Bridge Inspections, Statewide, LA - LADOTD NBIS Inspector for routine bridge inspections throughout Louisiana, including 100% visual inspections in accordance with NBIS requirements. Performed a routine bridge inspection of the cable-stayed Audubon Bridge above the deck utilizing rope access techniques in St. Francisville. Responsibilities included preparing SPRAT and climbing gear for inspection, coordinating with the other climbing teams, performing inspection on each cable for cable-stay bridge using rope access and performing inspection on the cable-stay towers, relaying defects and photographing defects found.				
04/24 – 07/25	2023 IDIQ Underwater Bridge Inspections, Statewide, MS - MDOT Safety Manager responsible for the review and approval of dive and field safety plans for specialty access projects, both above- and below-water. This included oversight of diving operations, rope access, fall protection, mobile elevated work platforms, and confined space safety.				

17. Firm Experience:

Firm name	Hardesty & Hanover, LLC	Past Performance Evaluation Discipline(s)*	Bridge
Project name	Bridge Rehabilitation for Five Movable Bridges	Firm responsibility (prime or sub?)	Prime
Project number	4400021516	Owner's name	Louisiana Department of Transportation
Project location	LADOTD Districts 02 and 61 – Lafourche, Terrebonne, and Pointe Coupee Parishes, LA	Owner's Project Manager	Fallon M. Farber, PE – Assistant Bridge Design Administrator (Mechanical and Electrical Units); TJ Dunlevy, PE – Mechanical Design Manager
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802-4438 225-379-1986 fallon.farber@la.gov		
Services commenced by this firm (mm/yy)	03/25	Total consultant contract cost (\$1,000's)	\$5,096
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)	\$5,000

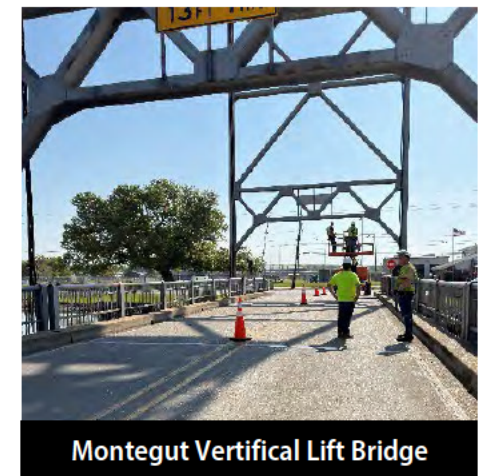
Under LADOTD Contract No. 4400021516, H&H serves as the prime consultant and Engineer of Record for the inspection, scoping, design, and construction-related engineering services (CRES) for five (5) vertical lift movable bridges in the LADOTD Movable Bridge Rehabilitation Program. The scope of work encompasses full structural, mechanical including HVAC and plumbing, electrical, and architectural rehabilitation of each bridge to extend service life 30–40 years with routine maintenance, remove existing load postings where practical, and bring all maintenance access, life-safety, NEC, and ADA-applicable systems into current code compliance.

Four of the five bridges (Golden Meadow, Lockport, Kraemer, and Montegut) carry historic designations under the LADOTD Programmatic Agreement Regarding Management of Historic Bridges in Louisiana, with Golden Meadow classified as a Preservation Priority structure (originally constructed 1970 along Bayou Lafourche). All H&H Engineers of Record assigned to the projects have completed the Department's required Maintenance and Rehabilitation of Historic Bridges training, and all repairs are being designed in accordance with the programmatic agreement, the Secretary of the Interior's Standards for the Treatment of Historic Properties, and the Individual Management Plan for Golden Meadow.

H&H is performing the following services across all five bridges: Project management, document review, initial site inspections, NBIS In-Depth Bridge Inspections, evaluation of the protective coating, non-destructive testing, strain gage testing, LRFR Load Ratings using AASHTOWare BrR, development of the Scope of Work Proposal, Scope of Work Report, environmental services, Traffic Management Plan (TMP), geotechnical services, final construction plan production, technical special provision development, design calculations, permit sketches and coordination with the Coast Guard, construction cost estimates, pre-construction meeting attendance, on-call design support, shop drawing/O&M manual/product data, request for Information (RFI) review, PS&E development, and mechanical/electrical shop inspections and testing, span setup and balancing, and full functional testing of the rehabilitated mechanical and electrical systems.

Scope of Work Relevant to the Contract

- Structure Preservation Projects
- Condition Assessments and Identification of Deficiencies
- Rehabilitation Recommendation and Prioritization of Improvements
- Planning Level Cost Estimate, Design and Post-Design Services



Montegut Vertical Lift Bridge

Key Members: Babak Naghavi, PE, PhD; Tim Noles, PE; James Phillips, PE; Corey Bourgeois, PE; Erik Diaz, PE; Andrew Barthle, PE; Fred Wetekamm, PE; Jason Biddle, PE; Dalton Hunt, PE; John Rayer, PE; Ken Pecquet, PE; Linh Kim, PE; and Travis Kimmins, PE

Firm name	Hardesty & Hanover, LLC		Past Performance Evaluation Discipline(s)*		Bridge
Project name	IDIQ Contract for Movable Bridge Preservation			Firm responsibility (prime or sub?)	Prime
Project number	4400023909	Owner's name	Louisiana Department of Transportation and Development		
Project location	Statewide, LA		Owner's Project Manager	T.J. Dunlevy, PE	
Owner's address, phone, email		1201 Capitol Access Rd. Baton Rouge, LA 70802 225.379.1093 tjdunlevy@la.gov			
Services commenced by this firm (mm/yy)		01/23	Total consultant contract cost (\$1,000's)		\$7,000
Services completed by this firm (mm/yy)		Ongoing	Cost of consultant services provided by this firm (\$1,000's)		\$6,000

Boudreaux Canal Bridge H&H is providing mechanical design for the new bridge, as well as providing structural design services for the operator house foundation, generator platform, and fender system. H&H attends project meetings and coordinates with the structural, mechanical, and electrical engineers at DOTD to ensure proper coordination of design activities. H&H is also preparing documentation for the Bridge Operation Manual, pre-bid questions, and bid review analysis. H&H is producing plans and specifications to provide notes and technical provisions. H&H will design a hydraulic system, center wedge assemblies, center wedge ramp, and end roller assemblies, including the roller ramps. The hydraulic system will incorporate redundant variable-displacement vane pumps, be designed to accommodate 4,500 openings per year, and be relocated to a novel placement for swing bridges of this configuration, prioritizing access for maintenance personnel.

Jackson Street PED Gates H&H is designing ADA-compliant pedestrian gates for the US 165 Red River MB (Jackson St) lift bridge, including full plans, specifications, cost estimates, and construction support in accordance with LADOTD standards. The team handles meetings, site visits, Level 2 TMP development, and bid-phase support. H&H is currently performing post-design services for the project.

Structural: Plans include gate integration, traffic control, and aerial cable supports. Lead: Erik Diaz, PE (18+ years in structural design).

Electrical: Specifications and plans include the design and integration of power/control gates into the existing control system, aerial cable, and CCTV system. Lead: Ken Pecquet, PE (17+ years in electrical design)

Bayou Teche Bridge (Oaklawn) H&H provided the electrical design for the swing bridge in accordance with AASHTO, LADOTD's design requirements, NEC, IES standards, and standard design details. This bridge replacement project included a new control house, standby generator, traffic signals, warning/barrier gates, channel navigation aids, lightning protection, parking, and pedestrian walkway lighting. H&H worked closely with other design disciplines to ensure project success. All design deliverables were made in accordance with the project schedule. H&H also provided post-design services, including shop drawing review, periodic inspection, and functional checkout testing.

Electrical: H&H designed a complete bridge power and relay logic control system, including power distribution, lighting, including photometric analysis per IES standards, as well as luminaire selection and detailed change order plans. A field survey and bridge plan review supported an arc flash hazard analysis, recommending protective device settings using industry-standard software.

Structural and Geotechnical: Design of the foundation and structural support details required to resist wind loads in accordance with AASHTO LRFD.

Key Members: Babak Naghavi, PE, PhD; Jim Phillips, PE; Andrew Barthle, PE; Chris Svara, PE; Corey Bourgeois, PE; Erik Diaz, PE; Fred Wetekamm, PE; Dalton Hunt, PE; Ken Pecquet, PE; Linh Kim, PE; and Travis Kimmins, PE

Scope of Work Relevant to the Contract

- Structural, Geotechnical & Electrical Preservation Projects
- Condition Assessments and Identification of Deficiencies
- Rehabilitation Design and Post-Design Services
- Traffic Management Plan



Bayou Teche Swing Bridge



Jackson St Lift Bridge

Firm name	Hardesty & Hanover, LLC		Past Performance Evaluation Discipline(s)*		Bridge
Project name	IDIQ Contract for Complex Bridge Inspections			Firm responsibility (prime or sub?)	Prime
Project number	4400023511	Owner's name	Louisiana Department of Transportation and Development		
Project location	Statewide, LA		Owner's Project Manager	Stephanie Doolittle, PE	
Owner's address, phone, email		1201 Capitol Access Rd. Baton Rouge, LA 70802 225.379.1329 stephanie.doolittle@la.gov			
Services commenced by this firm (mm/yy)		06/23	Total consultant contract cost (\$1,000's)		\$7,000
Services completed by this firm (mm/yy)		Ongoing	Cost of consultant services provided by this firm (\$1,000's)		\$6,900

As part of this IDIQ contract, H&H performed NBIS inspections of several complex bridges. These bridges included Red River Miller's Bluff, Jimmie Davis Bridge, Calcasieu River (West Fork) Vertical Lift Bridge, LA 433 Bridge over Bayou Bonfouca, US 190 Bridges at Krotz Springs, and LA 657 Bridge over Bayou Lafourche. After the completion of each inspection, an inspection report was submitted to LADOTD according to the schedule of deliverables. H&H updated and uploaded the element inspection data to LADOTD's software program (InspectX). Inspections also identified the deficiencies with a list prioritized improvements with planning level cost estimates.

The structural inspections consisted of hands-on observation of all members of the superstructures by means of under bridge inspection vehicle (UBI) or man lift. The UBI vehicle was used for the inspection of the floor system members, bearings, the underside of all decks and concrete piers below the deck.

Mechanical system included inspecting accessible components of the machinery for the span drive, span support, span guides, span locks, and traffic barriers and gates. The electrical system inspection included inspecting accessible components of the main bridge power distribution, bridge grounding system, motor controls, control systems (panel and consoles), electrical systems for the traffic control lighting system, traffic gate assemblies, traffic resistance barriers, span lock motors, span drive braking system, span drive motors, limit switches and related conduit and wiring.

Another task included development of the LADOTD Movable Bridge Inspection Manual (including details, photos, illustrations, specific examples) and building a lesson plan and materials for the classroom and field training for LADOTD inspection staff.

Scope of Work Relevant to the Contract

- Condition Assessments and Identification of Deficiencies for Structural/Mechanical/Electrical Components
- Rehabilitation Recommendation and Prioritization of Improvements
- Planning Level Cost Estimate for recommended improvements



Red River Miller's Bluff



Red River Jimmie Davis



Calcasieu River West

Key Members: Babak Naghavi, PE, PhD; Tim Noles, PE; James Phillips, PE; Corey Bourgeois, PE; Erik Diaz, PE; Andrew Barthle, PE; Fred Wetekamm, PE; Dalton Hunt, PE; Jason Biddle, PE; John Rayer, PE; Ken Pecquet, PE; Linh Kim, PE; Travis Kimmins, PE; and Cesar Navarro, PE

Firm name	Hardesty & Hanover, LLC			Past Performance Evaluation Discipline(s)*	Bridge	
Project name	Almonaster Avenue Bridge over the Industrial Canal Rehabilitation				Firm responsibility (prime or sub?)	Prime
Project number	N/A		Owner's name	Port of New Orleans		
Project location	New Orleans, LA			Owner's Project Manager	Michael Sulser, PE	
Owner's address, phone, email		Port of New Orleans 504.528.3297 michael.sulser@portnola.com				
Services commenced by this firm (mm/yy)		06/18	Total consultant contract cost (\$1,000's)			\$2,800
Services completed by this firm (mm/yy)		Ongoing	Cost of consultant services provided by this firm (\$1,000's)			\$2,562

H&H provided the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the rehabilitation and partial replacement of the Almonaster Ave Bridge for the Port of New Orleans.

The Almonaster Bridge spans the Industrial Canal, offering two vehicular lanes and a single railroad track crossing down the center of the span. Hurricane Katrina destroyed roadways leading up to the bridge in 2005 and for the following 13 years, the bridge had exclusively served rail traffic. H&H's 2019 assessment of the circa-1920 bascule bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure.

H&H is developing the necessary bridge remedial design plans and specifications and is providing inspection services during construction. The bridge's span drive and span lock machinery, operating strut, guide assembly, live load bearings, and counterweight trunnion pin and bushing will be replaced. The main trunnion bearings will be rehabilitated and repositioned.

The road design and traffic services included a new alignment for the connecting road including all drainage structures.

Additional remedial efforts along Almonaster Avenue Bridge also included the improvement or replacement of the original fixed roadway approach spans. The sharp curve that existed on westbound Almonaster Ave was demolished and a new road was constructed on an improved alignment. H&H developed a hydraulic study and a site plan that included several retention ponds for drainage improvements. Other services included environmental, geotechnical, and pavement design.

Scope of Work Relevant to the Contract

- Condition Assessments and Identification of Deficiencies
- Historic Bridge Rehabilitation Recommendation and Prioritization of Improvements
- Structural Steel & Concrete Repairs/Replacement
- Mechanical & Electrical Systems Upgrades
- Geotechnical, Environmental, & Surveying
- Load Rating
- Inter-Agency Coordination with LADOTD, USCG, City of NOLA, & CSX



Almonaster Avenue Bridge

Key Members: Babak Naghavi, PE, PhD; Tim Noles, PE; Andrew Barthle, PE; John Witthohn, PE, CFM; Erik Diaz, PE; J. Lee Adams, PE; John Rayer, PE; Robert Hideck, PE; Dalton Hunt, PE; Linh Kim, PE; Travis Kimmins, PE; Marco Lara, PE; Don Marinelli, PE; Steve Mikucki, PE; Alec Noble, PE; Ken Pecquet, PE; Fred Wetekamm, PE; and James Phillips, PE

Firm name	Hardesty & Hanover, LLC		Past Performance Evaluation Discipline(s)*		Bridge	
Project name	2018-2024 IDIQ Master Bridge Contract (Bridge Inspection & Rehabilitation)			Firm responsibility (prime or sub?)		Prime
Project number	n/a		Owner's name	Mississippi DOT		
Project location	Statewide			Owner's Project Manager		Scott Westerfield, PE
Owner's address, phone, email		401 North West Street, Jackson, MS 39215 601.359.7000 swesterfield@mdot.ms.gov				
Services commenced by this firm (mm/yy)		03/18	Total consultant contract cost (\$1,000's)			\$5,100
Services completed by this firm (mm/yy)		10/24	Cost of consultant services provided by this firm (\$1,000's)			\$4,800

H&H conducted bridge inspections and developed the bridge rehabilitation design plans and specifications for the rehabilitation of the SR 609 and SR 605 bridges under our Mississippi DOT IDIQ Master Bridge Contract. Rehabilitation plans included structural, mechanical, and electrical bridge components, roadway approaches, improvements to the operator house, including HVAC; development of maintenance and repair plans; and preparation of traffic control plans. Other scope items included construction support services during construction, project submittals review, and managing RFIs.

Major structural work included removal of the existing paint system (lead abatement) and repainting all structural steel, replacing the existing grid deck, structural strengthening of the bascule leaves, replacing all high strength connection bolts exhibiting corrosion with mechanically-galvanized high strength bolts (A325), repairing cracks in structural steel, and repairing deck joints.

Major mechanical work included removing and replacing machinery with AASHTO compliant machinery, polishing and re-machining trunnion journals, realigning trunnion bearing, and replacing span locks.

Major electrical work included replacing the emergency generator, motor control center, motor drives, span motors, and brakes. Also, replacing all conduits and wiring, submarine cable and cabinets, and bascule pier navigation lighting.

Additionally, H&H conducted NBIS and element level inspection (abutment to abutment) of girders, and hands-on, in-depth inspection of interior and exterior dapped ends of Box Girder Bridge in Meridian, MS. Load rating services were performed on the two bridges based on inspection findings and plan details for Bridge No. 147.9A at I-59 and Bridge No. 131.5B at I-20 located near Meridian in Lauderdale County. The inspection required night work to avoid lane closures on I-20 and I-59, as well as traffic control for lane closures and use of a confined space rescue team for inspection of inside the boxes.

The analyses included developing a finite element model of each bridge and for load ratings to follow LFR considering MDOT's permitted vehicle legal loads. Repair recommendations were made based on the inspection results and the load rating.

Scope of Work Relevant to the Contract

- Condition Assessments and Identification of Deficiencies
- Rehabilitation Recommendation and Prioritization of Improvements
- Rehabilitation Design of Structural/Mechanical/Electrical and Post-Design Services
- Structural Steel & Concrete Repairs and/or Replacement
- Repairs and/or Replacement of Deck Joints & Seals, Bearings, and Approach Slab
- Maintenance of Traffic
- Operator House & HVAC Improvements
- Load Rating



SR-605



SR-609

Key Members: Babak Naghavi, PE, PhD; Tim Noles, PE; James Phillips, PE; Andrew Barthle, PE; Marco Lara, PE; Erik Diaz, PE; Linh Kim, PE; Dalton Hunt, PE; Travis Kimmins, PE; Dennis Gowins, PE; Donald Marinelli, PE; Tim Noles, PE; Kenneth Pecquet, PE; Cesar Granados, PE; Chris Svava, PE; Rob Vicedo, PE; Anwer Kaimakchi, PhD, PE and Fred Wetekamm, PE

Firm name	A P S Engineering and Testing, LLC		Discipline(s)*		Geotech	
Project name	College Drive Flyover				Firm responsibility (prime or sub?)	Sub
Project number	H.013897	Owner's name	Louisiana Department of Transportation and Development			
Project location	Baton Rouge, LA			Owner's Project Manager	Catherine Mastin, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70804 225.379.1652 Catherine.mastin@la.gov					
Services commenced by this firm (mm/yy)		11/21	Total consultant contract cost (\$1,000's)			\$2,500
Services completed by this firm (mm/yy)		12/25	Cost of consultant services provided by this firm (\$1,000's)			\$650

A P S Engineering and Testing, LLC provided comprehensive Construction Materials Testing (CMT) and inspection services throughout the construction phase to support quality assurance and compliance with DOTD specifications and project requirements. A P S engineers and technicians worked closely with the contractor, design-build team, and DOTD representatives to verify that materials and construction activities met performance standards while maintaining the aggressive construction schedule typical of design-build transportation projects.

A robust laboratory testing program was performed in A P S's AASHTO-accredited geotechnical and materials testing laboratory, allowing timely verification of material properties and rapid reporting to support construction decision-making.

Construction engineering and materials testing services included:

- Field inspection and construction oversight for roadway and structural elements
- Construction Materials Testing (CMT) for soils, concrete, and aggregates
- Quality assurance and verification testing to support embankments, foundations, and structural components

Representative laboratory and field-testing services included, but were not limited to:

- Compressive strength testing of drilled concrete cores and cast concrete cylinders
- Electrical resistivity testing for evaluation of concrete durability and corrosion potential
- Aggregate and soil gradation testing (DOTD TR-113)
- Standard and Modified Proctor compaction testing of soils (DOTD TR-415, TR-418)
- Modified Proctor testing of aggregates used in roadway and structural fill applications

Through responsive field support and rigorous laboratory testing, A P S helped ensure that materials and construction activities met DOTD performance standards, contributing to the successful completion of this critical transportation improvement project serving the Baton Rouge region.

Scope of Work Relevant to the Contract

- Geotechnical Explorations (GE)
- Geotechnical Design (GD)
- Geotechnical Construction (GC)
- Constructability



Key Members: Sergio Aviles, P.E.; Sairam Eddanapudi, M.E., P.E.; Surendra Pathak, P.E.

Firm name	A P S Engineering and Testing, LLC	Discipline(s)*	Geotech
Project name	Comite River Diversion Bridge at LA-67	Firm responsibility (prime or sub?)	Sub
Project number	H.001352; H.002273	Owner's name	Huval & Associates, Inc.
Project location	East Baton Rouge, Louisiana	Owner's Project Manager	Thomas M. Gattles III, P.E.
Owner's address, phone, email	922 West Don't des Mouton Rd, Lafayette, LA 70507 / 337-264-3798/ tgattle@huvalassoc.com		
Services commenced by this firm (mm/yy)	11/19	Total consultant contract cost (\$1,000's)	N/A
Services completed by this firm (mm/yy)	06/22	Cost of consultant services provided by this firm (\$1,000's)	150K

A P S Engineering and Testing, LLC provided comprehensive geotechnical and construction engineering support for multiple critical structures along the LA-67 Bridge supported on prestressed concrete piles.

A P S played a key role during construction by delivering field engineering oversight, materials testing, and laboratory analysis to ensure the structural and geotechnical elements were constructed in accordance with project specifications and DOTD standards. Our team maintained continuous coordination with contractors, inspectors, and design engineers to address field conditions and maintain construction progress while ensuring quality control and compliance.

A comprehensive laboratory testing program was performed in A P S's AASHTO-accredited geotechnical and materials laboratory, supporting real-time construction decisions and verification of material properties. A P S technicians and engineers provided field inspection and testing services throughout the construction phase, ensuring that embankment materials, structural components, and foundation elements met the required engineering criteria.

Construction engineering and testing services included:

- Field inspection and construction oversight for bridge and embankment activities
- Construction Materials Testing (CMT) for soils, concrete, and aggregate

Representative laboratory and field-testing services included, but were not limited to:

- Compressive strength testing of drilled concrete cores and cast concrete cylinders
- Electrical resistivity testing for concrete durability evaluation
- Aggregate and soil gradation testing (DOTD TR-113)
- Standard and Modified Proctor compaction testing of soils (DOTD TR-415, TR-418)
- Modified Proctor testing of aggregates for embankment and structural fill materials

Through proactive construction support and responsive laboratory services, APS helped ensure the successful construction of critical bridge and embankment infrastructure along the LA-67 corridor, maintaining quality, schedule, and compliance with project specifications.

Scope of Work Relevant to the Contract

- Geotechnical Explorations (GE)
- Geotechnical Design (GD)
- Geotechnical Construction (GC)
- Contract Management (CM)



Key Members: Sergio Aviles, PE.; Sairam Eddanapudi, PE.; Surendra Pathak, PE

Firm name	Bridge Diagnostics, Inc. (BDI)		Discipline(s)*	Bridge
Project name	Bayou Ramos Bridge Multi-Phase Field-Verified Evaluation			Firm responsibility (prime or sub?) Prime
Project number	H.009730.5	Owner's name	Louisiana Department of Transportation and Development (LADOTD)	
Project location	Morgan City, LA		Owner's Project Manager	Bradley Mistich
Owner's address, phone, email	Office of Engineering PO Box 94245 Baton Rouge, LA 70804-9245 225-379-1200 Bradley.Mistich@la.gov			
Services commenced by this firm (mm/yy)	10/24	Total consultant contract cost (\$1,000's)		\$501 (NTE)
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)		\$172 (Ongoing)

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

The Bayou Ramos bridges are currently load posted due to cracking/deterioration present along many of the prestressed girder ends. When this deterioration was first observed, BDI teamed up with LADOTD to conduct diagnostic live-load testing and monitoring on these structures to identify the structure's response characteristics and determine potential causes for the observed distress. As part of Task Order 5 of BDI's NDT/E IDIQ 4400025002, BDI was contracted to provide a multi-phase evaluation to reevaluate the structures' live-load capacity after multiple retrofit strategies were deployed. This evaluation included:

- **Phase I:** AASHTOWare BrR load rating evaluation where multiple strut-and-tie method (STM) models were considered and evaluated. BDI Phase I calculations and related findings were summarized in a submitted load rating report and calculation package.
- **Phase II:** Diagnostic load test-based evaluation used to validate both the structural behavior and STM capacity assumptions. BDI provisioned, installed, and maintained all required instrumentation and data acquisition equipment. BDI utilized the collected structural responses to evaluate the structure's distribution behavior and refine the STM capacity assumptions, with analysis and evaluation results submitted in a report and calculation package.
- **Phase III:** Performance monitoring program set to provide crucial information on the condition of the girder ends by monitoring the activity level of the observed deterioration once/if load restrictions are lifted. During this phase, all monitoring equipment will be provisioned, installed, maintained and calibrated by BDI's team.

BDI is currently finalizing Phase II with LADOTD and will be continuing onto Phase III monitoring based on coordination with and approval from LADOTD. This monitoring will help determine how certain areas of the structure are behavior. BDI will then recommend preservation strategies to lengthen the structure's life.



Key Members: Brice Carpenter served as project engineer responsible for load rating, testing/monitoring plan development and application, analysis team management, and QA/QC of various project tasks. Steven Fall served as local project manager responsible for field testing logistics and field crew management.

Firm name	Bridge Diagnostics, Inc. (BDI)	Discipline(s)*	Bridge
Project name	Louisiana Statewide Non-Destructive Testing and Evaluation IDIQ	Firm responsibility (prime or sub?)	Prime
Project number	Contract No. 4400025002	Owner's name	Louisiana Department of Transportation and Development (LADOTD)
Project location	Statewide, Louisiana	Owner's Project Manager	Bradley Mistich
Owner's address, phone, email	Office of Engineering PO Box 94245 Baton Rouge, LA 70804-9245 225-379-1200 Bradley.Mistich@la.gov		
Services commenced by this firm (mm/yy)	02/23	Total consultant contract cost (\$1,000's)	\$7,500
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)	\$5,200

BDI was awarded the Non-Destructive Testing and Evaluation IDIQ across the state of Louisiana.

Task Order II Twin Span and 6-mile Deck Evaluation: BDI performed deck assessments involving various NDT-E methods including SoundAR, Ground Penetrating Radar (GPR), High Resolution Imaging (HRI), Infrared Thermography (IR), and concrete material sampling on bridge recall numbers 204140, 204150, 020467, and 020468 for the purpose of assessment of reinforcement concrete condition, cover, location, and diameter; detections of voids and delaminations in concrete, and concrete material sampling.

Task Orders III and VI Interstate 20 Deck Evaluation and Pin and Hanger Testing: To assist with bridge preservation efforts, BDI is performing deck assessments for 273 structures on the Interstate 20 corridor in Louisiana involving various NDT-E methods including SoundAR, GPR, HRI, and IR for the purpose of assessment of reinforcement concrete condition, cover, location, and diameter and detection of voids and delaminations in concrete. BDI is also performing steel member condition assessment via ultrasonic testing (UT) on 39 structures statewide.

Task Order IV US-11 over Lake Pontchartrain Deck Evaluation and NBIS Inspection: BDI performed deck assessments involving various NDT-E methods including SoundAR, GPR, HRI, and IR for the purpose of assessment of reinforcement concrete condition, cover, location, and diameter and detection of voids and delaminations in concrete on bridge recall numbers 001525, 001545, 001552, and 200830. BDI also performed the NBIS Routine inspections on these structures which included detailed in-depth field inspections.

Task Order V Bayou Ramos: BDI is performing instrumentation and testing of bridge recall numbers 030115 and 030185 over Bayou Ramos including design of instrumentation plans, instrumentation of sensors, maintenance of sensors, and analysis and evaluation of the accumulated data.



Key Members: Steven Fall, Jr., PE, serves as project manager responsible for the non-destructive testing plan development and application, field testing logistics, field crew management, reporting and QA/QC of various project tasks; Brice Carpenter, PE, serves as project engineer responsible for load rating, instrumentation plan development and application, analysis team management; Charles Young, PE, serve as subject matter experts; and Jesse Sipple, PhD, PE serves as the services division manager and subject matter expert.

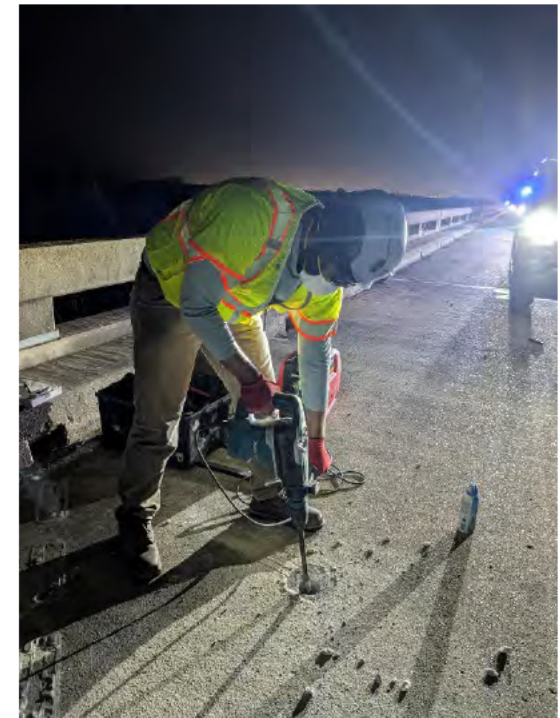
Firm name	Bridge Diagnostics, Inc. (BDI)		Discipline(s)*		Bridge	
Project name	Task Order 10 Bonnet Carre Spillway Deck Assessment				Firm responsibility (prime or sub?)	Prime
Project number	H.009730.5	Owner's name	Louisiana Department of Transportation and Development (LADOTD)			
Project location	St. Charles Parish, LA			Owner's Project Manager	Bradley Mistich	
Owner's address, phone, email	Office of Engineering PO Box 94245 Baton Rouge, LA 70804-9245 225-379-1200 Bradley.Mistich@la.gov					
Services commenced by this firm (mm/yy)		02/26	Total consultant contract cost (\$1,000's)			\$465 (NTA)
Services completed by this firm (mm/yy)		Ongoing	Cost of consultant services provided by this firm (\$1,000's)			\$172 (Ongoing)

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

LADOTD awarded BDI the opportunity to perform nondestructive deck evaluation of the I-10 Bonnet Carre Spillway bridges (East and Westbound) in St. Charles Parish. The objective of this project is to provide a quantitative assessment of the condition of the ten (10) mile bridge deck to determine the overall change in deterioration over time between the bridges' inspections. As part of Task Order 10 of BDI's NDT/E IDIQ 4400025002, BDI was contracted to provide a multi-phase evaluation to reevaluate the structures' deck condition state. This evaluation included:

- **Phase I:** Deck nondestructive evaluation (NDE) to include Deck Acoustic Response (SounDAR) and Ground Penetrating Radar (GPR) to investigate rebar cover depth and potential delamination through acoustic sounding and changes in dielectric properties. This data is verified physically by drilling to the rebar and manually measuring the cover depth at several locations.
- **Phase II:** High Resolution Imaging (HRI) and Infrared Thermography (IR) is also used to probe for delaminations, spalling and general defects in the bridge's deck.

BDI is currently finalizing Phase II with LADOTD



Key Members: Steven Fall serves as a project manager responsible for local crew coordination, field testing logistics, and completion of field work. Jess Sipple, Graham Bettis, Brice Carpenter and Charles Young serve as subject matter experts and QA/QC of project tasks

Firm Name	SJB Group, LLC now SAM companies		Discipline(S)	Survey	
Project Name	I-10 Calcasieu River Bridge Public-Private Partnership Project			Firm Responsibility (Prime/Sub)	Sub
Project Number	H.003931	Owner's Name	Louisiana Department of Transportation and Development		
Project Location	Calcasieu Parish		Owner's Project Manager	Paul Vaught, PE	
Owner's Address Phone No. Email	1201 Capitol Access Road, Baton Rouge, LA 70802 225-379-1816 paul.vaughtii@la.gov				
Services Commenced By This Firm		8/24	Total Consultant Contract Cost (\$1,000's)		\$130,000
Services Completed By This Firm		8/31	Cost Of Consultant Services Provided By This Firm (\$1,000's)		\$3,000

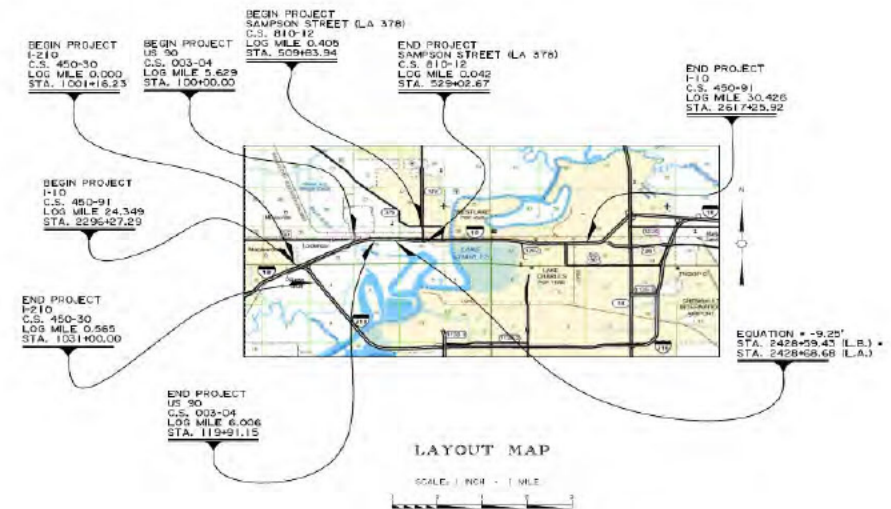
SJB Group is undertaking critical tasks for the I-10 Calcasieu River Bridge project, including Property Surveying, limited Topographic Surveying (to verify and supplement existing topographic surveys), and Utility Coordination throughout the project limits. This initiative is the largest in the history of the Louisiana Department of Transportation and Development (LADOTD) and one of North America's most substantial infrastructure projects commissioned in 2023. The existing bridge demolition and replacement will have a significant impact on existing properties and utility facilities within the limits of the project which is a heavily congested residential, commercial and industrial corridor.

The Property Surveying work covers a 5.5-mile stretch of Interstate 10 within the design-build boundaries. This extensive task involves thorough title research to gather existing surveys and deeds, field surveying, and mapping for all parcels along the corridor. The range of properties includes small residential lots to large commercial and industrial tracts. Right of way acquisition will be necessary for segments of the project. All property surveys and Right-of-Way Mapping will adhere to the Standards of Practice for route surveys set forth by the Louisiana Professional Engineering and Land Surveying Board, as well as LADOTD's Location and Survey Manual requirements. The technical provisions of the project require the developer to verify and confirm the location, accuracy and datum of the survey control network provided by DOTD in the bid phase of the project. This was completed using a control network from the provided network to establish fixed horizontal coordinate results for each location of the provided control. There will also be additional topographic surveys necessary to supplement the topographic survey provided by DOTD.

The bridge relocation and the reconfiguration of interchanges will extensively impact utilities within the project limits. These utilities include both local, municipally owned infrastructure to large industrial pipelines. The coordination of these utilities' relocation is a complex, iterative process requiring collaboration with LADOTD, developers, property owners, and utility stakeholders to ensure the project adheres to budget and schedule constraints.

Scope of Work Relevant to the Contract

- Topographic Survey
- Property Survey
- Right-of-Way Mapping



Key Members: C. Tim Brewer, PLS and Ralph Burgess, PLS;

Firm Name	SJB Group, LLC now SAM companies		Discipline(s)*		Survey	
Project Name	LA 1 to LA 415 Connector to Interstate 10			Firm Responsibility (Prime Or Sub)		Prime
Project Number	H.005121	Owner's name	Louisiana Department of Transportation and Development			
Project Location	Port Allen, West Baton Rouge Parish, LA			Owner's Project Manager	Jonathan Herrod	
Owner's Address Phone No. Email	1202 Capital Access Road, Baton Rouge, LA			225-379-1105	Jonathan.Herrod@la.gov	
Services Commenced by This Firm (Mm/Yy)		10/23	Total Consultant Contract Cost (\$1,000's)			\$1,117
Services Completed by This Firm (Mm/Yy)		Ongoing	Cost Of Consultant Services Provided By This Firm (\$1,000's)			\$242.9

The project provides field data for the final design of a roadway to connect LA 1 to LA 415. The project is a supplement to previously performed surveying for the realignment of them due to recent development and construction. The project limits included a 2.9-mile corridor beginning approximately 0.2 miles north of the intersection of I-10 and LA 415 and continuing in a southeasterly direction along the extension of LA 415 across the intercoastal canal, industrial areas, and agriculture field to the intersection of LA. The project limits also include an approximate 1.8-mile corridor along LA 1 that extends from the roadway into residential, commercial, and retail areas.

The project includes the collection of current conditions of the areas included in the project limits and merging the current data with the previous survey and updating any observed condition changes. The project included the recovery and supplement of the existing control network. The collection of field data is completed through the utilization of conventional survey methods with survey total stations and global positioning systems (GPS). **Mobile LiDAR** survey methods utilized for the collection of data along the high traffic segments of LA 1, Interstate 10 ramps, and LA 415.

The data was processed through Trimble Business Center, with data extraction performed through TopoDot. The survey is being conducted according to the Louisiana Department of Transportation and Development Location and Survey Manual. The deliverables were provided in accordance with the LADOTD guidelines for electronic deliverables.

Scope of Work Relevant to the Contract

- Topographic Survey



Key Members: C. Tim Brewer, PLS and Ralph Burgess, PLS;

Firm name	Providence Engineering and Environmental Group LLC		Discipline(s)*	Environmental
Project name	Replacement of Eight (8) Bridges: H.011963 - LA 648: Drain Canal Bridge		Firm responsibility (prime or sub?)	SUB
Project number	State Project No. H.011963 F.A.P. No. H011963	Owner's name	Aucoin & Associates, Inc.	
Project location	Lafourche, Louisiana		Owner's Project Manager	David Hildago
Owner's address, phone, email	710 W. Prien Lake Road, Lake Charles, LA 70601, (337) 457-7366, d.hidalgo@aucoinandassoc.com			
Services commenced by this firm (mm/yy)	07/23	Total consultant contract cost (\$1,000's)		N/A
Services completed by this firm (mm/yy)	09/23	Cost of consultant services provided by this firm (\$1,000's)		\$13

The Louisiana Department of Transportation and Development requested a Wetland Findings Report for two existing bridges in Lafourche Parish as part of a larger off-system bridge replacement project. As a subconsultant to Aucoin & Associates, **Providence conducted a wetland delineation and provided a Wetland Findings Report** for the bridge replacement project.

Scope of Work Relevant to the Contract

- Environmental Permitting

Providence biologists documented existence of potential jurisdictional wetlands and non-wetland waters at the sites in accordance with the **1987 Corps of Engineers Wetland Manual** and guidance from the **Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region** (USACE, Wetland Regulatory Assistance Program 2010). After the wetland delineations, Providence prepared a Wetland Findings Report which included discussions of existing wetlands, vegetation communities, and soils based on published soil surveys and soil sampling.

The report indicated that evidence of all three diagnostic characteristics for jurisdictional wetlands was not found at any sample location, and the presence of two diagnostic characteristics was not sufficient to confirm the presence of potential jurisdictional wetlands. Data sheets, photographs, and wetland mapping were also included in the Wetland Findings Reports.

Providence also prepared and submitted a USACE/Louisiana Department of Energy and Natural Resources (LDENR) Joint Permit Application, as well as coordinated necessary Solicitation of Views (SOV) and clearance documentation for this project.

Providence staff completed a similar scope of work on other bridge replacements including bridges in Calcasieu (SPN 700-10-0164), St. Mary (SPN 700-51-0111), St. Helena (SPN P46-30419-90470-1), and Tangipahoa (H.014262, H.014263) Parishes.

As reflected in both the On- and Off-System Bridge Projects included, Providence possesses a strong understanding of desired deliverables, timelines, and tasks for projects of this structure, size, and desired outcomes.



Key Members: Chad Turner, Christopher Coyne

Firm name	Providence Engineering and Environmental Group LLC		Discipline(s)*	Environmental	
Project name	MRB South GBR: LA 1 to LA 30 Connector Route: New Route			Firm responsibility (prime or sub?)	SUB
Project number	Supplemental Agreement #6, H.013284; F.A.P. No. H013284	Owner's name	Atlas Technical Consultants, LLC		
Project location	Iberville Parish, LA		Owner's Project Manager	Kara Moree	
Owner's address, phone, email	8440 Jefferson Highway, Suite 400, Baton Rouge, LA 70809, (225) 369-6587, adam.davis@oneatlas.com				
Services commenced by this firm (mm/yy)	01/23	Total consultant contract cost (\$1,000's)			N/A
Services completed by this firm (mm/yy)	06/25	Cost of consultant services provided by this firm (\$1,000's)			\$25

A supplemental agreement was issued by DOTD to Atlas to obtain environmental approvals based on the findings of the complete Enhanced Planning investigation for the proposed new Mississippi River bridge construction. Atlas contracted Providence to assist with this overall project management, environmental documentation support, and related environmental services.

Scope of Work Relevant to the Contract

- Environmental Permitting

Providence's specific scope of work including ensuring overall NEPA compliance, conducting wetland delineations, and conducting a Phase I Environmental Site Assessment. Providence will also continue to provide agency, stakeholder, and public outreach support during all pre-NEPA phases of the project. Providence anticipates providing more environmental services as the project progresses and potentially during construction.

The wetland delineation encompassed approximately 1,716 acres of forests, agricultural fields/pastures, residential properties, pipeline/utility rights-of-way, highway/railroad rights-of-way, industrial facilities, and Mississippi River levee and batture.

Multiple teams of Providence biologists conducted surveys from July to August 2024, collecting field data, habitat descriptions, and other pertinent information in accordance with the 1987 Corps of Engineers Wetland Manual and guidance from the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (USACE, Wetland Regulatory Assistance Program 2010).

The resulting Wetland Findings Report documented 364 acres of Section 404 wetlands and 26.78 acres of Section 10/404 wetlands, including bottomland hardwoods, baldcypress/water tupelo swamps, and baldcypress swamps.

Additionally, Providence conducted habitat evaluations according to the USACE Louisiana Rapid Assessment Method (LRAM) Habitat Condition factor. Each wetland was classified on the three condition levels by habitat (low, medium, and high) and documented in the Wetland Findings Report.



Key Members: Chad Turner, Christopher Coyne, Kerry Oriol

Firm name	Urban Systems, Inc	Past Performance Evaluation Discipline(s)*	Traffic
Project name	Huey P. Long Bridge Widening (Westbank and East bank Approaches and Main Bridge Deck Widening)	Firm responsibility (prime or sub?)	Sub
Project number	SP 005-10-0037/006-01- 0021/006/02/0064/006-25 0001/006-30-0041	Owner's name	LADOTD
Project location	Route US 90 Jefferson Parish, LA	Owner's Project Manager	Lee Horstmann
Owner's address, phone, email	1201 Capitol Access Road Baton Rouge, LA 70802, (504)302.2200, lee.horstmann@kiewit.com		
Services commenced by this firm (mm/yy)	02/11	Total consultant contract cost (\$1,000's)	Unknown
Services completed by this firm (mm/yy)	04/13	Cost of consultant services provided by this firm (\$1,000's)	\$49.3K

Urban Systems, Inc. provided Traffic Engineering Services for the Huey P Long Project for the contractor starting about half-way into the construction project. This was a multi-phase project as construction conditions and required closures changed.

A few of the phases that were addressed were:

- Jefferson Highway Detours
- Huey P. Long Bridge Southbound Approach Closure
- Huey P. Long Bridge – Rerouting Huey P. Long Northbound Approach

Plans for these phases included the following:

Traffic Control Devices Plans for the redirection and protection of traffic in the active area of construction.

Traffic Signal Plans for the installation of temporary traffic signal heads. The temporary signals were utilized in conjunction with the permanent signal plan. The plans included the temporary striping and signage that were required in addition to the permanent installation.

Permanent Pavement Markings and Signs Plans which were used to identify which signs should be covered and which striping should not be installed during each phase of construction.



Key Members: Alison Catarella-Michel, PE, PTOE, PTP, RSP and N. Stewart, PE, PTOE

Firm name	Urban Systems, Inc			Past Performance Evaluation Discipline(s)*		Traffic	
Project name	Bridge Preventative Maintenance District 61				Firm responsibility (prime or sub?)		Sub
Project number	F.A.P. and SP H.000351	Owner's name	LADOTD				
Project location	Baton Rouge, LA				Owner's Project Manager	Mr. Danny Tullier	
Owner's address, phone, email		1201 Capitol Access Road, Baton Rouge, LA 70804, 225-379-1355, Danny.Tullier@LA.GOV					
Services commenced by this firm (mm/yy)		11/12	Total consultant contract cost (\$1,000's)				Unknown
Services completed by this firm (mm/yy)		09/16	Cost of consultant services provided by this firm (\$1,000's)				\$69.8

The objective was to conduct a Level 4 Transportation Management Plan (TMP) based on LADOTD EDSM VI.1.1.8 for bridge component repairs at five (5) locations on I-10, I-110 and I-12 in Baton Rouge, Louisiana. A TMP was critical for these locations as the interstates serves up to 85,000 vehicles per day and closing lanes and/or ramps would have a significant impact on mobility.

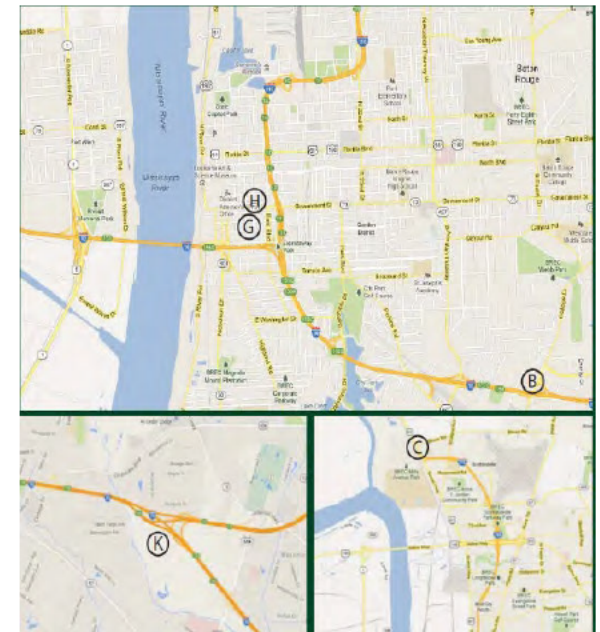
Seven-day hourly volume counts were collected and adjusted using LADOTD seasonal and axle factors. A queue analysis was conducted, as specified in LADOTD EDSM VI.1.1.4, to determine when the proposed lane closures could be implemented with the least impact with the high interstate volumes.

A safety analysis was conducted based on the LADOTD's Guidelines for Crash Data Analysis, June 2014. Crash rates were calculated for each location and compared to LADOTD's statewide averages and to LADOTD's High Potential for Safety Improvements (formerly the Abnormally High Crash) List. Charts were developed at each location based on collisions by type, log mile and time.

An important strategy to minimize work zone impacts was an evacuation plan as I-10 and I-110 are critical arteries during a hurricane evacuation.

A stakeholders meeting was held during the TMP process to obtain input and share information with:

- LADOTD Headquarters
- LADOTD District 61
- LADOTD TMC
- East Baton Rouge Sheriff's Office
- Louisiana State Police
- Baton Rouge Police Department
- Prime and sub consultants



Key Members: Alison Michel, PE, PTOE, PTP, RSP; Nicole Stewart, PE, PTOE; and Matthew Morgan, PE, PTOE

Firm name	KTA-Tator, Inc.		Discipline(s)*		Bridge	
Project name	Krotz Springs Bridge				Firm responsibility (prime or sub?)	Sub
Project number	4400025311 task order	Owner's name	LADOTD (Hardesty & Hanover, LLP – prime consultant)			
Project location	St. Landry Parish, LA			Owner's Project Manager		Babak "Bobby" Naghavi, PE, PH, PhD (H&H)
Owner's address, phone, email		3850 N. Causeway Blvd., Suite 1625, Metairie, LA 70002, 504-605-7940, bnaghavi@hardestyhanover.com				
Services commenced by this firm (mm/yy)		09/23	Total consultant contract cost (\$1,000's)			\$5,000
Services completed by this firm (mm/yy)		02/24	Cost of consultant services provided by this firm (\$1,000's)			\$12

The Krotz Springs Bridge is owned and operated by LADOTD. The bridge was constructed in 1973 and consists of eastbound and westbound structures. Each bridge carries two lanes of vehicle traffic over the Atchafalaya River in Krotz Springs, Louisiana. The bridges consist of a 3-span truss main span that measures 780 ft.

The coating history indicates that the westbound bridge was last coated in December of 2017 and the eastbound bridge was last coated in May of 2016, both with a coating system consisting of a zinc epoxy primer, epoxy intermediate, and urethane finish.

In September 2023, as a subconsultant to Hardesty & Hanover, LLC, KTA performed a coating condition assessment on both structures. The purpose of this assessment was to determine the coating of the existing coatings on the structure in order to develop a maintenance painting strategy for the bridge.

A visual assessment of the coated surfaces was conducted to determine the type, extent, and location of coating breakdown and corrosion on the structure. Coating thickness, number of coats, and adhesion were determined using appropriate instrumentation.

Samples were removed for further laboratory examination to determine if toxic metal concentrations were present in the existing coatings and to generically identify the coating type. Photographs of typical coating conditions were taken.

The results of the field and laboratory testing, a discussion of those results, and photographs were included in a report prepared and submitted to H&H.

Scope of Work Relevant to the Contract

- Coating Condition Assessment



Photo Courtesy of KTA

Key Member: Robert Lanterman

Firm name	KTA-Tator, Inc.		Past Performance Evaluation Discipline(s)*	Bridge
Project name	Fabrication Inspection Services (Statewide Contract)		Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	Connecticut DOT	
Project location	Connecticut		Owner's Project Manager	Jonathan Boardman, CTDOT Supervising Engineer
Owner's address, phone, email	2800 Berlin Turnpike Newington, CT 06111 T: 860-258-0327 E: jonathan.boardman@ct.gov			
Services commenced by this firm (mm/yy)	04/23	Total consultant contract cost (\$1,000's)		\$5,000
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)		\$5,000

KTA was selected by Connecticut Department of Transportation (CTDOT) to provide qualified inspection and testing personnel to perform inspections, sampling, and testing of materials for structural steel fabrication, coatings processes and precast, prestressed, and post-tensioned concrete at approved fabrication shops throughout the United States. We have been selected by CTDOT for multiple consecutive Fabrication Inspection agreements.

Our goal is to ensure conformance of the material to project specifications. Our inspectors verify that the fabricator is exercising adequate quality control during the entire fabrication/production process. As such, our inspectors visually inspect, witness, sample, and test material during all phases of manufacture/fabrication/production. This includes witnessing all nondestructive testing of welds and signing all reports of such testing. Ultrasonic inspection is witnessed, and the interpretation of the results verified by our personnel who are qualified Non-Destructive Testing (NDT) Level II in accordance with requirements of the American Society for Nondestructive Testing's Recommended Practice Number SNT-TC-1A and Supplement C, Ultrasonic Testing Method. These services are performed in accordance with applicable standards including, but not limited to, those described by the American Welding Society (AWS), Association for Materials Protection and Performance (AMPP), American Association of State Highway Transportation Officials (AASHTO), and the American Society of Testing Materials (ASTM). As directed by the Engineer, our inspectors document and report test results on forms provided by CTDOT.

Scope of Work Relevant to the Contract

- CWI and NDT Inspection Services



Key Member: Robert Lanterman

Firm name	Moffatt & Nicol Inc.	Past Performance Evaluation Discipline(s)*	Bridge
Project name	LADOTD Complex Bridge Inspection	Firm responsibility (prime or sub?)	Sub
Project number	H.009730.5, Task Order 03	Owner's name	LADOTD
Project location	Statewide, LA	Owner's Project Manager	Stephanie Doolittle, P.E.
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, Louisiana 70802 225-379-1329 stephanie.doolittle@la.gov		
Services commenced by this firm (mm/yy)	02/23	Total consultant contract cost (\$1,000's)	\$470
Services completed by this firm (mm/yy)	12/24	Cost of consultant services provided by this firm (\$1,000's)	\$260

Moffatt & Nichol (M&N) was part of a team responsible for performing bridge inspection of complex structures statewide, utilizing an IDIQ contract. Structure types include cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges. Tasks include providing bridge inspections, SPRAT/rope access, underwater inspections, bridge ratings, categorization and documentation of bridge assets, and the development of the LaDOTD BIM and the Coding & Field Guide. All statewide inspections of in-service bridges throughout Louisiana are performed in accordance with FHWA guidelines. Representative tasks include the following. The comprehensive in-depth reports included a detailed summary of the rope access inspection methodology, inspection findings of current conditions and noted deficiencies, field notes, and photographs.

M&N developed major updates to the manual, including off-system directives, to support the creation of a new Bridge Load Rating Manual and a new Coding & Field Guide. A team of subject matter experts contributed to the development and reviews at periodic milestones. M&N collaborated with the LaDOTD staff throughout the development to manage expectations and maintain direction. In-person progress meetings occurred monthly, which included facilitating various District Bridge Engineers throughout the state. The manual is compliant with the NBIP (23 metrics and the three new metrics). The manual is thoughtfully organized systematically and interactively, with an appendix to store all vital updated forms for the Bridge Inspection Program. The Load Rating Manual will be the final development task and complement the other documents in content and format. The Coding & Field Guide is uniquely designed for a seamless navigation experience. Following delivery, acceptance, and publishing, a training module will be designed and delivered to all LaDOTD District personnel. M&N has been retained for five years to provide annual updates as needed.



Scope of Work Relevant to the Contract

- BIM Updates
- Instrumentation
- Non-destructive Testing
- NBE and SNBI ratings
- Retainer Contract
- In-Depth Inspection and Reporting on Repairs
- TMP Dev and Work Zone Safety

Key Members: Chace Hulon, Bryan Tyson, Chip Eschenbach, Jeffrey Gazarek, Herodotos Pentas

Firm name	Moffatt & Nicol Inc.	Past Performance Evaluation Discipline(s)*	Bridge
Project name	LADOTD Underwater Bridge Inspections	Firm responsibility (prime or sub?)	Prime
Project number	H.009730.5, Task Order 2	Owner's name	LADOTD
Project location	Statewide, LA	Owner's Project Manager	Stephanie Doolittle, P.E.
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, Louisiana 70802 225-379-1329 stephanie.doolittle@la.gov		
Services commenced by this firm (mm/yy)	06/22	Total consultant contract cost (\$1,000's)	\$2,402
Services completed by this firm (mm/yy)	08/25	Cost of consultant services provided by this firm (\$1,000's)	\$1,419

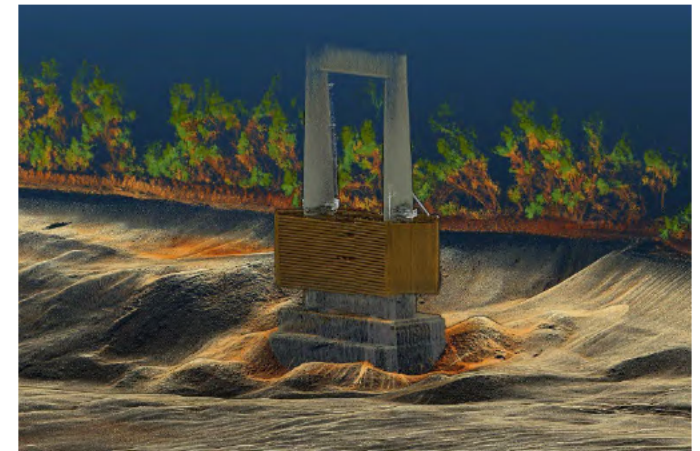
As part of a five-year retainer contract, M&N has been tasked with performing underwater bridge inspections for over 500 bridges throughout the state of Louisiana through Task Order 2 and over 800 bridges across all three task orders on this contract. The bridges consist of small to mid-sized waterways along with nine bridges passing through large swamps and bayous that vary between 3 and 14 miles long, 15 culverts, and four bridges crossing over large waterways (the Mississippi River, Prien Lake, and Whiskey Bay Channel). Many of the bridges crossed over waterways inhabited by alligators, which posed a potential hazard to the inspectors. To mitigate the probability of an incident, M&N implemented a Louisiana Department of Wildlife and Fisheries-approved nuisance alligator trapper during inspections at specific locations. M&N has safely performed Level I, II, and III underwater dive inspections and emergency damage assessments while augmenting 2D and 3D sonar technologies per the NBIS.

The M&N dive team captures images and bathymetric data utilizing high-resolution side scan sonar units and multibeam sonar technology. High-resolution images and point cloud data of bridge piers/bents are collected to identify channel bottom conditions and structural deterioration. Underwater acoustic imaging services were provided over large navigable waterways with high-risk diving conditions such as fast currents, low visibility, heavy debris, extreme depths, cold water, and vessel traffic.

Scour evaluations (inherent to underwater bridge inspections) are vital to the inspection and report process. All inspector-divers are trained to observe soundings near submerged substructure units, channel migration/alignment, bank erosion, channel bed material, condition of scour protection structures and channel training devices, flow velocity, timber debris quantity and location, major changes in watershed and hydraulic capacities from upstream development and construction; and to review all conditions in real-time on-site to establish a rate of scour and erosion for effective prioritization of repairs and development of scour plan of actions for monitoring.

Scope of Work Relevant to the Contract

- NBIS Underwater Bridge Inspection and Reporting
- Underwater Acoustic Imaging and Hydrographic Surveying
- NBE and SNBI ratings
- Retainer Contract
- InspectX Submittals
- High-Risk Diving Operations and Hazardous Wildlife
- Emergency Response
- TTC and Work Zone Safety



Key Members: Chace Hulon, Bryan Tyson, Chip Eschenbach, Jeffrey Gazarek

18. Approach and Methodology:

Firm Introduction: With over 139 years of experience, Hardesty & Hanover, LLC (H&H) is a trusted, full-service infrastructure engineering firm with proven ability to manage the entire project life cycle—from assessment through design and construction—as a reliable partner for the Louisiana Department of Transportation and Development (DOTD). Leveraging our extensive expertise from nationwide Indefinite Delivery/Indefinite Quantity (IDIQ) contracts, we have developed a strategic approach for DOTD's Bridge Preservation Services IDIQ that aligns with the Bridge Design Section's vision and priorities, focusing on:

- Prioritizing safety** of the traveling public and DOTD personnel.
- Designing cost effective solutions** to preserve and extend the life of infrastructure assets.
- Identifying priority maintenance and preservation improvements** for existing infrastructure.
- Acting as an extension of the DOTD Bridge Design Section** to deliver responsive, high-quality solutions.
- Employing advanced technology** to position Louisiana as a national leader in bridge preservation and safety.

Our approach builds on our proven experience with DOTD and other state DOT IDIQ contracts. Our flexible, integrated team of over 600 skilled professionals across 32 offices nationwide will ensure adherence to the DOTD Project Delivery, Maintenance, and Construction policies while maintaining strict internal QA/QC protocols. Our extensive network of local, regional, and national offices offers unmatched bridge preservation expertise, providing practical and cost-effective solutions.

Project Team: H&H will serve as the prime consultant on this IDIQ contract, providing overall project and financial management, QA/QC supervision, as well as highly qualified and well-resourced engineering teams capable of efficiently staffing and completing assigned Task Orders of any scale. As demonstrated in our organizational chart, H&H has the ability to manage multiple Task Orders concurrently.

The H&H team includes multiple subconsultant firms with diverse specialties. Each firm is brought on for their specific expertise and capacity to perform any number of concurrent tasks assigned under this contract expertly and on time, which includes **Bridge Diagnostics, Inc.** (NDT and bridge instrumentation), **Survey and Mapping (SAM), L.L.C.** (land and hydrographic surveys), **Providence Engineering and Environmental Group, LLC** (environmental engineering and permitting), **KTA-Tator, Inc.** (protective coating assessments), **Urban Systems, Inc.** (traffic investigation, analysis, and design), **Moffat and Nichol, Inc.** (underwater inspection), and **APS Engineering & Testing, LLC** (geotechnical investigations and testing).

Our established collaborative relationships with these team members, developed through previous successful DOTD and local agency projects, ensure smooth coordination and exceptional project deliverables.

Contract and Task Order Management: Contract and Task Order Management: H&H recognizes that effective task order management is essential to the successful delivery of the Bridge Maintenance IDIQ contract and is committed to aligning its approach with DOTD's goals and objectives. The H&H Project Manager (PM) serves as the primary point of contact and will be responsible for overall contract administration and management of all Task Orders, including monthly progress reporting on budget and schedule. Drawing on extensive bridge project leadership experience and a proactive management approach, the PM will maintain regular communication with the DOTD PM to support seamless coordination and collaboration.

Once a Task Order has been initiated, our PM will prepare a Project Management Plan (PMP), including project schedule and Quality Management Plan addressing work through delivery for each task. The PMP will be based on the DOTD template and will be updated following a scope of work meeting with the DOTD and subconsultants prior to initiating the design phase. Examples of typical bridge replacement and rehabilitation project schedules are shown below:

Typical Bridge Replacement Project Schedule																	
Task Name	Months																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Document Review																	
Survey																	
Geotechnical Exploration																	
Hydraulic Analysis																	
Design Report																	
60% Preliminary Plans																	
95% PP & Plan-in-hand Meeting																	
100% Preliminary Plans																	
60% Final Plans																	
95% Final Plans																	
98% Final Plans																	
100% Final Plans, Specs, & Estimate																	

Typical Bridge Rehabilitation Project Schedule																	
Task Name	Months																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Document Review																	
NBIS In-depth Inspection and Report																	
LRFR Load Rating Analysis																	
Scope of Work Proposal																	
95% PP & Plan-in-hand Meeting																	
100% Preliminary Plans																	
60% Final Plans																	
95% Final Plans																	
98% Final Plans																	
100% Final Plans, Specs, & Estimate																	

H&H will implement a proven approach to address the multidisciplinary aspects and challenges of various bridge projects. Our PM will be supported by a highly qualified staff of engineers experienced in fixed and movable bridge inspection, rehabilitation, and design. Each Task Order (TO) will be assigned a Task Order Manager and a team of Discipline Leads that possess the relevant experience to fulfill the unique needs of

the respective Task Order. Each team will be supported by Technical Advisors and a team of QA/QC Leads. This senior group will work with the PM to assign production and QC staff experienced with the specific bridge type and anticipated scope of work. Assigning dedicated project staff with the relevant expertise and experience to each bridge project is essential to ensuring each bridge receives the focus needed to achieve project success. Our staff experience is derived from delivering more than 30 new bridge projects and more than 100 rehabilitative bridge projects in the past 10 years. H&H also has the largest movable bridge staff in the U.S., including a full staff of structural, mechanical, and electrical engineers located in our New Orleans Office.

Bridge Design Services: This contract involves providing a full range of bridge engineering services to support LADOTD's bridge preservation program across a variety of structure types and conditions. Anticipated project types include, but are not limited to, new bridge construction, complete bridge replacements, structural rehabilitations, targeted repairs, and preventive maintenance aimed at extending service life and improving system reliability. H&H brings extensive experience delivering these services on complex transportation projects, with a strong focus on durability, resilience, and cost-effective solutions tailored to Louisiana's environmental and operational conditions.

H&H offers comprehensive, multidisciplinary bridge engineering capabilities, including structural, mechanical, electrical, and architectural evaluation, feasibility analysis, design, and plan development. Our team is experienced in addressing a wide range of bridge systems—from conventional girder bridges to movable structures—while integrating inspection findings, constructability considerations, and maintenance needs into each design. We emphasize practical, implementable solutions that minimize impacts to traffic and the traveling public while maximizing long-term performance and serviceability.

All work will be performed in strict accordance with applicable LADOTD policies and guidelines, including the Bridge Design and Evaluation Manual (BDEM), Bridge Design Technical Memorandums (BDTMs), Engineering Directives and Standards Manuals (EDSMs), and the 2026 Louisiana Standard Specifications for Roads and Bridges (LSSRB). H&H's established QA/QC procedures ensure that all deliverables are accurate, consistent, and fully compliant, providing LADOTD with reliable, bid-ready documents. Through proactive coordination and a deep understanding of LADOTD requirements, H&H is well-positioned to deliver high-quality bridge engineering solutions that support the Department's safety, planning, and asset management goals.

Bridge Replacement Projects: The bridge replacement process follows a more typical process regarding DOTD milestones and review. Bridge replacement Task Orders generally progress through the phases outlined below.

- **Pre-Design Phase:** During the Pre-Design Phase, H&H will initiate all site-specific investigations needed to support the development of a sound and efficient bridge replacement concept. These efforts will include detailed topographic surveying to establish existing ground conditions and site features, geotechnical exploration and

laboratory testing to characterize subsurface conditions and foundation requirements, and hydrologic and hydraulic analyses to evaluate flow conditions, flood risks, and potential impacts to the crossing. Data collected from these tasks will serve as the foundation for preparing the design report, which will present multiple feasible alternatives that may vary in bridge type, span arrangement, alignment, and profile. Each alternative will be developed to a conceptual level sufficient to assess key considerations such as constructability, hydraulic performance, environmental impacts, right-of-way requirements, and relative cost. A comparative evaluation will then be performed, clearly identifying the advantages and disadvantages of each option. This structured approach will provide LADOTD with the information necessary to make an informed decision on the preferred alternative for advancing the bridge replacement.

- **Preliminary Plans Phase:** Once a preferred alternative is selected, the project will advance into the Preliminary Plans phase, where the design is further refined and key project impacts are more clearly defined. This phase focuses on advancing the roadway and bridge geometry, including finalizing horizontal and vertical alignments, typical sections, and approach roadway tie-ins. Concurrently, the design team will evaluate potential right-of-way needs, environmental constraints, and required permits, ensuring that any impacts are identified early and coordinated with the appropriate stakeholders. Additional coordination with utilities, local agencies, and regulatory authorities will occur during this stage to address conflicts and incorporate necessary accommodations into the design. A Plan-in-Hand meeting will be conducted with LADOTD and relevant stakeholders to review the proposed design in the field, gather input, and resolve outstanding issues. Comments received during this meeting will be incorporated into the Preliminary Plans, serving as a coordinated and well-vetted foundation for progression into final design.
- **Final Plans Phase:** Upon completion of Preliminary Plans and receipt of environmental clearances, the project will advance into the Final Plans Phase, during which the design is fully developed and prepared for advertisement. This phase includes completing all structural analyses and finalizing detailed plans for the bridge, including member sizing, reinforcement details, foundation design, and constructability considerations. In addition, project-specific technical specifications will be developed to supplement LADOTD standards, addressing materials, construction requirements, and special provisions unique to the project. A detailed and itemized construction cost estimate will be prepared based on the finalized quantities and current bid histories. The design team will also advance and finalize all plan sheets, special details, and supporting documentation necessary for a complete Plans, Specifications, and Estimate (PS&E) package.

Bridge Rehabilitation and Repair Projects: For bridge rehabilitation and repair projects H&H will develop a design approach that echoes the information contained in Part 1 Chapter 6 – Design Policy for Bridge Rehabilitation/Repair Project of the LADOTD BDEM.

- **Document Review (Pre-Inspection Activities):** H&H will work with DOTD to collect all available information on the bridges. The information will be reviewed and summarized for inclusion in the assessments. Desktop surveys and/or coordination

with agencies such as the USCG, USACE, utility owners, emergency services, and other identified stakeholders, will be performed to determine the site or operational constraints that may affect scope or cost. The PM and Discipline Leads will prepare an NBIS in-depth inspection plan with a focus on safety and identification of conditions that may impact the scope of work. We will meet with DOTD staff to determine resiliency goals such as criteria for design events, flood elevations, and design vessels. This approach will enable effective and efficient evaluation while in the field. For movable bridges, we will coordinate with DOTD to obtain the operation and maintenance manuals from each bridge.

- **NBIS Bridge Inspection and Report:** H&H's FHWA-trained, qualified inspectors will perform detailed, in-depth inspections in accordance with NBIS, AASHTO, and BDEM requirements. These inspections are intended to identify the underlying causes of observed deficiencies, providing the basis for developing an appropriate and effective scope of work. In addition, key bridge elements and systems will be evaluated for susceptibility to hazards such as hurricane and flood forces, as well as vessel impact, ensuring a comprehensive understanding of structural vulnerabilities. Because existing conditions often differ from as-built plans, H&H follows a standard practice of conducting thorough field reviews to verify current conditions. When necessary, advanced tools such as 3D laser scanning will be used to accurately document geometry, assess conditions, and confirm the fit-up of proposed modifications. Previous inspection reports will also be reviewed to inform inspection procedures, identify areas of concern, and determine any special equipment or cleaning requirements. To meet project schedules or address access constraints, the inspection team may be supplemented with additional Team Leaders (TLs) and/or Inspectors. Where technical access is required, SPRAT-certified personnel will be utilized. A FHWA element level in-depth inspection report will be developed outlining our findings and recommended action items to address these defects and deficiencies. Our subconsultant, **Moffat and Nichol**, will provide underwater bridge inspection services when necessary.
- **Bridge Load Rating:** H&H will perform LRFR load ratings, as amended by DOTD BDEM and BDTMs. Using the information gathered during the inspection, we will perform an up-to-date present condition load rating to evaluate the load carrying capacity of the bridge. Our team has extensive experience with AASHTOWare Bridge Rating (BrR), and we have applied our load rating expertise to over 2,000 bridges in the past 10 years. For more complex bridges, we will develop 3D finite element models using MIDAS, CSI Bridge, or other approved software as required to accurately determine load rating. Refined analysis techniques can also be used to avoid load postings in some cases.
- **Scope of Work Proposal and Meeting:** Based on the results of the load rating and inspection report, a baseline data set documenting current and potential future problems with the bridge will be developed. Assessment will include options to improve various aspects of the bridge, including hydraulic design, roadway alignment, environmental, roadside safety, and vessel or vehicular impact vulnerability. When applicable, repairs will consider the cost of the repair/improvement or replacement, and value-added to include better maintenance access, improved reliability, easier maintenance, better survivability of systems during storm events, the safety of

vehicular traffic, marine traffic, pedestrians, and Department employees, permanence of repair, and marine/vehicular closure time during construction. From this exercise, we will develop a preliminary corrective action matrix for both short-term (10-15 years) and long-term (e.g., 40 years) repairs, including cost estimates and probable impacts on navigation and/or vehicular traffic. Proposed repair items will be categorized as high, medium or low priority. A meeting with DOTD will be held to finalize the items to be included in the project scope.

Sampling, Instrumentation, and Non-Destructive Testing: Our subconsultant, **Bridge Diagnostics, Inc.**, will provide sampling, instrumentation, and NDT services for this contract. These services may include, but are not limited to, collection of samples of materials from existing structures for evaluation, estimation of concrete strength, assessment of reinforcement condition, detection of cracks and voids, diagnostic and/or proof testing to determine specific structure response characteristics and/or to determine the causation of observed distress, including magnetic particle and UT discussed above. Instrumentation will include design of the instrumentation plans, installation, data acquisition, analysis, and evaluation of the structure based on the instrumentation plan. Our subconsultant, **KTA-Tator**, will provide assessment and evaluation of protective coating material samples for the determination of compatibility with proposed coatings, analysis for heavy metals, proper procedures for treatment and handling, and disposal of waste.

Geotechnical Engineering Services: Our subconsultant, **APS Engineering & Testing, LLC**, will perform all field exploration required for geotechnical investigation, analysis, and design, with supplemental support from H&H's in-house Geotechnical Design Group; services may include shallow and deep soil borings, laboratory testing and analysis, preparation of soil boring logs, geotechnical analysis and design, and construction-related engineering services, all in accordance with the DOTD Geotechnical Design Manual. For each project, a Geotechnical Design Criteria table outlining anticipated elements, methods, and criteria will be submitted, and all subsurface investigations will be documented in a Geotechnical Data Report.

Road Design and Traffic Services: H&H will provide comprehensive roadway engineering services in accordance with LADOTD design standards, policies, and procedures, supporting all phases of project development from preliminary design through final plan preparation. Services will include geometric design, typical sections, horizontal and vertical alignments, intersection and interchange layouts, roadway widening or rehabilitation, drainage coordination, and development of Maintenance of Traffic (MOT) concepts. H&H will provide hydraulic and hydrologic engineering services in accordance with LADOTD policies, the Hydraulic Design Manual, and applicable FHWA guidelines. Services will include watershed delineation, hydrologic modeling, and hydraulic analysis to evaluate existing drainage conditions, assess flood risks, and determine appropriate design discharges. Detailed analyses of bridge crossings will be performed using HEC-RAS software to assess flow characteristics, backwater effects, scour potential, and impacts to adjacent properties and infrastructure. H&H will develop drainage design solutions, including stormwater management systems, channel improvements, and erosion protection

measures, that are resilient, cost-effective, and constructible.

Our subconsultant, **Urban Systems**, will provide all traffic engineering, analysis, and design services. As Task Orders are issued, Urban Systems will assess the required level of Transportation Management Plan (TMP) based on roadway classification, expected impacts, level of service, and the type and duration of lane closures needed for inspection and repair activities. The TMP will be coordinated with the LADOTD Project Manager and developed in accordance with EDSM VI.1.1.8. For each TMP, project-specific goals, constraints, and maintenance needs will be established early. As warranted by the scope, Urban Systems may collect traffic data and perform analyses to evaluate capacity, maintenance of traffic strategies, and potential queuing, particularly where interstate facilities are affected. Appropriate public outreach strategies will also be identified based on anticipated disruptions. Following preparation of the Traffic Control Plan, draft TMP materials will be distributed to stakeholders for review prior to finalization.

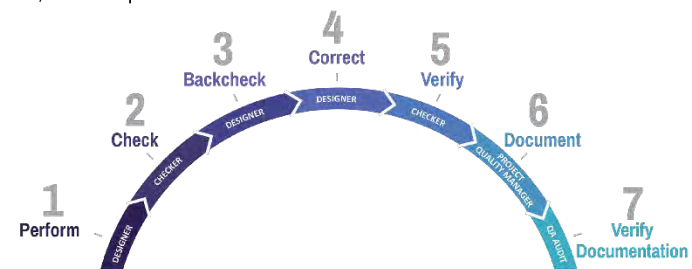
Surveying and Title Work Services: Our subconsultant, **Survey and Mapping, LLC**, will provide all surveying and title work services necessary to perform topographic, and boundary surveying, develop right-of-way maps, and provide other existing site data. All survey services will be performed under a Louisiana Professional Land Surveyor in accordance with DOTD standards and applicable professional requirements. SAM will establish project control tied to NGS datums and the Louisiana State Plane Coordinate System using GNSS, RTK, traverses, and leveling, with documentation prepared for DOTD review. Topographic data will be collected using appropriate methods—conventional survey, GNSS, LiDAR, and UAS—based on site conditions, accuracy needs, and safety. Data will include terrain, structures, utilities, drainage, and bridge features, and will be processed into DTMs, mapping, and design-ready deliverables. When required, SAM will perform Subsurface Utility Engineering (SUE) in accordance with ASCE 38-22 (QL-D through QL-A), including records research, field designation, and test holes. Utility coordination will be conducted early, with findings incorporated into survey deliverables with proper quality level attribution. For water crossings, hydrographic and bathymetric surveys will be performed using sonar systems to define channel geometry, streambed conditions, and scour features, integrated with above-water data as needed. Remote sensing (terrestrial/mobile LiDAR, aerial LiDAR, UAS) will be used to improve safety and efficiency, with all data controlled, verified, and meeting DOTD/ASPRS accuracy standards. Boundary and right-of-way services will include title research, monument recovery, property mapping, and preparation of ROW deliverables, advancing through required DOTD milestones to final certified plans.

Environmental and Permitting Services: Our subconsultant, **Providence Engineering**, will provide all required environmental and permitting services to secure State, Federal, and local approvals. Tasks include wetlands delineations and protected species surveys in accordance with USACE guidance, as well as cultural resource evaluations conducted by SOI-qualified staff. Cultural resources within the Area of Potential Effect will be identified, evaluated for National Register eligibility, and documented in compliance with Louisiana Division of Archaeology and Historic

Preservation guidelines. Providence has extensive experience coordinating with USACE (New Orleans and Vicksburg Districts) and state and federal agencies, supporting numerous Section 10/404 permits, Coastal Use Permits, and related approvals. Services include preparation and submittal of Joint Permit Applications (JPA), Nationwide Permit (NWP) Pre-Construction Notifications, and Individual Permit documentation, along with coordination for Water Quality Certification (WQC) and Scenic Rivers permits where applicable. Providence also provides liaison support with LDCE, LDEQ, LDWF, USFWS, CPRA, local levee boards, and parish authorities. When required, Providence will support Section 408 approvals, coordinating all necessary submittals and agency engagement to advance permit authorization efficiently.

Construction Engineering Support Services: H&H will provide comprehensive construction engineering support throughout construction to help DOTD and the contractor efficiently address field conditions, maintain schedule, and deliver high-quality work. These services will include construction drawing and shop drawing reviews, responses to requests for information, evaluation of contractor means and methods proposals as they relate to structural integrity and constructability, review of working drawings and material submittals, support for staged construction and temporary works, and technical input on proposed field changes. As needed, we will coordinate closely with DOTD, the contractor, and relevant subconsultants to resolve issues quickly, clarify design intent, and support timely decision-making during construction. Our team will also provide engineering support for unforeseen conditions, assist with the review of substitutions or value engineering concepts, and help confirm that construction activities remain consistent with the design documents, applicable standards, and project objectives.

Quality Management: H&H is committed to delivering quality through a project-specific Quality Management Plan (QMP) for providing guidance to the project team. The objective of the QMP is to provide tools to the project team so that our professional services are performed and delivered in accordance with applicable industry standards of care and to the satisfaction of project scope requirements while remaining within the allocated schedule and budget. The QMP includes the H&H standard QA/QC Plans. Together these plans form our Quality Management System (QMS) which defines procedures to minimize errors, discrepancies, and omissions in our work products. Our QMS is a living document that will be continually assessed and revised to reflect best practices and lessons learned. This process includes clarification of design information to support construction or production, correction and prevention of errors and omissions, and response to client feedback.



19. Workload:

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Discipline(s) *	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance**
Hardesty & Hanover, LLC 	Other (Tunnel Inspection)	4400028222; H.011006.5 Task 1	IDIQ Contract for Tunnel Inspection Services	\$476,680
	Bridge	4400023511; H.009730.5 Task 1	Bridge Inspection of Complex Structures	\$165,635
	Bridge	4400023511; H.009730.5 Task 2	Bridge Inspection of Complex Structures LADOTD Movable Bridge Inspection Manual	\$457,629
	Bridge	4400023511; H.009730.5 Task 3	Bridge Inspection of Complex Structures US 190 bridge Inspection; Krotz Springs	\$102,778
	Bridge	4400023511; H.009730.5 Task 5	Bridge Inspection of Complex Structures SNBI Data Collection	\$1,745,884
	CE&I/OV	4400017430; H.001498.6	LA 24 and LA 316: Company Canal Bridge, Terrebonne Parish	\$91,719
	Bridge	4400023909; H.002244.5 Task 2	IDIQ Contract for Movable Bridge Preservation Boudreaux Canal (Mechanical)	\$50,015
	Bridge	4400023909; H.015963.5 Task 4	IDIQ Contract for Movable Bridge Preservation Boudreaux Canal (Structural)	\$5,841
	Bridge	4400023909; H.015963.6 Task 5	IDIQ Contract for Movable Bridge Preservation Red River MB Ped Gates (Jackson St)	\$60,574
	Bridge	4400023909; H.002798.6 Task 6	IDIQ Contract for Movable Bridge Preservation Bayou Teche Bridge (Oaklawn) Arc-Flash	\$9,284
	CE&I/OV	4400024021; H.015028.6	LA 302: Bayou Barataria MB Replacement Route: LA 302	\$3,681,020
	CE&I/OV	4400024022; H.002264.6	LA 302: Bayou Barataria MB Replacement Route: LA 302, LA 47, and LA 3257	\$811,899
	Bridge	4400021516; H.011962; H.012063; H.013818; H.011986; H.012734	Contract 4 for Movable Bridges (5) – Original contract plus Supplemental Agreement (SA) No 1	\$1,591,733
	Bridge	4400021516; H.013818	Contract 4 for Movable Bridges (5) – SA No. 2	\$1,713,982
	Bridge	4400026585; H.006226.5	Point-a-la-Hatche Ferry Landing Replacement	\$2,059,800
	CE&I/OV	4400031700; H.016464	LA 23 Russell Dr to Hwy 11	\$756,074
APS Engineering & Testing, LLC 	Geotech	4400024653/ H.004005.5	I-10 LA415 to Essen Lane on I-10 and I-12	\$5,500
	CE&I/OV	4400014913/ H.010155.6	US 90 RR Overpass SE of LA 85	\$233,076
	CE&I/OV	4400032793/ H.014239.6	LA-589 Alligator Bayou Bridge	\$36,710
	CE&I/OV	4400024653/ H.014560.6	LA-94 Vermillion River Bridge	\$14,987

Bridge Diagnostics, Inc. 	Bridge	4400025002 H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO5	\$294,799
	Bridge	4400025002 H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO7	\$5,035
	Bridge	4400025002 H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO9	\$115,918
	Bridge	4400025002 H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO10	\$408,471
	Bridge	44-24187 H.004647.6	I-20 Miss. R. Bridge Geotechnical & Stru IDIQ Contract for Bridge Preservation Statewide TO 15	\$145,113
	Bridge	4400023812	Mast Plan Development for the Weigh Station Assessment, Rehabilitation, and Plan Development Statewide TO3	\$27,081
SAM, LLC, formerly SJB Group, LLC 	Survey	Contract No. 44-17033 / S.P. No. H.005121 / F.A.P. No. H005121	LA 415 Connector - I10 to La 1	\$131,202
	Other (SUE)	Contract No. 44-17033 / S.P. No. H.005121.9 F.A.P. No. H005121	SUE - LA 415 Connector - I10 to La 1	\$ 326,402
	Other (SUE)	Contract No. 4400027349 S.P. No. H.003931.6	I-10 Calcasieu Project P3	\$5,749,687
	CPM	Contract #44-31512 S.P. Multiple	IDIQ Contract for Critical Path Method (CPM) Analysis	N/A
	CPM	Contract # 44-30226 S.P. H.014258.6	RCL - LA 1: Port Allen Canal Bridge Replacement (Phase 2) (HBI)(CE&I)	\$69,951
	CPM	Contract# 44-31862 S.P. Multiple	Contract For Consulting Services Critical Path Method (CPM) Analysis	\$316,272
	Survey	Contract# 44-23943 S.P. H.014886.5	US 90: LAFITTE AVE TO FRANCE RD	\$70,053
	Survey	S.P. H015932	LA 182: City of Franklin	\$56,232
	Survey	Contract# 44-29196 S.P. H016255.5	LA DOTD LA 1: WGS Riverplex	\$89,708

Providence Engineering and Environmental Group LLC 	CE&I/OV	Contract No. 4400015191; H.004634	IDIQ Contract for Construction Engineering TASK 1 Management and Staff Augmentation Services for District 62, St. Helena, Livingston, St. John, St. Tammany, Tangipahoa and Washington Parishes	\$518,225
	Environmental	Contract No. 4400017438; H.013284	Supplemental Agreement No. 6 MRB South GBR: LA 1 to LA 30 Connector Route: New Route Ascension, East Baton Rouge, Iberville, and West Baton Rouge Parishes	\$124,531
	Environmental	Contract No. N/A; H. 004791	Belle Chasse Bridge and Tunnel Replacement Public-Private Partnership Project	\$168,435
	CE&I/OV	Contract No. 4400031953 SPN H.012587.6 F.A.P. NO. H012587	I-10: W End of BR 290 - W End of LA 415 (CE&I) Route: I-10	\$1,142,865
Urban Systems, Inc 	Traffic	No. H011221.5, H.011222.5; No.4400022581	I-10: N.O. CBD3 (Poydras- Louisa) & I-10:N.O CBD4 (Louisa – I-510)	\$30,724
	Traffic	No.4400024185, No.H.016046.5	US 190: Atchafalaya River @ Krotz Springs Repairs	\$7,616
	Traffic	No.4400026585, No. H.006226.5	Pointe-a-La-Hache Ferry Landing Replacement	\$5,000
KTA-Tator, Inc. 	Bridge	Contract No. 4400021514, State Project Nos. H.012003, H.011995, H.010007, H.012568, and H.012000	Contract 2 for Moveable Bridges (5) (5 field work completed)	\$27,747
	Bridge	Contract 4400021516	Contract for 5 (revised to 4) moveable bridges (two completed)	\$58,170
	Bridge	Contract 4400021515	Contract for 5 moveable bridges (5 field work completed)	\$42,236
	Bridge	Contract 4400029683	Contract for St Francisville Bridge (field work completed)	\$9,481
Moffat & Nichol Inc.  moffatt & nichol	Bridge	4400029207; H.009730.5	LADOTD IDIQ Contract for Underwater Inspections – Task Order 1	\$1,730,605
	Bridge	4400029683; H.009730.5	LADOTD IDIQ Contract for Complex Bridge Inspections – Task Order 1	\$396,506
	Bridge	4400024187; H.014609.1	LADOTD IDIQ Contract for Bridge Preservation – Task Order 14 Cameron Ferry Landing Replacement	\$36,453
	Rail	4400011834; H.012811.1	LADOTD Railroad Inventory Systems Railroad Inventory Upgrade – Supplemental Agreement 1	\$21,602

Matthew Witkowski

From: info@ite.org
Sent: Wednesday, November 29, 2023 4:27 PM
To: Matthew Witkowski
Subject: TPCB Renewal Approval Notice

Transportation Professional Certification Board Inc.

1627 Eye Street, NW • Suite 550 • Washington, DC 20006 USA • Tel: 202-785-0060 • www.tpcb.org

Mr. Matthew T. Witkowski, P.E., PTOE:

We want to congratulate you and thank you for renewing your certification as a PTOE. The Transportation Professional Certification Board and staff commend you on your commitment to your profession and stand ready to assist you. Some important things to note:

1. Your certification is renewed through 11/24/2026.
2. You will not be receiving a new certificate as the one sent to your originally does not indicate an expiration date and can be displayed as long as you are a PTOE. Your certificate does indicate your original certification date.
3. At the end of the three-year period, your certification will need to be renewed again. This can be done without examination provided you have met the continuing education requirements and submitted the necessary [PDHs/CMs](#).
4. Just a reminder that you can use the free [Record-keeping System](#) if you are an ITE member, but if you are a non-member, you may use this template to keep track of your credits.
<https://www.tpcb.org/TPCB/assets/File/PUBLISHED/TPCB%20Template%20for%20PDH%20Uploading%20Fillable.pdf>

We thank you for your continuing support of the Certification Program and wish you the best of luck in the coming years.

Sincerely,

Joseph C. Balskus, P.E., PTOE, RSP1
Chair, Transportation Professional Certification Board

20. Certifications/Licenses:

Certificate of Completion
presented to
Alison Catarella-Michel
for completing the
**Traffic Engineering Analysis Process & Report
Module 1**

Date: June 4, 2018
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 4

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

Certificate of Completion
presented to
Alison Catarella-Michel
for completing the
**Traffic Engineering Analysis Process & Report
Module 2**

Date: June 11, 2018
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 4

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

Certificate of Completion
presented to
Alison Catarella-Michel
for completing the
**Traffic Engineering Analysis Process & Report
Module 3**

Date: September 10, 2018
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 3

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

Certificate of Completion
presented to
Nicole Stewart
for completing the
**Traffic Engineering Analysis Process & Report
Module 1**

Date: January 14, 2019
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 2

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

Certificate of Completion
presented to
Nicole Stewart
for completing the
**Traffic Engineering Analysis Process & Report
Module 2**

Date: January 14, 2019
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 3

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

Certificate of Completion
presented to
Nicole Stewart
for completing the
**Traffic Engineering Analysis Process & Report
Module 3**

Date: January 15, 2019
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 3

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

[Signature]
Authorized Instructor

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

Certificate of Completion

presented to

Christine Darrah

for completing the

Traffic Engineering Analysis Process & Report Module 1

Date: October 7, 2020
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 2.5

John A. Calhoun
Authorized Instructor

John A. Calhoun
Authorized Instructor

John A. Calhoun
Authorized Instructor



Certificate of Completion

presented to

Christine Darrah

for completing the

Traffic Engineering Analysis Process & Report Module 2

Date: October 7, 2020
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 3.5

John A. Calhoun
Authorized Instructor

John A. Calhoun
Authorized Instructor

John A. Calhoun
Authorized Instructor



Certificate of Completion

presented to

Christine Darrah

for completing the

Traffic Engineering Analysis Process & Report Module 3

Date: October 8, 2020
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 3.5

John A. Calhoun
Authorized Instructor

John A. Calhoun
Authorized Instructor

John A. Calhoun
Authorized Instructor



Nicole Stewart
has attended
Louisiana Traffic Control Supervisor

Completed: 26-FEB-2025

CEU (If Applicable): 1.5

ATSSA provides training and certification but neither constitutes employment by ATSSA.
This certificate provides proof of training, not certification.

American Traffic Safety Services Association
ATSSA.com



Christine Darrah
has attended
National Flagger Certification Training Course

Completed: 01-JUL-2024

CEU (If Applicable): 0

ATSSA provides training and certification but neither constitutes employment by ATSSA.
This certificate provides proof of training, not certification.

American Traffic Safety Services Association
ATSSA.com



AMERICAN TRAFFIC SAFETY
SERVICES ASSOCIATION

*This is to affirm that
Christine Darrah
has satisfied the requirements
to be designated as a
Traffic Control Supervisor*

Cert. #: 873755
Issue Date: 2/11/2025
Expiration Date: 2/10/2029

CD
Certification Board



National Highway Institute
Certificate of Training

Chace Hulon

has Successfully Completed

FHWA-NHI-130053 Bridge Inspection Refresher Training

hosted by

Office of State Aid Road Construction

Date: May 16-18, 2023
Location: Ridgeland, MS

Hours of Instruction: 18

Stacey J. Caston
Instructor

Marie Allerton
Local Coordinator

Stacey J. Caston
Instructor

Stacey J. Caston
Stacey J. Caston, Acting Director
National Highway Institute



National Highway Institute
Certificate of Training

Chace Hulon

has participated in

FHWA-NHI-130091 Underwater Bridge Inspection

hosted by

California Department of Transportation

Date: April 23-26, 2024
Location: Sacramento, CA

Hours of Instruction: 24

Stacey J. Caston
Instructor

Stacey J. Caston
Local Coordinator

Stacey J. Caston
Instructor

Stacey J. Caston
Stacey J. Caston, Director
National Highway Institute



**SOCIETY OF PROFESSIONAL
ROPE ACCESS TECHNICIANS**
Rope Access Certification



Acknowledges that

CHACE HULON

*has successfully completed the evaluation and written test
in accordance with SPRAT's Rope Access Certification Requirements
and is a certified*

Level 2 Technician

SPRAT #070712

AWARDED: 25 January, 2025
Expires: 17 March, 2028

Stacey J. Caston
DIRECTOR, NATIONAL EVALUATION COMMITTEE CHAIR
NHTD, SPRAT PRESIDENT

SPRAT's Technician Verification System may be used to verify the accuracy of data on this certificate.
©2013 - Present, Society of Professional Rope Access Technicians



National Highway Institute
Certificate of Training

Bryan Tyson

has Successfully Completed

**FHWA-NHI-130053 Bridge Inspection Refresher Training
(SNBI)**

hosted by

California Department of Transportation

Date: February 27-29, 2024
Location: Oakland, CA

Hours of Instruction: 22

Stacey J. Caston
Instructor

Stacey J. Caston
Local Coordinator

Stacey J. Caston
Instructor

Stacey J. Caston
Stacey J. Caston, Director
National Highway Institute



**SOCIETY OF PROFESSIONAL
ROPE ACCESS TECHNICIANS**
Rope Access Certification



Acknowledges that

BRYAN TYSON

*has successfully completed the evaluation and written test
in accordance with SPRAT's Rope Access Certification Requirements
and is a certified*

Level 1 Technician

SPRAT #172095

AWARDED: 13 June, 2025
Expires: 17 June, 2028

Stacey J. Caston
DIRECTOR, NATIONAL EVALUATION COMMITTEE CHAIR
NHTD, SPRAT PRESIDENT

SPRAT's Technician Verification System may be used to verify the accuracy of data on this certificate.
©2013 - Present, Society of Professional Rope Access Technicians



Association of Diving Contractors International



Cert.# 54102

Expires 04/06/2028



Entry Level Tender/Diver

BRYAN TYSON

I.D. 21986

Commercial Diver Certification Card



National Highway Institute



Certificate of Training

Jeffrey Gazarek

has successfully completed

FHWA-NHI-130053 Bridge Inspection Refresher Training

hosted by:

Louisiana Department of Transportation & Development

Date: June 16-18, 2025
Location: Baton Rouge, LA

Hours of Instruction: 22

Mark Nyerges

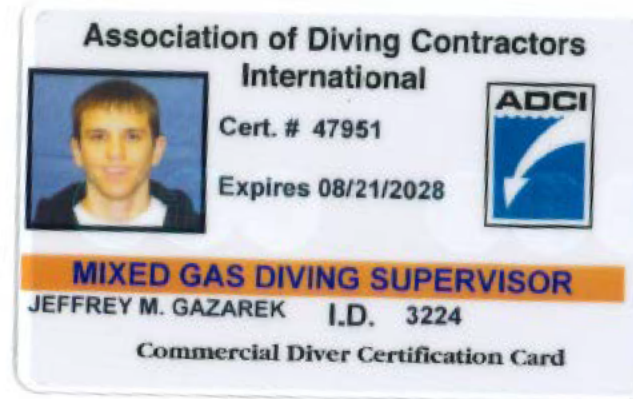
Allison Landry

Instructor: Earl Dubin

Local Coordinator

Instructor

Stacey Caston, Director
National Highway Institute





National Highway Institute



Certificate of Training

CHRISTOPHER A. ESCHENBACH

has Successfully Completed

FHWA-NHI-130053 Bridge Inspection Refresher Training

hosted by

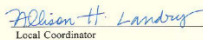
LA DOTD/LTRC

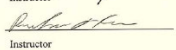
Date: January 10-12, 2023

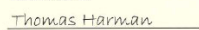
Hours of Instruction: 18

Location: Baton Rouge, LA


Instructor


Local Coordinator


Instructor


Thomas Harman, Director
National Highway Institute



U.S. Department
of Transportation
Federal Highway
Administration

National Highway Institute



Certificate of Training

Christopher Eschenbach

has participated in

FHWA-NHI-130091 Underwater Bridge Inspection

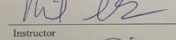
hosted by

Missouri Department of Transportation

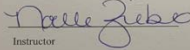
Date: October 28-31, 2024

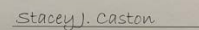
Hours of Instruction: 24

Location: Jefferson City, MO


Instructor


Local Coordinator


Instructor


Stacey J. Caston, Director
National Highway Institute

**Association of Diving Contractors
International**

Cert. # 61434

Expires 07/09/2030



SURFACE-SUPPLIED AIR DIVING SUPERVISOR

CHRISTOPHER A. ESCHENBACH I.D. 4036

Commercial Diver Certification Card



SOCIETY OF PROFESSIONAL ROPE ACCESS TECHNICIANS

Rope Access Certification



Acknowledges that

**CHRISTOPHER ALLEN
ESCHENBACH**

*has successfully completed the evaluation and written test
in accordance with SPRAT's Rope Access Certification Requirements
and is a certified*

Level 1 Technician

SPRAT #200515

AWARDED: 25 January, 2025

Expires: 25 January, 2028


DAVID SARTORI, EVALUATIONS COMMITTEE CHAIR


MATT HUME, SPRAT PRESIDENT

SPRAT's [Technical Verification System](#) may be used to verify the accuracy of data on this certificate.



American Welding Society®

Certifies that Welding Inspector

Christopher A. Eschenbach

*has complied with the requirements of AWS QC1,
Standard for AWS Certification of Welding Inspectors*

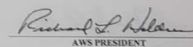
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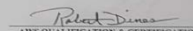
CERTIFICATE NUMBER

Apr/01/2028

EXPIRATION DATE




AWS PRESIDENT


AWS QUALIFICATION & CERTIFICATION
COMMITTEE CHAIR



Office of the Secretary
PO Box 94445 | Baton Rouge, LA 70804-9445
ph: 225-379-1200 | fx: 225-379-1854



06/24/2026

Sergio Aviles
APS Engineering and Testing, LLC
8000 Innovation Park Drive
Baton Rouge, LA 70820

RE: DBE Re-Evaluation Determination – Continued Eligibility in the LAUCP

Dear Sergio Aviles:

This letter is in response to your firm's participation in the Disadvantaged Business Enterprise (DBE) re-evaluation process conducted by the Louisiana Department of Transportation and Development (LADOTD).

LADOTD has reviewed your Personal Narrative, Personal Net Worth (PNW) statement, and all supporting documentation submitted.

Based on this review, LADOTD has determined that your firm continues to meet the eligibility requirements of the Louisiana Unified Certification Program (LAUCP) for Disadvantaged Business Enterprise (DBE) in accordance with 49 CFR Part 26. Based on the totality of the evidence provided, you have demonstrated social and economic disadvantage by a preponderance of the evidence.

Your firm is *approved* for continued DBE certification and will remain listed in the LAUCP DBE Directory.

Please note that you are required to comply with all ongoing DBE Program requirements, including reporting any significant changes affecting ownership, control, or financial status.

If you have any questions, please contact our office.

Sincerely,

LADOTD - Compliance Programs Section
Email: 2025IFRCompliance@la.gov
Phone: (225) 379-1382



**CERTIFICATE OF
ACCREDITATION**



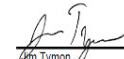
APS Engineering and Testing, LLC.

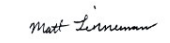
in

Baton Rouge, Louisiana, USA

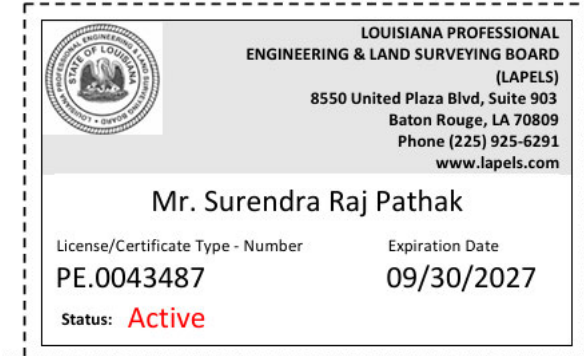
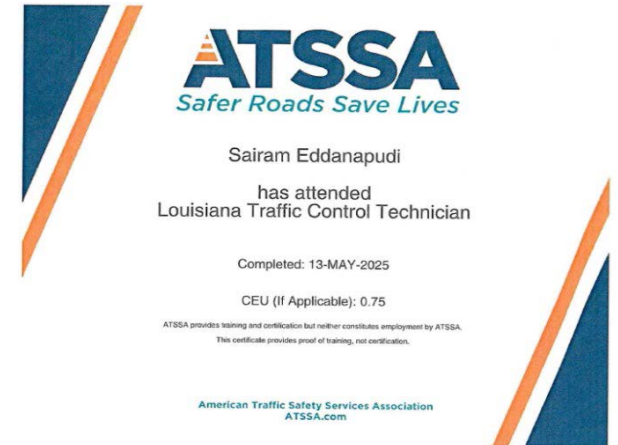
has demonstrated proficiency for the testing of construction materials and has conformed to the requirements established in AASHTO R 18 and the AASHTO Accreditation policies established by the AASHTO Committee on Materials and Pavements.

The scope of accreditation can be viewed on the Directory of AASHTO Accredited Laboratories (aashtoresource.org).


Jim Tymon
AASHTO Executive Director


Matt Linneman
AASHTO COMP Chair







State of Louisiana
Department of Transportation and Development

This certificate is presented to

Sairam Eddanapudi

for successfully completing
The Local Public Agency (LPA) Qualification Program:
Construction, Engineering, & Inspection (CE&I)
Training (Parts 1-9) on

May 9, 2025



State of Louisiana
Department of Transportation and Development

This certificate is presented to

Surendra Pathak

for successfully completing
The Local Public Agency (LPA) Qualification Program:
Construction, Engineering, & Inspection (CE&I)
Training (Parts 1-9) on

May 5, 2025



State of Louisiana
Department of Transportation and Development

This certificate is presented to

Sergio Aviles

for successfully completing
The Local Public Agency (LPA) Qualification Program:
Construction, Engineering, & Inspection (CE&I)
Training (Parts 1-9) on

May 5, 2025



The Louisiana Professional Engineering and Land Surveying Board has the following information on file:

Name:

APS Engineering and Testing, LLC

Public Address:

Mr. Sergio Aviles
5261 Highland Road, PMB 320
Baton Rouge, Louisiana 70808

License/Certificate Information w/ Supervision

License	Status	First Issuance Date	Expiration Date	Supervisor(s)
EF.0005198	Active	11/29/2012	03/31/2027	Mr. Sergio L. Aviles # PE.0033571

Name	Type	City	Status
APS ENGINEERING AND TESTING, LLC	Limited Liability Company	BATON ROUGE	Active
Previous Names			
Business:	APS ENGINEERING AND TESTING, LLC		
Charter Number:	40911984K		
Registration Date:	8/9/2012		
Domicile Address			
1645 NICHOLSON DR			
BATON ROUGE, LA 70802			
Mailing Address			
5261 HIGHLAND RD. #320			
BATON ROUGE, LA 70808			
Status			
Status:	Active		
Annual Report Status:	In Good Standing		
File Date:	8/9/2012		
Last Report Filed:	7/15/2025		
Type:	Limited Liability Company		
Registered Agent(s)			
Agent:	SERGIO AVILES		
Address 1:	5261 HIGHLAND RD. #320		
City, State, Zip:	BATON ROUGE, LA 70808		
Appointment Date:	6/25/2018		
Officer(s)			
Officer:	SERGIO AVILES		
Title:	Member		
Address 1:	5261 HIGHLAND RD. #320		
City, State, Zip:	BATON ROUGE, LA 70808		
Additional Officers: No			



Steven Fall
has attended
Louisiana Traffic Control Supervisor Refresher

Completed: 03-SEP-2025

CEU (If Applicable): 0.75

ATSSA provides training and certification but neither constitutes endorsement by ATSSA.
This certificate provides proof of training, not certification.

American Traffic Safety Services Association
ATSSA.com



Certifies

Jayson Helsel, PCS

Has fulfilled the requirements for recognition as an SSPC
PROTECTIVE COATINGS SPECIALIST

Valid Through December 31, 2027

2011-930-152
Certification Number

September 30, 2011
Original Date Issued



Hilma Salinger
Executive Director AMPP



LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
8550 United Plaza Blvd, Suite 903
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Jayson Laurence Helsel

License/Certificate Type - Number
PE.0030090

Expiration Date
09/30/2026

Status: **Active**



Certificate of Achievement

The NACE International Institute Recognizes

Jayson L Helsel

As a Certified

NACE Certified Coating Inspector - Level 3

Hilma Salinger
Executive Director
NACE International Institute



Expires
March 31, 2028
Cert No.7356

186823



Certificate of Achievement

The Association for Materials Protection and Performance Recognizes

Jayson L Helsel

As a Certified

SSPC Concrete Coating Inspector Level 2

Cynthia J. Offley
Chief Product and Operations Officer
AMPP



Expires
October 31, 2027
Cert No.CCI 25374



ASNT CERTIFICATION SERVICES LLC.



**BE IT KNOWN THAT
James Kretzler**

has met the established and published Requirements for Certification by
ASNT Certification Services LLC. in the following Nondestructive Testing Method:
NDT Level III Magnetic Particle Testing

186946

Certificate Number

11/01/2025

Issue Date

10/31/2030

Expiration Date



John P. Kirtley
ASNT Certification
Services LLC, President

James Kretzler
Certification Management
Committee Chair

All ASNT NDT Level III exams are developed and maintained in accordance with ISO/IEC 17024 standards for certification of persons. The following exams are currently accredited by The ANS National Accreditation Board (ANAB) - ISO/IEC 17024, PT, UT, RT, ET, VT, and MT. This certificate is the property of ASNT Certification Services LLC. It is not official without ASNT Certification Services LLC's logo and is subject to revocation prior to the expiration date. This certificate should be verified on www.asntcertification.com or by contacting ASNT Certification Services LLC.



ASNT CERTIFICATION SERVICES LLC.



**BE IT KNOWN THAT
James Kretzler**

has met the established and published Requirements for Certification by
ASNT Certification Services LLC. in the following Nondestructive Testing Method:
NDT Level III Liquid Penetrant Testing

186946

Certificate Number

11/01/2025

Issue Date

10/31/2030

Expiration Date



John P. Kirtley
ASNT Certification
Services LLC, President

James Kretzler
Certification Management
Committee Chair

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Certifies

Robert Lanterman, PCS

Has fulfilled the requirements for recognition as an SSPC

PROTECTIVE COATINGS SPECIALIST

Valid Through December 31, 2027

2015-820-136
Certification Number

August 20, 2015
Original Date Issued

Helena Sulinger
Executive Director AMPP



ASNT CERTIFICATION SERVICES LLC.



**BE IT KNOWN THAT
James Kretzler**

has met the established and published Requirements for Certification by
ASNT Certification Services LLC. in the following Nondestructive Testing Method:
NDT Level III Radiographic Testing

186946	11/01/2025	10/31/2030
Certificate Number	Issue Date	Expiration Date
	<i>John J. Ziering</i> ASNT Certification Services LLC, President	<i>John J. Ziering</i> Certification Management Committee Chair



ASNT CERTIFICATION SERVICES LLC.



**BE IT KNOWN THAT
James Kretzler**

has met the established and published Requirements for Certification by
ASNT Certification Services LLC. in the following Nondestructive Testing Method:

NDT Level III Ultrasonic Testing

186946	11/01/2025	10/31/2030
Certificate Number	Issue Date	Expiration Date
	<i>John J. Ziering</i> ASNT Certification Services LLC, President	<i>John J. Ziering</i> Certification Management Committee Chair

100520



Certificate of Achievement

The Association for Materials Protection and Performance Recognizes

Robert Lanterman

As a Certified

Senior Certified Coatings Inspector

Cynthia J. Offley
Chief Product and Operations Officer
AMPP



Expires
May 23, 2028
Cert No. N-13505



National Highway Institute

Certificate of Training

Chad Turner

has participated in

NEPA and Transportation Decision Making

hosted by

LA DOTD/LTRC

Date: October 14-16, 2009
Location: Baton Rouge, LA

Hours of Instruction: 18

Richard Barnaby
Instructor

William Landry
Local Coordinator
Richard Barnaby, Director
National Highway Institute



THE
Register of Professional Archaeologists

Certifies that

Elizabeth Hunt, M.A., RPA

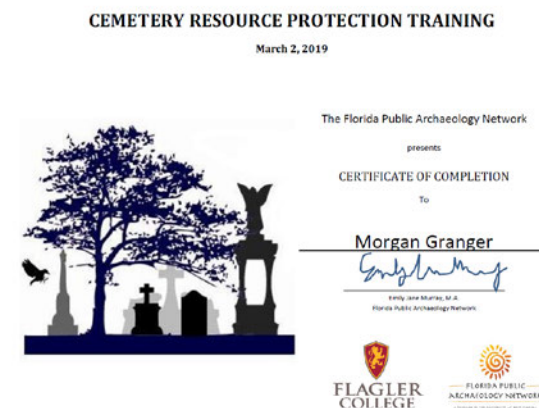
Has met all professional qualifications
and has been accredited as a

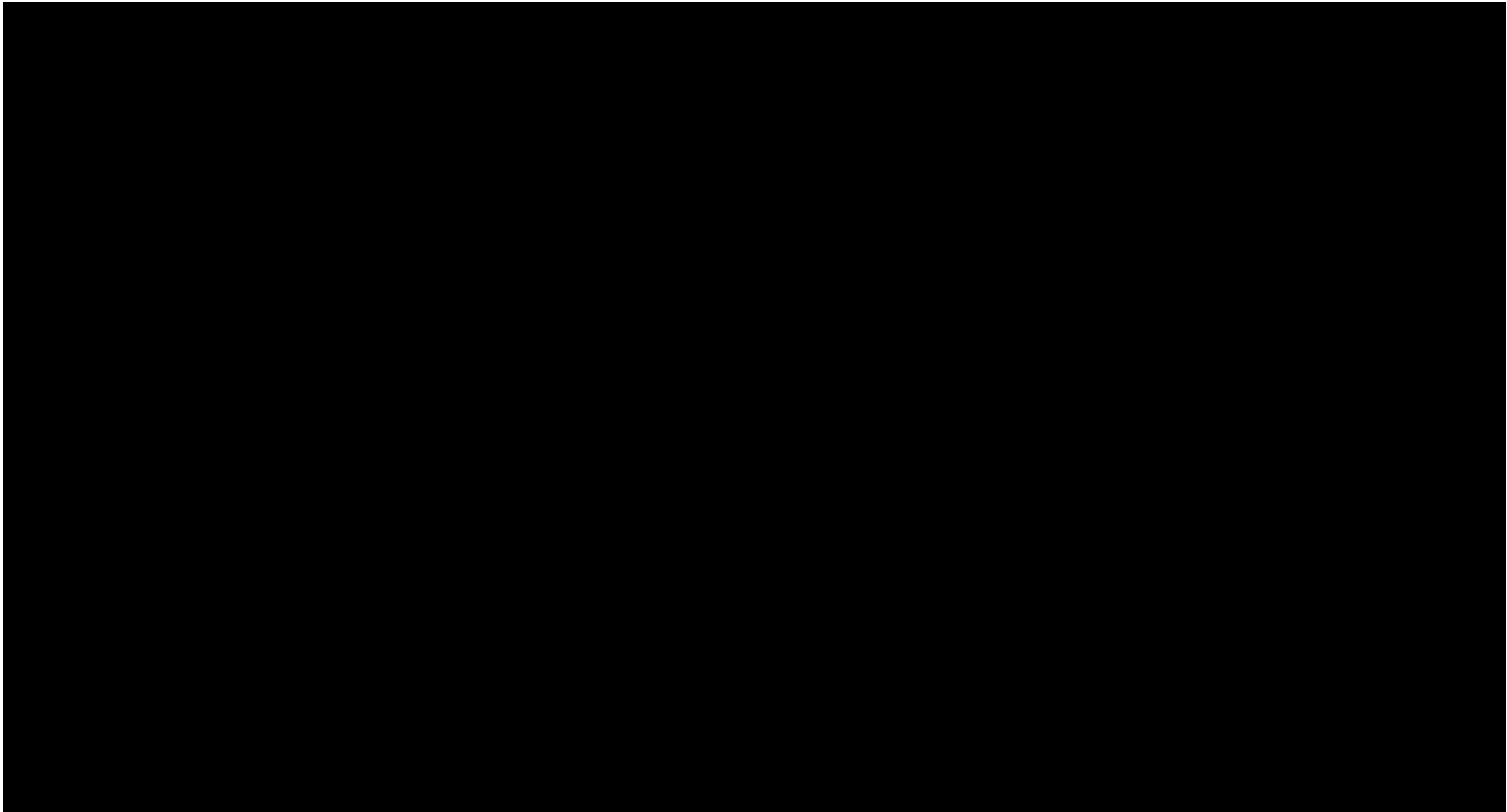
Registered Professional Archaeologist

Terry H. Klein
President



September 23, 2017
Date





21. QA/QC Plan:

QA/QC Plan is included in the following pages.



Hardesty
& Hanover
engineering that moves you



Hardesty & Hanover, LLC Quality Management Plan



1.0	Table of Contents	
2.0	Quality Management Plan Authorization.....	1
3.0	Quality Control & Quality Assurance Concepts	2
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	H&H Quality Assurance Plan	Appendix A
	H&H Quality Control Plan.....	Appendix B
	QA/QC Forms & Checklists.....	Appendix C
	LADOTD Forms & Checklists	Appendix D

2.0 Quality Management Plan Authorization

The Hardesty & Hanover (H&H) Quality Management Plan consists of procedures that have been developed to assure that the various quality elements of the project are carried out in a planned and controlled manner and in accordance with the industry standards and the LADOTD contract requirements.

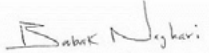
The herein described "Quality Management Plan" is an accurate and consistent reflection of Hardesty & Hanover policies and procedures. Hardesty & Hanover acknowledges that H&H and our subconsultants are fully responsible for QC/QA of our own work and the LADOTD bears no responsibility for performing QC/QA of the work of Hardesty & Hanover or our subconsultants.



Signature
Rodney A. Jarrett
H&H Quality Manager

26 Jun 2026

Date



Signature
Babak Naghavi, PE
H&H Project Manager

June 26, 2026

Date

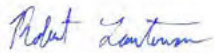


Signature
Steven Fall, PE
Bridge Diagnostics, Inc.

Digitally signed by Steven Fall
DN: cn=US, email=stefall@bdiest.com, o=BDI,
ou=Project Manager, cn=Steven Fall
Date: 2026.06.26 12:09:31-0500

June 26, 2026

Date



Signature
Robert Lanterman
KTA-Tator, Inc.

June 26, 2026

Date



Signature
Chace Hulon, PE
Moffatt & Nichol Inc.

June 26, 2026

Date



Signature
Chad Turner
Providence Engineering and Environmental Group, LLC

June 26, 2026

Date



Signature
Matthew Estopinal, PE, PLS
SAM, LLC formerly SJB Group, LLC

June 26, 2026

Date

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Hardesty & Hanover (H&H) has committed to fostering the improvement of quality by generating, for every project, a project specific Quality Management Plan (QMP) for providing guidance to the project team. The objective of the QMP is to provide tools to the project team so that our professional services are performed and delivered in accordance with applicable industry standards of care and to the satisfaction of project scope and contractual requirements while remaining within the allocated schedule and budget.

The Quality Management Plan includes the H&H firm standard Quality Assurance and Quality Control Plans. Together these plans form our Quality Management System (QMS). The intent of the QMS is to define procedures for Quality Control and Quality Assurance which minimize errors, discrepancies, and omissions in H&H's work products.

Hardesty & Hanover acknowledges that H&H and their subconsultants are fully responsible for QC/QA of their own work and the LADOTD bears no responsibility for performing QC/QA of the work of Hardesty & Hanover or their subconsultants. The subconsultant's signatures on Page 1 indicate that they will be following this QMP, developed by H&H, for this project. Any subconsultant not listed will follow their firm's quality plan(s) which will meet or exceed the contractual requirements. H&H will review subconsultant's plans to ensure compliance with project requirements and that submissions are certified for compliance with their approved quality plan.

3.0 Quality Control & Quality Assurance Concepts

- a) **Contract Requirements:** Established by LADOTD for each project, these requirements take precedence over any other practices established by H&H. Notwithstanding specific contract requirements, minimum H&H quality practices and industry standard of care are applicable to all projects. Contract requirements are identified in the sections below.
- b) **Prime Consultant or Design Builder (DB) Quality Requirements:** There are no supplemental project specific Prime Consultant or Design Builder Quality requirements.
- c) **Project Specific Engineering Oversight Practices:** These practices are established by H&H during project initiation and will vary depending on the classification of the project as determined by the firm. Engineering Oversight activities are a supplement to, and not a replacement of, project quality activities. Project Specific Engineering Oversight Practices are identified in the sections below.
- d) **Quality Control (QC):** Procedures of checking the accuracy and consistency of the calculations and the drawings, detecting and correcting design omissions and errors before the design plans are finalized, and verifying the specifications for the load-carrying members are adequate for the service and operation loads.
- e) **Quality Assurance (QA):** Procedures for reviewing the work to ensure the quality control procedures are in place and effective in preventing mistakes, and consistency in the development of bridge design plans and specifications.
- f) **Quality Assurance Plan:** This document defines the intent and practices for overall Quality Assurance and Engineering Oversight with an emphasis on the activities of project management, specifically the process for identifying project practices for Audits, Witness Points, Hold Points, and Internal Technical Reviews. Modifications to the Quality Assurance Plan are identified in the sections below.
- g) **Quality Control Plan:** This document defines the intent and practices for overall Quality Control with an emphasis on the activities of the project technical staff. The design and document review process and practices are defined in this document. Modifications to the Quality Control Plan are identified in Section 3.4 below.
- h) **Design Policies:** These are supplemental documents that are exclusively for internal use. These are not submitted to LADOTD. Portions of Design Policies may be used in the development of a Project Quality

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Control Process, for example if a specific Design Practice is recommended for use to address a particular project design element.

4.0 Quality Management System

Customer Satisfaction and Quality Management System Improvement

H&H is continually striving to improve customer satisfaction. Our QMS is a living document that will be continually assessed and revised to reflect best practices and lessons learned. This process includes clarification of design information to support construction or production, correction and prevention of errors and omissions, and response to client comments, complaints, and feedback.

Quality Control Program Objectives

Quality Control is a series of activities, actions and procedures routinely undertaken to ensure that our services and their representative work products are produced to the requisite standard of care and in accordance with the defined technical philosophy of the firm.

Our Quality Control process ensures that each work product is thoroughly reviewed in detail by someone in addition to the review by the Designer/Originator/Producer who prepared that work product for conformity with generally accepted standards of design and engineering practice.

Unless otherwise approved by the engineer in responsible charge, at least one of the primary individuals involved in preparing (Designer) or checking (Checker) a document shall be a Professional Engineer, experienced and qualified in the appropriate engineering discipline and project jurisdiction. Comments generated by the quality control process are to be resolved to the satisfaction of both the Designer and the Checker. The process of Quality Control (QC) is documented and recorded in a manner which allows for management of the process and review of the process through Quality Assurance (QA). The full detailed QC process can be found in our QC Plan attached in Appendix B.

Quality Assurance Program Objectives

The Quality Assurance Program encompasses the systematic review of our design and development processes and our Quality Control activities to confirm that the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve our processes. Quality Assurance is a company-wide process that confirms that the proper processes are in place to assure that our services and products meet the requisite standard of care. A brief summary of our Quality Assurance process follows. The full detailed QA process can be found in our QA Plan attached in Appendix A.

Quality Assurance

Quality Assurance reviews will be performed to confirm conformance with the project Quality Management Plan. The review shall verify that the project team has sufficiently accomplished all quality goals set forth in the Quality Management Plan. After completion of the QC process, the QC/QA Certification Form (see Appendix C-11) shall be completed and submitted along with the milestone submission package to indicate compliance with the QC plan.

Quality Assurance documentation provides a record that the design development and review process was performed as required. This documentation is to include records of the important steps which led to the development of final planning documents as well as the final design, such as preliminary concepts, model validation, design calculations, computer code input and any communications, instructions, and directives which have a direct bearing on the project.

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Types of documentation to be reviewed for compliance with the procedures set out in the Quality Control Plan:

- a) Design Criteria
- a) Reports – All reports prepared for the project irrespective of type.
- b) Interdisciplinary Coordination – Minutes of meetings and signed attendance lists.
- c) Calculations/Computer Solutions
- d) Drawings
- e) Specifications
- f) External Comment Responses
- g) Prior Audit Documents – All documentation provided by the Quality Auditor including recommendations for improvement, nonconformance reports, and any other check lists.

Additionally, the Quality Assurance Review is used to identify areas of weakness in the Quality Control process and develop preventive actions that focus on areas of potential nonconformance to reduce the risk associated with these areas.

If the QA Review identifies potential nonconformities, the review may also include determination of their probable cause, determination of preventive action needed, implementation of preventive action and determining if preventive action was implemented and effective in preventing nonconformity. The Project Manager is responsible for developing and implementing preventive actions that address the potential areas of nonconformance identified in the QA Review and working to reduce or eliminate the risk in these areas. Additional staff and analytical tools may be utilized depending on the nature and extent of the nonconformity.

QA Information Package & Design Completion

Upon completion of the final QC process, which shall be no later than the 95% Final Plans stage, the designer is responsible for preparing a QA information package and providing it to the PQAL Reviewer for QA review.

The QA package shall include:

- Calculation book prepared in accordance with the requirements of the LADOTD Final Calculation Book Checklist contained in Appendix C-9
- LADOTD QA information package check list (see Appendix C-10)
- Plans
- Special provisions including Non-Standard items
- Cost estimate
- Any relevant documents, such as checklists, review comments, etc., utilized by the designer, design checker, detailer, and detail checker.

If design revisions are required after the QA information package has been submitted, the PQAL Reviewer must be notified of such revisions and supplied with the revised information.

After completion of the QA process which shall be no later than the 98% Final Plans stage, the LADOTD QC/QA Certification Form (see Appendix C-11) shall be completed and signed by the designer, design checker, detailer, detail checker, reviewer and EOR. When the project includes peer review, geotechnical or hydraulic scope, these portions of the certification will be completed as well.

Control of Nonconforming Product

Corrective action will be appropriate to the severity of the nonconformance identified. The Project Manager shall develop and implement any corrective action procedure taken. The corrective action procedure shall be approved by the Chief Technical Officer. The procedure shall identify the nonconformance root cause and the necessary actions

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required to resolve the nonconformance to the satisfaction of the client. The procedure shall address nonconformity identification (including client complaints), cause determination, action to prevent recurrence, identifying and implementing the corrective action, recording results, and determining if the corrective action was implemented and effective in resolving the nonconformance.

As the QMP is a living document that reflects the currently accepted standards of care and lessons learned on H&H projects, the contents of the H&H QMP will be updated as needed. Updates will be issued as controlled documents (i.e., with versions and revision dates).

The project management team is responsible for providing the project staff with relevant portions of the QMP.

Quality Management Plans, once approved by the firm and the client, are unique to the project. Such a plan may not be modified or re-used for another project without the approval of the Quality Manager.

H&H will continually develop and implement measures that assure the various elements of this project are performed in a planned and controlled manner according to, at a minimum, the prevailing standard of care for professional practice applicable to the service being provided.

H&H quality control and assurance activities are dictated by this Quality Management Plan. The plan establishes policy, sets procedures, and controls those which may be specifically assigned to a project.

The plan describes the program, responsibilities and actions required by all project participants to ensure that quality control procedures are performed and documented. As a result, all interested parties can be assured that an appropriate level of engineering quality will be provided, and that the technical staff members will recognize their role in the quality process.

The H&H Quality Manager is responsible for the annual review of this QMP. The review shall include all aspects of the plan including but not limited to review of comments by clients, audits by clients and corrective action costs, if any. The QM will recommend improvements to the plan upon completion of the review.

5.0 QA/QC Responsibilities

There are several responsible parties involved in the Quality Assurance and Quality Control of a project from inception to completion. Their project and quality specific roles and responsibilities are described in the Quality Assurance Plan Section 2.0 contained in Appendix A of this document. The H&H Project Manager (PM) and Project Quality Assurance Lead (PQAL) will be responsible for the plan execution. For this project, the following persons will be responsible for the various roles:

H&H Project Principal In Charge: Bobby Naghavi, PE

The Principal in Charge (PIC) is responsible for the overall project, delivery of our services to the client and is responsible for overall client satisfaction. The PIC is to be aware of the project performance, both technical and financial, and ensure the Project Manager is performing his/her duties in accordance with the firm requirements.

H&H Chief Technical Officer: Keith Griesing, PE

The Chief Technical Officer (CTO) is responsible for the technical quality of the services of the firm. The CTO is responsible for review of the Project Management Plan including the technical approach and risk assessment.

H&H Quality Manager: Rodney A. Jarrett

The Quality Manager (QM) is responsible for review and approval of all project specific Quality Management Plans, including but not limited to review of comments by clients, audits by clients and corrective action, if any. The QM has

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firm wide responsibility for confirming that Project Managers develop and adhere to Quality Management Plans for individual projects.

H&H Project Manager/Supervisor: Bobby Naghavi, PE

- Responsible for all activities necessary to deliver H&H services in accordance with the contract requirements, including financial performance as well as oversight of the technical sufficiency of the services.
- Licensed by the State of Louisiana as a professional engineer
- Experienced in the design of similar structures.
- Acts as primary point of contact and project communications for H&H
- Develops a comprehensive Project Management Plan as a requirement for Project Initiation which includes the Project Technical Approach Plan.
- Establishes and monitors the project budget, schedule, and staffing requirements.
- Establishes design criteria and design parameters, working with the technical discipline leads. Design criteria shall meet all the requirements of the LADOTD Design Criteria Checklist contained in Appendix C-8.
- Coordinates with subconsultants
- Chairs project meetings, produces and distributes minutes as needed
- Reviews the H&H Quality Assurance Review (QAR) Form prepared by the Project Quality Assurance Lead and certifies the deliverable is ready for submission.
- Completes and signs the LADOTD Consultant Submittal QC/QA Certification Form contained in Appendix C-13 that accompanies each submission.

H&H Project Engineer: Erik Diaz., PE

- Responsible for project development and delivery according to the requirements communicated by the Project Manager (PM)
- Leads the project delivery efforts and works closely with the project Technical Leads in defining the technical direction of the project
- Provides communication and direction to technical staff

H&H Project Quality Assurance Lead: Timothy Noles, PE

- Responsible for ensuring that the QC process has met the requirements of this QMP; is complete and the design calculations, drawings, special provisions, and cost estimate are in accordance with LADOTD Bridge Design practices, policies, and procedures.
- Licensed by the State of Louisiana as a professional engineer
- Experienced in the design of similar structures.
- Communicates with Project Manager on a regular basis to maintain the QC review schedule for projects.
- Responsible for oversight of project specific quality activities including the collection and appropriate filing of all Quality Control and Quality Assurance documentation. Maintains an auditable record of all QC reporting forms generated during design reviews.
- Verifies that the QC activities have been performed and that qualified and competent personnel have undertaken the QC activities.
- Performs Quality Assurance Reviews documented with the H&H Quality Assurance Review and Certification Form (QAR) contained in Appendix C-1. The PQAL shall review the project quality control documentation in

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advance of submission to confirm that design QC activities are complete, comply with the Quality Management Plan and meet the requirements of the submittal review checklist.

- Reviews Subconsultant's Quality Certification form indicating compliance with the project approved QMP. Review or delegate review of submission content against the QA Checklist. May perform audits to review QC documentation for milestone submissions. See forms contained in Appendix C-5 and C-6.

Discipline Leads/EORs:

- Engineers in responsible charge of a specific design segment in their area of expertise
- Required to sign/seal as Engineer of Record (EOR) unless client or other requirements exist.
- Licensed by the State of Louisiana as a professional engineer
- Experienced in the design of similar structures.
- Ensure the QC/QA certification is signed by all responsible parties.
- Assemble design calculations from all designers, finalize the calculation book, and seal the cover sheet of the calculation book for their discipline.
- Ensure the names of the designer, design checker, and reviewer are correctly shown on the title block of each plan sheet. Stamp all plan sheets or designate a designer, design checker, or reviewer who shall be licensed by the State of Louisiana as a professional engineer to stamp the sheets developed under their supervision.
- The EOR must stamp the general notes sheets for their discipline.

The following will act as Discipline Leads/EORs for this project:

Bridge Inspection: Fred Wetekamm, PE
Structural Fixed Bridges: Corey Bourgois, PE
Structural Movable Bridges: Erik Diaz, PE
Mechanical: Travis Kimmins, PE
Electrical: Ken Pecquet, PE
Roadway & Traffic: John Rayer, PE
Roadway Drainage & Hydraulics: Lee Adams, PE

Designers:

- Engineers directly responsible for the development of design calculations, drawings, special provisions including Non-Standard items, and cost estimate.
- Licensed by the State of Louisiana as a professional engineer or certified as an engineer intern.
- Ensure that design software is on the pre-approved list provided in Appendix C-13.
- Prepare the design documents for QC review
- Participate in Peer Review meetings when requested on complex projects. Use form in Appendix C-12.
- Prepare the Final Calculation Book according to checklist in Appendix C-9 and QA Information Package content upon completion of the final QC process.

The following will act as Designers for this project:

Courtney Mai, EI; Chloe Beals, EI; Will Farber, EI; Linh Kim, PE; Anwer Kaimakchi, PE; Cesar Navarro, PE; Lauren Peytavin, EI

Design Checkers:

- Engineer responsible for performing a full technical review of the design calculations, drawings, special provisions including Non-Standard items, and cost estimate.

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- Licensed by the State of Louisiana a professional engineer or certified as an engineer intern; however, if the designer is an engineer intern, the design checker must be a professional engineer.

The following will act as Design Checkers for this project:

Dennis Gowins, PE; James Newberry, PE; Rafal Wuttrich, PE; Michelle Romage-Chambers, PE; Cesar Granados, PE

Detailers:

- Detailers are directly responsible for the creation of the CAD drawings.
- Responsible for ensuring that the drawings adequately represent the design information
- Must self-check their own work to minimize errors.

The following will act as Detailers for this project:

Courtney Mai, EI; Chloe Beals, EI; Will Farber, EI; Linh Kim, PE; Anwer Kaimakchi, PE; Cesar Navarro, PE; Lauren Peytavin, EI

Detailer Checkers:

- The detail checker must ensure the drawings are in accordance with the design information and CAD standards. All dimensions and quantity calculations must be verified.

The following will act as Detailer Checkers for this project:

Dennis Gowins, PE; James Newberry, PE; Rafal Wuttrich, PE; Michelle Romage-Chambers, PE; Cesar Granados, PE

Reviewers:

- The reviewer is the engineer responsible for ensuring that the QC process as described above is complete and the design calculations, drawings, special provisions, and cost estimate are in accordance with LADOTD Bridge Design practices, policies, and procedures.
- The reviewer must be licensed by the State of Louisiana as a professional engineer and must have substantial experience in the design of similar structures.
- The H&H reviewer is also known as the Project Quality Assurance Lead or PQAL.

The following will act as Reviewers for this project:

Tim Noles, PE

H&H will only employ qualified personnel to execute the scope of work.

The Project Manager is responsible to review the record of each employee and determine if the background and experience of the employee is acceptable for the assigned scope of work.

The Project Manager is responsible to ensure staff assigned to the Project is properly trained in the QMP, Procedures/Instructions, any project-unique technical requirements, availability of technical resources, etc. within the consultant organization as they relate to the Scope of Work, and has valid evidence of fitness (certification, license, etc.) for executing the work for this Project.

Training will consist of in-house education and field experience. H&H staff found deficient will not be assigned work in their area of deficiency until requirements for the position are met.

6.0 Project Description

This contract is an IDIQ for Bridge Preservation Services Statewide.

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The scope of the project is to perform all necessary professional services in connection with the IDIQ Contracts for Bridge Preservation Services Statewide, H&H Project Number 0007429.00.

The general scope of work associated with this contract includes:

The Consultant shall provide the following scope of engineering services. The Consultant should expect to perform Task Orders for individual services for specialized work.

1. Bridge Design Services

1.1 General Bridge Engineering Services

Provide bridge engineering services for fixed and movable bridges. Bridge project types may include, but are not limited to, new bridges, bridge replacements, bridge rehabilitation, bridge preventive maintenance and repair, and roadway lighting. Bridge engineering services include, but are not limited to, structural, mechanical, electrical, and architectural feasibility, design, plan development, and the following:

- Bridge/structural inspection and evaluation of existing bridges or other structures (sign trusses, fender systems, etc.). Associated reports shall be provided as required.
- As-designed, as-built, and condition bridge ratings.
- Design peer review of developed plans or conceptual designs to verify concept, constructability, and accuracy of designs along with associated reports, conclusions, calculations, and recommendations as needed.
- Construction engineering support including construction drawing review, shop drawing review, request for information support, contractor proposals, etc.

1.2 Sampling, Instrumentation, and Non-destructive Testing

Provide sampling, instrumentation, and non-destructive testing services. These services may include, but are not limited to, collection of samples of materials from existing structures for evaluation, diagnostic and/or proof testing to determine specific structure response characteristics and/or to determine the causation of observed distresses, instrumentation, and the following:

Sampling

- Collection of samples.
- Evaluation of protective coating material samples for determination of compatibility with proposed coatings, heavy metals analysis, proper procedures for treatment, handling, disposal of waste, etc.

Instrumentation

- Design of instrumentation plans. Installation of instrumentation, data acquisition, analysis, and evaluation of structure based on instrumentation plan.
- Provision and installation of instrumentation, including all materials required to mount the instrumentation.
- Provision of data acquisition systems, software updates, power supplies, communication to data servers, data hosting services, maintenance, and data access to DOTD.
- Calibration services for instrumentation systems and sensors.
- Maintenance services to repair and/or replace sensors, data acquisition systems, and power supplies.
- Analysis and evaluation of accumulated data and final assessments and development of corresponding reports based on data and associated calculations.

Non-destructive Testing

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- Proof loading.
- Estimation of concrete strength.
- Assessment of reinforcement condition, cover, location, and diameter.
- Detection of cracks, voids, and delamination in concrete.
- Assessment of steel member condition.

2. Geotechnical Services

Provide all geotechnical services necessary to perform geotechnical investigations, analysis, and design. These services may include, but are not limited to, the following:

- Geotechnical field investigations including both shallow and deep soil borings.
- Geotechnical laboratory testing and analysis.
- Preparation of soil boring logs.
- Geotechnical analysis and design based on obtained data or data furnished by DOTD.
- Construction related engineering services.

3. Road Design and Traffic Services

Provide all services necessary to perform hydraulic, road, and traffic investigation, analysis, and design. These services may include, but are not limited to, the following:

- Preliminary and final roadway design and plan development.
- Hydraulic analysis and design.
- Traffic engineering, traffic control design, and data collection.
- Transportation Management Plan (TMP) development.

4. Surveying and Title Work Services

Provide all surveying and title work services necessary to perform topographic, and boundary surveying, develop right-of-way maps, and provide other existing site data. These services may include, but are not limited to, the following:

- Topographic surveying, 3D laser scanning, and underwater acoustical imaging including both multi-beam and side scan hydrographic surveys.
- Property and boundary surveying.
- Property title work, including title research and reports.
- Construction related surveying services.

5. Bridge Inspection Services

Provide all services required to perform Statewide NBIS In-Depth Inspections of complex structures. These services may include, but are not limited to, the following:

- Detailed in-depth field inspection on all bridge components, including an element level inspection. An NBIS underwater bridge inspection may be required for submerged elements.
- Assessment of the coating system, conducted by a certified SSPC Protective Coating Specialist or a certified NACE Bridge Coating Inspector.
- In-depth inspection report outlining recommended repairs, rehabilitation, and corrections.

6. Environmental and Permitting Services

Provide all environmental and permitting services necessary to obtain State, Federal, and local approvals, including project permits. Required permits may include, but are not limited to, the following:

- Coastal Use permits (CUP) from the LA Department of Natural Resources.
- Wetland permits (404 and Nationwide) and Section 10 permits from the US Army Corps of Engineers.

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- Water Quality Certification from the LA Department of Environmental Quality.
- Scenic Stream permits from the LA Department of Wildlife and Fisheries.
- Bridge permits from the US Coast Guard.
- Levee permits from various levee boards.

All work shall be performed in accordance with all applicable DOTD policies, procedures, and manuals. Design criteria shall be developed and submitted to the Bridge Task Manager for review and approval prior to proceeding with design.

Project submittals, associated schedule, and format shall be established in each Task Order. At minimum, all bridge plan submittals shall be submitted in PDF format and the 100% signed final plans shall be submitted both in full size paper and in PDF format. Design and rating calculations shall be submitted in PDF format no later than 30 days after the 100% final plan submittal.

Unless waived by the Task Order Project Manager, ProjectWise shall be utilized for all PDF submittals and electronic plan delivery will be required. See the following website for details on electronic plan delivery: <https://www.dotd.louisiana.gov/media/ip5corw/ldotd-software-standards-for-electronic-plans.pdf>

Document	Hold Point	Witness Point
Quality Assurance / Quality Control Plan (QMP)		X
Schedule		X
Design Criteria Summary		X
TS&L		X
Preliminary Plans (30%)	X	
Preliminary Plans (60%)	X	
Preliminary Plans (90%)	X	
Preliminary Plans (100%)	X	
Final Plans (30%)	X	
Final Plans (60%)	X	
Final Plans (90%)	X	
Final Plans (100%)	X	
Load Rating Report	X	
Final Calculation Book, Plans, Specs & Estimate.	X	

6.3 Audit Schedule

In accordance with Section 6.3 of the Quality Assurance Plan, Quality Audits shall be determined and scheduled by the Chief Technical Officer or Quality Manager.

6.4 Project Specific Procedures

The H&H Quality Control Plan and Quality Assurance Plan shall be followed in their entirety as enclosed and as amended below.

6.5 Quality Control Plan Modifications

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The H&H firm standard QC Plan attached in Appendix B shall be supplemented by the requirements of the LADOTD Bridge Design Section Policy for QC/QA as stated in Part I, Chapter 3 of the *LADOTD Bridge Design and Evaluation Manual (BDEM)*, and as set forth in this project specific Quality Management Plan. The requirements of the LADOTD Bridge Design Section Policy for QC/QA as stated in Part I, Chapter 3 of the *LADOTD Bridge Design and Evaluation Manual (BDEM)* shall take precedence over the H&H firm standard QC Plan.

6.6 Quality Assurance Plan Modifications

The H&H firm standard QA Plan attached in Appendix A shall be supplemented by the requirements of the LADOTD Bridge Design Section Policy for QC/QA as stated in Part I, Chapter 3 of the *LADOTD Bridge Design and Evaluation Manual (BDEM)*, and as set forth in this project specific Quality Management Plan. The requirements of the LADOTD Bridge Design Section Policy for QC/QA as stated in Part I, Chapter 3 of the *LADOTD Bridge Design and Evaluation Manual (BDEM)* shall take precedence over the H&H firm standard QA Plan.

7.0 Sub-Consultants

The Subconsultants listed below are responsible for performing their own Quality Control and Quality Assurance in accordance with the requirements of this Quality Management Plan. In accordance with Section 7.0 of the H&H Quality Assurance Plan, subconsultants that choose not to provide their own QA/QC plans must adopt and follow all terms of this Quality Management Plan. All subconsultant submittals shall be accompanied by the Subconsultant QA/QC package, consisting of the completed H&H Subconsultant Quality Certification form and the QA Checklist for Design Projects contained in Appendix C-5 and C-6.

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Hardesty
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engineering that moves you



Hardesty & Hanover, LLC Quality Assurance Plan

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1.0 Introduction

Quality Assurance is the systematic review of our design and development processes and our Quality Control activities to confirm that the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve our processes.

Quality Assurance is a company-wide process that confirms that the proper processes are in place to assure that our services and products meet the requisite standard of care.

2.0 Key Definitions and Roles

2.1 Key Definitions

- a) **Back Checker:** The individual who reviews the Checker's comments. The Originator / Producer functions as the Back Checker unless another qualified individual is assigned by the PM.
- b) **Checker:** The individual who through education and/or experience is knowledgeable within an area of technical subject matter, who has been assigned by project leadership to perform an accuracy and correctness check of technical content.
- c) **Check Print:** The copy of the work product to be used in the quality control process. The Check Print may be a hard (paper) copy or a digital file such as a Portable Document File (PDF) that is capable of recording review markups. A Check Print is required at each Hold Point and may be requested by the Client, PM, or HQ at a Witness Point. Refer to the appropriate process by document type / class in section 4 for Check Print contents.
- d) **Director of Engineering:** The Director of Engineering is responsible for overall allocation of staff to projects directly or through coordination with the Office Managers and/or other Staffing Managers, depending on the business unit. For the purposes of this document, the title "Staffing Manager" is used to represent the role of the Office Manager, New York Staffing Manager, or Director of Engineering with respect to assignment of resources.
- e) **Engineer of Record:** A licensed Professional Engineer responsible for signing and sealing design reports, plans, and specifications which they prepared, or which were prepared under their direct supervision.
- f) **Fundamental Project:** Projects that represent core services for existing clients that do not represent significant or unusual risk to the firm or substantial revenue relative to a specific business unit. Refer to Operating Policy OP-06 for further information.
- g) **Hold Point:** A level of design where specific aspects of the project such as design objectives, design criteria, and principal geometry are typically locked in. At a minimum, Concept level plans (10-15% design), Final plans (100% design), and Issued For Construction (IFC) or Released For Construction (RFC) plans are mandatory Hold Points.
- h) **HQ:** Also referred to as Headquarters Engineering. This specifically refers to the authority of the technical directors such as but not limited to the Chief Technical Officer, Director of Engineering, Risk Management Officer, Quality Manager, or respective Practice Leaders and Chief Engineers.
- i) **Independent Check:** Verification of a calculation by performing a separate standalone calculation to confirm results in lieu of performing a detailed check.
- j) **Internal Technical Reviewer:** Reviewer for a project or portion thereof that has not been a principal participant in the development of a work product.
- k) **Key Project:** Any project that does not meet the definition of a Fundamental Project. Refer to Operating Policy OP-06 for further information.

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- l) Originator / Producer: The individual, qualified by experience in the applicable discipline, who is assigned to prepare documents and/or generate work product.
- m) Phase Submittal: A milestone submittal of a preliminary work product to a client (i.e., concept plans, 60% plans, or similar prior to final.)
- n) Plans: Drawings and/or CADD files created by H&H for use by the Client as part of the contract or bid documents or, in the case of alternative delivery such as design/build, to construct the project.
- o) Preliminary: A document, including reports, plans, specifications, or similar documents, prepared by H&H and submitted to the client prior to the anticipated final submittal of such document. Preliminary documents are 100% complete and validated by QC but represent a lesser level of development than the final work product.
- p) Principal In Charge: The Principal in Charge (PIC) is responsible for the overall project and delivery of our services to the client. The PIC leads negotiations for contractual agreements with the client and is responsible for overall client satisfaction. The PIC is to be aware of the project performance, both technical and financial, and ensure the Project Manager is performing his/her duties in accordance with the firm requirements.
- q) Project Management Plan (PMP): The plan developed by the Project Manager prior to project initiation to describe "how" and "by whom" a specific project will be performed, including detailed budget, schedule, resources, responsibilities, communications, and quality. The Project Management Plan includes the Operations Plan, Technical Plan and Quality Management Plan.
- r) Quality Management Plan (QMP): The plan developed by the Project Manager to describe specific quality requirements for a given project. The QMP typically includes variances or enhancements to the firm standard QMP.
- s) Quality Control (QC): Procedures of checking the accuracy and consistency of the work product to minimize errors, discrepancies, and omissions, to ensure adherence to industry standards and to deliver an exceptional product to our clients.
- t) Quality Assurance (QA): Procedures of reviewing the design and development processes to ensure the Quality Control procedures are in place, implemented per firm policy and the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve processes where appropriate.
- u) Quality Auditor: A person who is an Engineer or Manager that is assigned by HQ to perform a Quality Assurance Audit for a project.
- v) QC Stamp: A physical or digital stamp applied to work product to signify that it is the check copy (aka Check Print) and for recording the initials and dates of the individuals who performed the quality control process.
- w) Verifier: The individual assigned to verify that the Checker's and Originator / Producer's comments have been implemented. The Verifier may be any individual assigned by the PM but will preferably be the Checker.

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2.2 Key Roles

There are several responsible parties involved in the Quality Assurance of a project from inception to completion. Their project and quality specific roles and responsibilities are described below.

Based on the project staffing needs identified, in terms of skill set and level of experience, and the basic project organization structure, the staff related to the key roles of Project Manager, Project Engineer, Project Quality Assurance Lead, and Discipline or Task Lead should be identified. An org chart or responsibility matrix showing these positions should be included in the project files and updated to reflect any staff changes as the project progresses.

2.2.1 Discipline or Task Lead

- a) Project Responsibilities
 - 1) Typically, the engineer in responsible charge of a specific design segment and required to sign/seal as Engineer of Record (EOR) unless client or other requirements exist.
- b) Quality Responsibilities
 - 1) Responsible for ensuring that QC has been completed and that the documents have been provided to the Project Quality Assurance Lead, or the Project Manager if no Project Quality Assurance Lead has been assigned for their specific design segment or portion of a project.
 - 2) Responsible for coordination with the Project Engineer if a Project Submission Report is to be prepared, as described in Section 5

2.2.2 Project Engineer

A project may have more than one Project Engineer (PE) on large multi-disciplinary projects where work is divided into segments or disciplines. The Project Engineer shall be a licensed Professional Engineer in the jurisdiction of the project.

- a) Project Responsibilities
 - 1) The Project Engineer is responsible for project development and delivery according to the requirements communicated by the Project Manager (PM).
 - 2) Based on the organization of the project as determined by the Chief Technical Officer and the PM, the Project Engineer may be the technical lead for key decisions during the project development process. Alternatively, the Project Engineer may lead the project delivery efforts and work closely with the project Technical Lead in defining the technical direction of the project.
 - 3) Provides communication and direction to technical staff.
 - 4) In coordination with each design lead, the Project Engineer is encouraged to prepare a Project Submission Report as described in Section 5
- b) Quality Responsibilities
 - 1) Serves as an intermediary between the Project Quality Assurance Lead and project development activities.
 - 2) In instances where the Project Engineer is the technical lead for the project, the Project Engineer is responsible to document the key decisions including code interpretations, contract nonconformances, and deviations made and document acceptance of these decisions by the PM. Documentation of such instances must be made available to the Project Quality Assurance Lead and Quality Manager.

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- 3) In instances where the Project Engineer is the Project Quality Assurance Lead, the Project Engineer is responsible for all responsibilities listed in Section 2.2.3 below including but not limited to:
 - a) Scheduling Quality Assurance Reviews as required in Section 3.1 below.
 - b) Providing necessary information to the Quality Auditor. Necessary information includes write-ups for complex or complicated design documents or computations to facilitate review.

2.2.3 Project Quality Assurance Lead

The Project Quality Assurance Lead (PQAL) is assigned by the Project Manager and may be a third party not involved in project development but is typically the Project Engineer. The PQAL is responsible for the collection and appropriate filing of all Quality Control and Quality Assurance documentation. If separate from the Project Engineer, the PQAL should be a licensed professional engineer, and responsible for oversight of project specific quality activities.

The PQAL shall report to the Project Manager and the Quality Manager as outlined below.

The PQAL must be familiar with Client Requirements.

- a) Project Responsibilities
 - 1) Communicates with Project Manager and Project Engineer on a regular basis to maintain the QC review schedule for projects.
 - 2) Maintains an auditable record of all QC reporting forms generated during design reviews.
- b) Quality Responsibilities
 - 1) Has 'halt work' authority for nonconformance.
 - 2) Responsible for management of the Quality Control and Quality Assurance process either directly or through delegation.
 - 3) Shall direct QC efforts and verify that the QC activities have been performed and that qualified and competent personnel have undertaken the QC activities in coordination with the Project Engineer. Quality Control shall be done by project level staff directly involved with design activities.
 - 4) Responsible for performing Quality Assurance Reviews. The PQAL shall review the project Quality Control documentation in advance of submission to confirm that design QC activities are complete and comply with the Quality Management Plan.
 - a. Quality Control Documents that are not accompanied by appropriate information or explanation may be rejected by the PQAL and returned to the Project Engineer for completion.
 - b. Documents the results of the QA review activities, verifies incorporation of comments made during QA reviews, and resolves outstanding comments through communication with the Project Manager and Project Engineer.
 - i. Identifies and records nonconformance on the Quality Assurance Report Form.
 - ii. Tracks, monitors, and reports to the Project Manager and Quality Manager on the status of outstanding design-related nonconformance reports as requested.
 - 5) Generates Quality Assurance reports using the Quality Assurance Report Form when requested by the Quality Manager. The report is submitted to HQ and a copy is placed in the project files.

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2.2.4 Project Manager

The Project Manager (PM) is responsible for all activities necessary to deliver H&H services in accordance with the contract requirements.

a) Project Responsibilities:

- 1) The Project Manager is responsible for the project financial performance as well as oversight of the technical sufficiency of the services.
- 2) The PM is responsible for developing the Project Technical Approach Plan in accordance with Operating Policy OP-06 and for meeting all project specific goals set forth in the Plan.
- 3) The PM directs the development and delivery process. The PM also directs all communication with the Client.
- 4) The PM coordinates with the Staffing Manager on project staff needs.
- 5) The PM's activities shall include, as a minimum, assessment and evaluation of the following as they are applicable to a given project:
 - a. Design reports
 - b. Analytical approach
 - c. Drawing details for conformity to Contract requirements
 - d. Project Specifications for conformity to Contract requirements
 - e. Design and Work Plans
 - f. Major temporary components' effect on permanent components
 - g. Field design changes
 - h. Design approvals for Materials and procedures
 - i. As-Built Plans for conformity with final design and Contract requirements.
- 6) The PM, and/or staff working under the direct supervision of the PM, shall conduct an assessment and evaluation of design such that the PM can certify to the Chief Technical Officer, the Quality Manager, and to the Client, if required, that the design satisfies the Contract requirements, including the following requirements:
 - a. Accuracy
 - b. Adequacy
 - c. Conformance to standards of practice
 - d. Compliance with codes and standards
 - e. Quality
 - f. Fitness for purpose and/or function as specified and/or implied in the Contract
 - g. Conformance with the standard practices and specifications of the Client.
- 7) Sign the Quality Assurance Report Form.
 - a. The Project Manager, certifies that the noted submittal for the referenced project has completed and met the requirements of the Project Quality Management Plan, is complete for the level of development and meets the requirements of Hardesty & Hanover.

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b) Quality Responsibilities

- 1) The Project Manager develops a Quality Management Plan to meet the specific project goals and requirements. The QMP is submitted to the Quality Manager for review.

2.2.5 Discipline Chief Engineer

a) Project Responsibilities

- 1) Does not typically have direct project development responsibilities unless assigned to the project.

b) Quality Responsibilities

- 1) Upon request of the Project Manager, resolves and documents the resolution of any differences of opinion between the Checker and Back Checker during Quality Control and provides this information to the Project Quality Assurance Lead (PQAL) or the Project Manager if no PQAL has been assigned.
- 2) Attends both the Project Initiation Technical Meeting and the Project Staff Kick-off Meeting. Based on the scope and discussions at the Project Initiation Technical Meeting, the CTO and Chief Engineers decide the level of HQ Oversight and Chief Engineer (or delegate) involvement appropriate for the project.

2.2.6 Quality Manager

The Quality Manager (QM) has firm wide responsibility for confirming that Project Managers have developed and adhered to Quality Management Plans for individual projects. The QM is responsible for meeting the quality goals and objectives set by the Chief Technical Officer.

The QM provides oversight of the review and audit process through coordination with the Project Managers and Project Quality Assurance Leads.

a) Project Responsibilities:

- 1) Reviews and approves Quality Management Plans in support of firm goals.

b) Quality Responsibilities:

- 1) Develops a framework for the H&H Quality Control and Assurance Plans. Manages and implements these policy documents.
- 2) Evaluates existing plans to determine if plans are effective.
- 3) Recommends improvements to existing plans.
- 4) Directs the performance of internal audits of the quality process on a project-by-project basis. Prepares nonconformance reports if required.
- 5) Has 'halt work' authority for nonconformance.
- 6) Prepares periodic reports to the Chief Technical Officer identifying:
 - a. QC activities performed by project as directed by the QM
 - b. Submissions-prior completed and future planned
 - c. Projects that may require additional technical oversight
 - d. Contract nonconformance reports
 - e. QC Plan nonconformance reports.

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2.2.7 Chief Technical Officer

The Chief Technical Officer (CTO) is responsible for the technical quality of the services of the firm. In this capacity, the CTO defines policies and directives that establish the minimum performance criteria for the technical services of the firm.

- a) Quality Responsibilities:
 - 1) Establishes quality goals and objectives
 - 2) Monitors the performance of the Quality Manager and supporting quality staff
 - 3) Performs independent review of Key Projects
 - 4) Has 'Halt work' authority for project technical services.

3.0 General Intent

All projects require a Quality Management Plan (QMP) as part of the Project Management Plan. Planning for Quality Assurance is an integral part of the QMP to be developed by the Project Manager prior to project inception. The Quality Management Plan shall follow the H&H Quality Management Plan Template, modified as necessary for project and client requirements, to ensure the quality of our services meets the requirements of the client within the requisite standard of care. All Quality Management Plans are subject to the approval of the Quality Manager.

The intent of this Quality Assurance Plan is to provide procedural controls for maintaining the quality of work delivered to the Client through communication and verification. Quality Assurance is not a substitute for appropriate project quality control activities.

Quality Assurance is validation that our services and products meet the requisite standard of care and communication of those standards. It is a company-wide process that confirms that the proper processes are in place and being followed.

Examples of Quality Assurance activities include:

- a) Quality Assurance Review – Review, by the Project Quality Assurance Lead, of documented internal and external comments generated during the internal QC process or external milestone review and confirmation that all comments were addressed, or the reviewer agrees to non-incorporation on the basis of sufficient explanation.
- b) Quality Assurance Audit – Audits consist of a review, by HQ or their designee in conjunction with the Project Manager and the Project Quality Assurance Lead, of Quality Control functions and documentation for conformance with applicable procedures. Quality Assurance Audits are covered in Section 6 of this document.
- c) Project Initiation Meetings – Project Initiation Meetings consist of two meetings held prior to the initiation of services and are discussed further in Section 5.
- d) Project Submission Reports – Optional report, prepared prior to phase or final submission of design plans and calculations and provided with the submission. Further discussion provided in Section 5.

3.1 Schedule & Frequency of QA Activities

QC processes are performed as work products are developed and/or at various stages of project development and need to be accounted for in the project development schedule. Quality Assurance must consider that the work may proceed through several major stages and that at completion of each milestone in the development of a project, major interdisciplinary coordination, or Internal Technical Review, the Quality Control documentation will be developed.

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The key to assurance of quality is verification that the quality control procedures and supplementary activities have been implemented and, if not, the Project Manager is informed of the discrepancies. The PM is responsible to plan and execute corrective actions. These actions require documentation by the Quality Manager and review of this documentation by the firm's Chief Technical Officer.

4.0 Documentation Requirements

4.1 Control of Documents

The Project Manager is directly or through delegation responsible for the handling and storage of all project documents. The Project Manager should identify and communicate to all project staff the location of all project documentation. Access to project documentation - including but not limited to filing, letters, memos, records, reports, calculations, computer output, drawings, specifications, and QA/QC documentation - shall be in accordance with the Hardesty & Hanover "Document Control and Retention Guidelines" and the requirements of the Project Information Control System (PICS). Files may be accessed by authorized personnel only.

The Project Quality Assurance Lead is responsible for the proper use, distribution, and approval of quality related documents. The Project Quality Assurance Lead, in implementing these duties, will prepare and distribute a written procedure for use on the project, as well as any checklists of quality related documents considered to be necessary.

Documentation must be kept in order to provide a record that the development and review process was performed as required. This documentation must include records of the important steps which led to the development of final planning documents as well as the final design, such as preliminary concepts, model validation, design calculations, computer code input and any communications, instructions and directives which have a direct bearing on the project.

4.2 Change Control of Design Documents

4.2.1 Change Control of Design Documents during Design

Once a Quality Assurance review has been initiated on a milestone submittal, work shall not continue to be progressed until after the submission has been made. Revisions to Project Design Documents shall not be permitted prior to a milestone submittal after the Verifier has signed off on the Check Print.

4.2.2 Change Control of Documents during Construction

The Project Manager is responsible to provide the interface with the client during the pre-bid, bid, and award stages of the Construction Contract. Supplements or addenda developed during this period shall receive the same level of review as the original document and be reviewed by the Discipline or Task Lead Engineer prior to issue.

As-Built Drawings and Specifications shall be developed per Contract/Agreement requirements. As-Built shall be independently reviewed to assure field marked prints and other sources of as-built information have been correctly translated onto the original document.

Revisions to Project Design Documents shall be controlled. Methods are established with the project Construction Management Team on a project-specific basis to assure revisions are reviewed to the same level as the original documents for the area of change and previous versions of the documents undergoing change have been appropriately controlled to prevent inadvertent use. Prior to submission, the Project Manager and Discipline or Task Lead Engineer shall review the Project Design Documents. Records of these activities shall be maintained by the Discipline or Task Lead Engineer.

4.3 Control of Records

Sufficient documentation and records will be accumulated to provide objective evidence that the design development and review process has been performed in accordance with accepted engineering practice, as well as in

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conformance to contractual requirements and client directions, including pertinent quality records of subconsultants, if any.

The documentation will include not only final design documents, such as drawings and specifications, but records of important steps which led to the final design, such as design calculations, communications, instructions and directives which have a direct bearing on the project.

Control of records shall be in accordance with the Hardesty & Hanover "Document Control and Retention Guidelines" and the requirements of the Project Information Control System (PICS). Records will be filed by subject, date, file category, etc. Quality Assurance reviews and audits and corrective action will be stored electronically and filed in the 200-PM\QA folder in the electronic project files along with the approved Project Quality Management Plan.

An Index of Project Records will be part of the File. Responsibility for the accuracy and completeness of the records is assigned to the Project Manager or their designee.

Access to records will be under control of the Project Manager or their designee.

Removal of records to a location other than the immediate area where the file is located will be restricted to authorized persons (Principal and Project Manager). Measures to identify removed files and their current location shall be maintained. Security measures as determined by the Project Manager will be applied to those records dealing with Construction Cost Estimates.

The Project Manager, in accordance with the provisions of the contract, will identify those records to be transmitted to the Client upon completion of the Project and transmit the appropriate records.

5.0 Communication Protocols

Quality should be advocated from the top down and the bottom up through communication between all levels of the project. Quality is achieved through adequate planning, scoping, communications and coordination, supervision, and technical direction; by providing adequate time in the schedule for thorough reviews; by proper definition of job requirements and procedures; by the use of appropriately skilled personnel; and by individuals performing their work functions carefully.

The Project Manager is responsible to ensure the project team understands the necessary steps and has the proper time to execute the necessary activities.

This section sets the minimum requirements for communication during project development.

5.1 Pre-Project

During the period before the initiation of the project, the Project Manager is responsible to develop the QMP as required by Operating Policy OP-06. During this phase, the Project Manager must communicate with the Client, HQ, the Quality Manager, and the Staffing Managers for the various disciplines required by the scope of services to identify resources for delivery and quality activities. Information from the QMP shall be entered into the Vision database, including but not limited to, designation of project category as Key or Fundamental per Operating Policy OP-06, project stage and proposed submission schedule.

In some circumstances the Quality Management Plan may be part of the project pursuit process and proposal. This is particularly true with Design-Build pursuits. For all projects, the QMP is subject to approval of the Quality Manager and/or Chief Technical Officer for use during project execution.

5.2 Project Start-up

Assuring the quality of our services requires each project to begin with the ultimate goals in mind. To this end, the quality process will have several specific and required steps as part of the project start-up procedure. The following identifies the minimum recommended steps to be taken and documented prior to the initiation of any project.

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5.2.1 Project Initiation Technical Meeting

Subsequent to review of the Project Technical Plan, the CTO will determine if the project requires a Project Initiation Technical Meeting. If required, a Project Initiation Technical Meeting will be scheduled with the firm technical managers. The purpose of this meeting is to discuss the following:

- a) Scope of services
- b) Client expectations
- c) Project schedule
- d) Anticipated work plan and staffing needs
- e) Specific technical requirements or complexities
- f) Risks associated with the project and the intended mitigation measures
- g) Quality Management Plan

The following individuals, or their appointed representative, should participate in the Project Initiation Technical Meeting:

- a) Chief Technical Officer
- b) Chief Operating Officer/Director of Project Management
- c) Quality Manager
- d) Principal-in-Charge (At their discretion)
- e) Project Manager
- f) Project Engineer

The Project Manager shall be responsible for taking minutes of the meeting and distributing the minutes to all attendees. Approved minutes shall be filed in the Project folder.

Subsequent to the Project Initiation Technical Meeting, the Staffing Manager will assign specific resources for the project based on the needs identified at the meeting. These specific resources should be utilized by the project management team to fulfill the key roles in the project work plan.

The Project Initiation Technical Meeting may serve as the formal initiation of the project.

5.2.2 Project Staff Kick-off Meeting

Once the specific resources are assigned and their roles identified, the Project Management team should schedule a Project Staff Kick-off meeting. The Project Staff Kick-off meeting serves to inform the assigned staff of the following:

- a) Scope of services
- b) Project schedule including document submittals, number, and degree of completion
- c) Key staff roles and associated responsibilities
- d) Quality Management Plan including key staff assigned for Quality Control and Assurance activities
- e) Quality activities shall occur and be documented throughout the project development process.

The following individuals, or their appointed representative, should participate in the Staff Kick-off Meeting:

- a) Project Manager
- b) Project Engineer

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- c) Project Quality Assurance Lead
- d) Project Discipline or Task Leads

The Project Manager shall prepare and submit the minutes of the meeting to the attendees of the Project Staff Kick-off meeting and the Project Initiation Technical Meeting.

5.3 Project Development

Phase submissions to the client, and other preliminary document reviews, such as technical policy or constructability, should be identified in the Quality Management Plan. At project inception, the Project Manager will assign dates to each phase submission and provide the schedule in Vision for incorporation into a companywide schedule for quality management activities. The Project Manager shall inform the Quality Manager or a member of the quality management support staff, as appropriate, of changes to the project schedule that impact the milestone dates.

Communication processes during project development at a minimum should include the following:

- a) Providing all information covered during the Project Staff Kick-off Meeting and the minutes from that meeting to any new staff joining the project.
- b) Coordination with the Project Quality Assurance Lead, Discipline or Task Leads, and the Project Engineer to ensure that all documentation is being filed according to the QMP.
- c) Coordination with the Project Quality Assurance Lead, Discipline or Task Leads, and the Project Engineer in advance of phase and/or final submittals for Quality Assurance Verification Processes.

Progress beyond set milestones shall not be permitted without the authority of the Project Manager and communication to the Project Quality Assurance Lead. The PM is responsible for confirming that Quality Control processes have been completed and documented, that the Reviewer has verified that all comments have been correctly incorporated, and that the document review is complete, with any outstanding issues resolved in accordance with the procedures in the Quality Control Plan. The PM shall sign and seal the Quality Assurance Review & Certification Form (Form QAR) for all external submittals or as directed by the QM.

5.3.1 Project Submission Report

To facilitate the Quality Assurance process, Project Managers are strongly encouraged to include a Project Submission Report (PSR) with phase and final submissions where the submission deliverable is not a report. A PSR covers one distinct discipline or task associated with the project, but several disciplines or tasks may be combined in to one report at the discretion of the Project Manager. The PSR is developed in coordination with the Discipline or Task Leads and the Project Engineer.

A PSR typically consists of the following sections:

- a) Introduction – This section contains a brief summary of the project, a description of the design elements covered in the PSR, a statement of purpose for the submission, and a list of any reference documents.
- b) Design and Performance Criteria
- c) Design Approach
- d) Design Changes from Prior Submission (if appropriate)
- e) Detailed Discussion of the PSR Design Elements
- f) Responses to Comments on Prior Submission (if appropriate)
- g) Summary of Design Variations.

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5.4 Post Design

5.4.1 Post Design Kickoff Meeting

At the start of the Post Design Phase, the Project Management team should schedule a Project Post Design Kick-off meeting. The Post Design Kick-off meeting serves to inform the assigned staff of the following:

- Approved stamps to be used
- Appropriate use of stamps for Shop Drawings vs Construction procedures, calculations, catalog cuts, etc.
- Correct review and mark -up procedure as per the firm QC Plan
- Logging requirements and maintenance of logs

6.0 Quality Assurance Verification

Documentation is to be kept which provides a record that the design development and review process was performed as required. This documentation is to include records of the important steps which led to the development of final planning documents as well as the final design, such as preliminary concepts, model validation, design calculations, computer code input and any communications, instructions, and directives which have a direct bearing on the project.

Types of documentation to be reviewed for compliance with the procedures set out in the Quality Control Plan:

- a) Design Criteria
- b) Reports – All reports prepared for the project irrespective of type.
- c) Interdisciplinary Coordination – Minutes of meetings and signed attendance lists.
- d) Calculations/Computer Solutions
- e) Drawings
- f) Specifications
- g) External Comment Responses
- h) Prior Audit Documents – All documentation provided by the Quality Auditor including recommendations for improvement, nonconformance reports, and any other check lists.

6.1 Quality Assurance Reviews

Quality Assurance reviews should be implemented in advance of all external submittals for a project. A Quality Assurance Review documents compliance with the QC Plan and identifies areas of nonconformance.

A Quality Assurance Review consists of review, by the Project Quality Assurance Lead, of documented internal and external comments generated during the internal QC process or external milestone review and confirmation that all comments were addressed, or the reviewer agrees to non-incorporation on the basis of sufficient explanation.

The goal of the Quality Assurance Review is to identify areas of weakness in the Quality Control process and develop preventive actions that focus on areas of potential nonconformance to reduce the risk associated with these areas.

The QA Review should identify potential nonconformities, their probable cause, determination of preventive action needed, implementation of preventive action and determining if preventive action was implemented and effective in preventing nonconformity.

The Project Manager is responsible for developing and implementing preventive actions that address the potential areas of nonconformance identified in the Quality Assurance Review and works to reduce or eliminate the risk in

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these areas. The Project Quality Assurance Lead shall document the preventive action procedures and lead the discussion with the Project Manager, Project Engineer, and HQ.

Any preventive action procedure shall identify the necessary steps required to reduce the risk of nonconformance. The steps should include, but not be limited to, quality review of the proposed work prior to submission and “lessons learned” from previous or similar types of projects.

6.1.1 Phase Submittals

Phase submittals are required to be checked, back checked, corrected, and verified prior to submittal in accordance with the Quality Control Plan. The level of detail of the review may be varied at the discretion of the PM provided that all critical information, either specifically required by the contract or considered fundamental to the development of the design, is verified to have received a full check and back check as detailed in the Quality Control Plan for the classification of document and as appropriate for the level of development.

At a minimum, the following items shall be verified:

- a) Presence of a completed Quality Control Stamp on a check print of all submittal documents.
- b) Completion of any Internal Technical Reviews
- c) Incorporation and/or response to all comments from both internal reviewers and external milestone reviewers (if applicable). All comments should be responded to on a Comment Response Form (CRF). CRF format to be determined by the PM in consideration of any Client requirements

6.1.2 Design Build Submittals

In general, specific requirements for design build submittals will be addressed in the contract and/or the Project Management Plan. Design Build submittals shall be subject to the same Quality Assurance process as defined herein for design projects. All final design build submittals (i.e., 90% submittals or those marked for construction such as “Issued For Construction” (IFC) or “Released For Construction” (RFC)), whether submitted as a phase submittal or as part of a complete set of final documents, will be subject to a Quality Assurance Review.

6.2 Quality Assurance Audits

Quality Assurance Audits will be performed to confirm conformance with the Quality Management Plan of a given project. The focus of the audit is to verify that each project has sufficiently accomplished all quality goals set forth in the Quality Management Plan, to identify any areas of nonconformance, and determine any corrective actions. Quality Assurance Audits will be scheduled by the Quality Manager and Chief Technical Officer.

The minimum number of Quality Audits shall be once during the life of the Contract/Agreement or a minimum of once a year on multi-year Contracts/Agreements and once per year during post design (CSS) activities. Additional Quality Assurance Audits may be scheduled by HQ during extended periods of project development, after a period of interruption in work, during post design services (construction support services), or during or immediately after inspection operations.

6.2.1 Quality Assurance Audit Process

Audits will be administered and documented by a Quality Auditor assigned by HQ. The Principal-in-Charge, Project Manager, and Project Quality Assurance Lead shall participate in the QA Audit if requested by the Quality Auditor. The Project Quality Assurance Lead is responsible to provide all necessary information for the audit.

Personnel conducting audits are required to be objective and impartial in conducting the audit. Self-audits shall not be allowed.

The evaluation will consist of review of documents, site visits (if applicable), discussions with staff, and nonconformance evaluations. The purpose of the evaluation is to confirm adherence to the QMP.

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Results of Quality Audits shall be documented in the Quality Audit Log. If issues of nonconformance are identified, recommended corrective and preventative actions shall be generated as a portion of the Nonconformance Report. Where applicable, systemic corrective and preventative actions are communicated companywide to affect a companywide change.

Follow-up Quality Audits are performed as necessary, to ensure implementation of corrective action with the results reported to the Project Engineer, Project Manager, Quality Manager, and Chief Technical Officer.

6.3 Control of Nonconforming Product

A nonconformance in work output occurs when non-trivial errors are discovered in output documents issued as final documents. Final documents are signed and dated documents ready to be issued for construction, bid, or procurement.

Reports of nonconformances discovered by outside sources shall be processed by the Project Manager and Quality Manager.

6.3.1 Corrective Action

If required, any Corrective Action is monitored to ensure closure.

Corrective action will be appropriate to the severity of the nonconformance identified. The Project Manager shall develop and implement any corrective action procedure taken. The corrective action procedure shall be approved by the Chief Technical Officer. The procedure shall identify the nonconformance root cause and the necessary actions required to resolve the nonconformance to the satisfaction of the client. The procedure addresses nonconformity identification (including client complaints), cause determination, action to prevent recurrence, identifying and implementing the corrective action, recording results, and determining if the corrective action was implemented and effective in resolving the nonconformance.

7.0 Sub-Consultants

Subconsultants are responsible for performing their own Quality Control. H&H Project Managers shall require QA/QC Plans from all sub-consultants. Subconsultants that choose not to provide their own QA/QC plans must adopt the H&H QA/QC plans. H&H Project Managers are responsible for the following:

- a) Review of sub-consultant's internal QA/QC Plan for adequacy in meeting client and project requirements. If inadequate, H&H will require further provisions be incorporated into the sub-consultant's QA /QC Plan as necessary to meet project requirements.
- b) If the subconsultant has adopted the H&H QA/QC plan, H&H Project Managers shall provide copies of the plans and review the requirements with the subconsultant's Project Manager at project initiation.
- c) Meet with sub-consultant's Project Manager periodically to ensure that the sub-consultant is adhering to their QA/QC Plan. The H&H Project Manager is responsible for auditing subconsultants in accordance with the subconsultant audit schedule provided in the Project Management Plan.

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Hardesty & Hanover, LLC

Quality Control Plan

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1.0 Introduction

Quality Control is a series of activities, actions and procedures routinely undertaken to ensure that our services and their representative work products are produced to the requisite standard of care and in accordance with the defined technical philosophy of the firm. This manual defines specific procedures for executing quality control functions in the preparation of engineering studies and designs, including reports, plans, specifications, and other similar documents. This Quality Control Plan (QCP) shall be implemented as an element of the overall project Quality Management Plan (QMP) where either specifically called for in the Contract, Project Management Plan (PMP), or where implied by project or industry standards.

2.0 Key Definitions and Roles

The following definitions are used throughout this manual:

- a) **Back Checker:** The individual who reviews the Checker's comments. The Originator/Producer functions as the Back Checker unless another qualified individual is assigned by the Project Manager (PM).
- b) **Checker:** The individual who through education and/or experience is knowledgeable within an area of technical subject matter, who has been assigned by project leadership to perform an accuracy and correctness check of technical content.
- c) **Check Print:** The copy of the work product to be used in the quality control (QC) process. The Check Print may be a hard (paper) copy or a digital file such as a Portable Document File (PDF) that is capable of recording review markups. A Check Print is required at each Hold Point and may be requested by the Client, PM, or Headquarters Engineering (HQ) at a Witness Point. Refer to the appropriate process by document type/class in Section 4 for Check Print contents.
- d) **Hold Point:** A level of design where specific aspects of the project such as design objectives, design criteria, and principal geometry are typically locked in. Hold Points require completion of all Quality Control procedures and Quality Assurance Review and Certification before a submittal can be made. Once the QC process is initiated, the work product cannot continue to be progressed. The project Hold Points shall be established by the PM in compliance with Client and HQ requirements at the beginning of the project. All external milestone submittals are Hold points.
- e) **HQ:** Also referred to as Headquarters Engineering. This specifically refers to the authority of the technical directors such as but not limited to the Chief Technical Officer, Director of Engineering, Risk Management Officer, Quality Manager, or respective Practice Leaders and Chief Engineers.
- f) **Independent Check:** Verification of a calculation by performing a separate standalone calculation to confirm results in lieu of performing a detailed check.
- g) **Internal Technical Reviewer:** Reviewer, assigned by HQ, for a project or portion thereof that has not been a principal participant in the development of a work product.
- h) **Originator/Producer:** The individual, qualified by experience in the applicable discipline, who is assigned to prepare documents and/or generate work product.
- i) **Phase Submittal:** A milestone submittal of a preliminary work product to a client (i.e., Concept plans, 60% plans, or similar prior to final.)
- j) **Plans:** Drawings and/or CADD files created by Hardesty & Hanover (H&H) for use by the Client as part of the contract or bid documents or, in the case of alternative delivery such as Design/Build, to construct the project.

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- k) PE: Project Engineer.
- l) PM: Project Manager.
- m) Preliminary: A document, including reports, plans, specifications, or similar documents, prepared by H&H and submitted to the client prior to the anticipated final submittal of such document. Preliminary documents are 100% complete and validated by QC but represent a lesser level of development than the final work product.
- n) Quality Management Plan (QMP): The plan developed by the Project Manager to describe specific quality requirements for a given project. The QMP typically includes project-specific amendments to the current edition of the H&H Quality Management Plan.
- o) QC Stamp: A physical or digital stamp applied to work product to signify that it is the Check Copy (aka Check Print) and for recording the initials and dates of the individuals who performed the quality control process.
- p) Quality Assurance: The systematic review of design and development processes, specifically Quality Control activities, to confirm that processes are implemented per policy and the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve our processes.
- q) Report: Any document (letter, report, inspection report, etc.) prepared under the terms of a Contract and intended for distribution outside of H&H, which includes statements of professional opinion, condition assessment, calculation, evaluation, design, engineering judgment, cost estimates, etc.
- r) Specifications: Custom technical specifications or special provisions prepared by H&H to amend, supplement, or modify the project's standard construction or material specifications.
- s) Stet: Let it stand (used as an instruction on a printed proof to indicate that a correction or alteration should be ignored).
- t) Verifier: The individual assigned to verify that the Checker's and Originator/Producer's comments have been implemented. The Verifier may be any individual assigned by the PM but will preferably be the Checker.
- u) Witness Point: A level of design that has not been identified as a Hold Point by the Client, the PM, or HQ but for which QA activities may be required. Witness Points may include items such as the Quality Management Plan, project schedule, interim phase submittals (30%,60%,90%), field inspection MOT plans, field inspection verification plans, and internal progress sets. All external milestone submittals, whether Witness or Hold Points require Quality Assurance Review and Certification prior to submittal.
- v) Work Product: A document or other product produced by H&H for a client under the terms of a contract. Work products may be hard copies, electronic deliverables, or electronic files (e.g., CADD files, spreadsheets or similar.)

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3.0 General Intent

It is the general intent of this plan to define procedures for quality control which minimize errors, discrepancies, and omissions in H&H's work products. Furthermore, such procedures are intended to produce concise, delineated records of the in-house quality control process.

Although the physical process may vary for detailed checking of the various types of work products prepared under the requirements of this plan, the intent is for each work product to be thoroughly reviewed in detail by someone in addition to the review by the Originator/Producer who prepared that work product for conformity with generally accepted standards of design and engineering practice. Items transmitted purely for informational purposes and coordination of the design development may not need to follow the full QC process but must be reviewed by someone other than the Originator and documented with a QAR form. Frequency and content of required documentation shall be determined by the Quality Manager. Unless otherwise approved by the engineer in responsible charge, at least one of the primary individuals involved in preparing (Originator/Producer) or checking (Checker) a document shall be a Professional Engineer, experienced and qualified in the appropriate engineering discipline. Similar credentials are required in the event the work product is other than an engineering work product.

Comments generated by the quality control process are to be resolved to the satisfaction of both the Originator/Producer and the Checker. The process of Quality Control (QC) is to be documented and recorded in a manner which allows for management of the process and review of the process through Quality Assurance (QA).

Some work products and services may require the use of third-party information and/or materials provided by the client, or the use of data, documents or services provided by subcontractors, subconsultants, and suppliers. As required in their subcontract and approved Quality Management Plan, if one exists, subcontractors, subconsultants, and suppliers are ultimately responsible for the quality of the goods, work products and services they provide. Where H&H has a prime contractual relationship, H&H will review subcontractor, subconsultant, and supplier work products, supplied materials, and services only to verify compliance with contractual requirements and to coordinate the work. This does not preclude project specific reviews of subcontractor, subconsultant, and supplier work product if such reviews are required by contract.

4.0 Process by Document Type / Class

Each type of work product produced will be subjected to a detailed quality control process as defined herein. Prior to initiation of the quality control process the PM/PE shall review and coordinate with the Originator/Producer the appropriate level of detail and information for a given document type or class and level of development. Work products of a type not specifically noted shall be processed by the most appropriate process, as determined by the PM. Except as noted for preliminary documents in Article 6.1, all documents submitted to someone outside the design team (or design build team in the case of a Design/Build project) shall be checked in accordance with the requirements of this section. Specific colors are assigned to each role in the checking process; however, alternate color schemes may be used as long as the role and associated color are clearly identified. The Project Manager or Project Engineer shall modify permissions to the project submittal folders to prevent editing of documents that have completed the QC process.

4.1 Design Plans

All drawings shall be checked for technical content, clarity, style, and conformance with design criteria and Client/H&H standards by someone other than the Originator/Producer. This process shall be executed and documented as noted below and in the flow chart of Figure 1.

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Design Plan Development

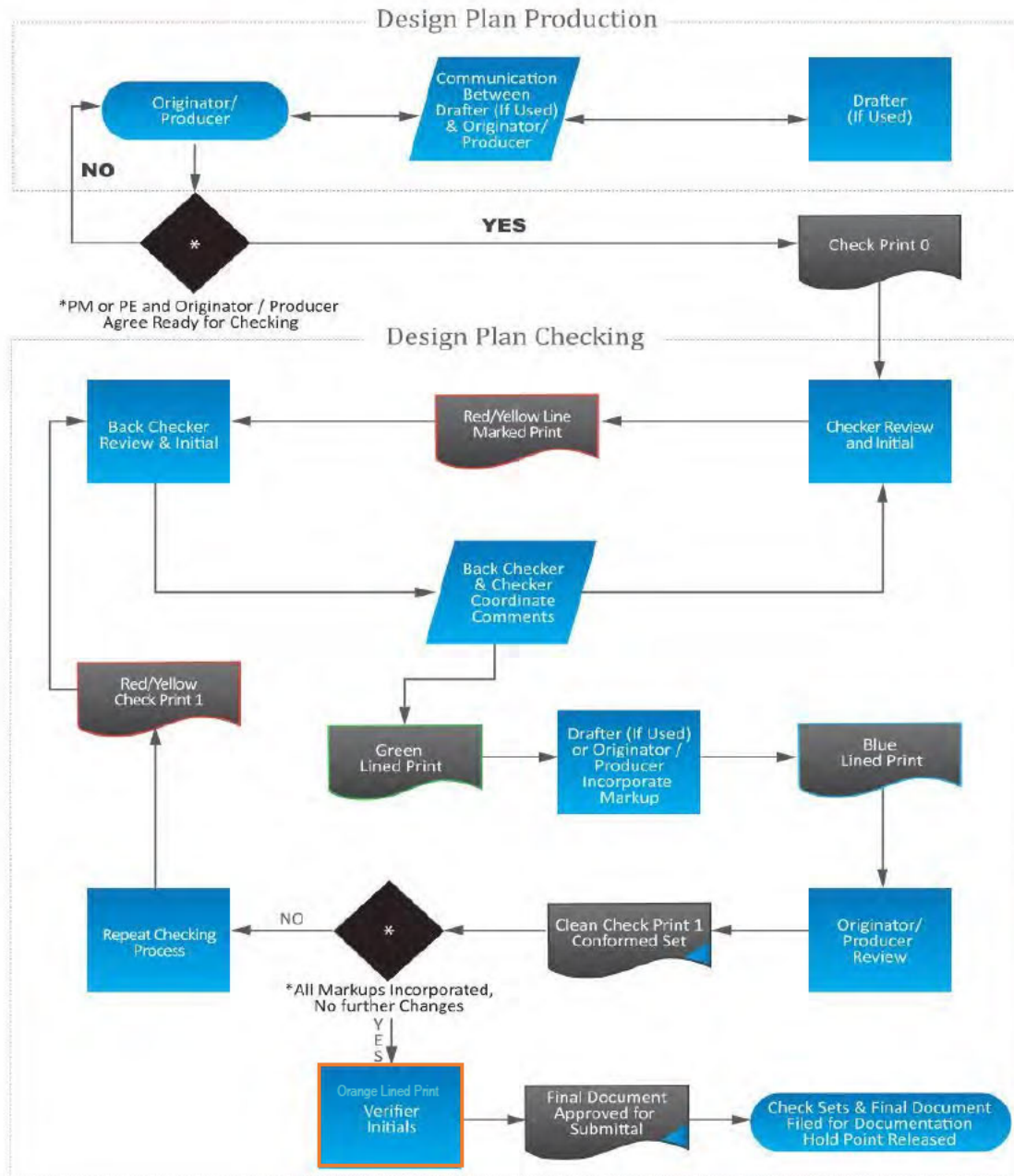


Figure 1

4.1.1 Preparing a Check Print of a Drawing

Once the Originator/Producer and PM have agreed that a drawing contains the appropriate level of detail and information required at the phase submission, or is substantially complete and ready for checking, a Check Print will be prepared, and the PM will assign it to the Checker. Each Check Print shall bear a red Quality Control Stamp as shown in Figure 2 with the Originator/Producer's initials and date in the "Ready for Checking" boxes. The Check Print shall be designated as final or for a specific phase submittal. It is preferred that the QC stamp is applied to each sheet.

However, for electronic files only, if one stamp is applicable to all sheets within a discipline, One stamp may be applied to the first sheet and a note added indicating to which sheets the QC stamp applies.

H&H QC DOCUMENT	PHASE ____ or FINAL ____	
PROCESS	INITIALS	DATE
READY FOR CHECKING		
CHECKED CORRECT (YELLOW) CHANGE (RED)		
BACK CHECKED (GREEN)		
CORRECTED (BLUE HIGHLIGHTER)		
VERIFIED (ORANGE HIGHLIGHTER)		

Figure 2

4.1.2 Checking Drawings

The Checker's colors are YELLOW and RED

The Checker will ascertain that the drawing is consistent with the corresponding checked calculations, design reports, and other related project documents. The Checker is required to perform the following:

- a) Ascertain that the document conforms with reliable engineering judgment and practice and is suitable and sufficient to accomplish the required function; the Checker shall review the Check Print in detail for:
 - Technical sufficiency appropriate for the level of design development
 - Conformance with design calculations
 - Conformance to applicable standards and design criteria
 - Coordination with specifications and other design documents
 - Conformance with established CADD formats and styles. The project CADD Standards and project drawing templates are established by the CADD Manager under direction of the PM. Any questions about conformance with the project CADD Standards should be referred to the CADD Manager.
- b) Highlight in YELLOW each element or section checked that is found to be correct, and/or with which the Checker agrees on the Check Print. If no corrections are needed, a yellow slash through a sheet or detail or a large yellow check over a sheet or detail signifies that the Checker has reviewed that sheet or detail.
- c) Mark in RED on the Check Print any corrections, additions, and/or deletions, mark any questions directed to the Originator/Producer in RED.
- d) The Checker initials and dates the Check Print in the appropriate box ("Checked") of the Quality Control Stamp on the Check Print(s) and forwards the document for back checking, unless no changes are required in which case the QC process is complete.

- e) If the check is limited to a particular discipline, or component, of the drawing this shall be noted on the Check Print or first sheet of a set of Check Prints.

4.1.3 Back Checking Drawings

The Back Checker's color is GREEN

After the Checker has completed review of the Check Print, the Back Checker (either the Originator/Producer or their appropriate designee), reviews the Checker's marks and agrees to or resolves the Checker's proposed corrections. The Back Checker is required to perform the following:

- a) Verifies that the complete drawing has been checked in accordance with the above requirements (i.e., all applicable contents of the drawing are marked in either yellow or red), checkmarks in GREEN each of the Checker's red marked changes to signify agreement with the Checker that the marked changes are to be made or adds in GREEN any additional changes not identified by the Checker. Answers Checker's questions in GREEN and marks up any changes needed to implement the response, also in GREEN.
- b) Returns to Checker if necessary. Every modification, including all comments marked STET, responses, or additional changes made by the Back Checker in GREEN must be highlighted in YELLOW by the Checker to signify agreement.
- c) Resolves significant differences of opinion with the Checker. If an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager before continuing with the checking process. Upon agreement of the solution:
 - 1) The Checker marks their concurrence (YELLOW).
 - 2) Cross out in GREEN each of the Checker's red marked changes that the Originator/Producer and Checker agree should not be changed. The Back Checker rewrites next to the crossed out red marks the original information that is to remain unchanged or indicates "stet".
- d) Confirms that every red marked change made by the Checker now has a GREEN check next to it and that every modification, including all comments marked STET, or additional change made by the Back Checker in GREEN has been highlighted in YELLOW by the Checker to signify agreement.
- e) The Back Checker initials and dates the Check Print stamp ("Back Checked") and forwards the reconciled Check Print to the Originator/Producer (if different from the Back Checker) for correction.
- f) Note: If the Back Checker is also the person correcting the drawing, the Back Checker should still apply the Green check or highlight to show agreement with the change. Documenting that a change was corrected does not eliminate the need for also documenting agreement with the change. This step should not be omitted.

4.1.4 Correcting Drawings

The Corrector's color is BLUE

- a) The Originator/Producer corrects, or supervises the correction of, the original document to implement the changes agreed to by the Checker and Back Checker. As corrections are made the changed item is highlighted in BLUE on the Check Print to document the action.
- b) Upon completion of the corrections, the Corrector makes a new print, initials, and dates the Check Print stamp ("Corrected") on the original Check Print and forwards the original Check Print and corrected new print to the Verifier for verification.
- c) If the changes are so extensive as to make the first Check Print illegible for use by the Checker, the Originator/Producer makes a new Check Print upon completion of the corrections, labels it Check Print #2,

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places a new QC Stamp on the print, and places it on top of Check Print #1, which is then stamped or marked "revised". The Originator/Producer initials and dates Check Print #2 in the appropriate box of the Quality Control Stamp ("Ready for Checking") and forwards the document to the Checker to repeat the process.

4.1.5 Verification of Original Check Print

The Verifier's color is ORANGE

The Verifier compares each of the Back Checker's marked changes on the previous version of the Check Print(s) (Original or Check Print #2), with the revised part of the updated document. If the Verifier concurs that the changes have been properly implemented, the Verifier marks over the changes with ORANGE on the Check Print. The Verifier will also make certain that no inadvertent changes, not noted on the Check Print, have been made.

4.1.6 Verification of New Check Print

When the Verifier is processing a new Check Print (#2, #3, etc.), the Verifier must compare each part of the new Check Print with the corresponding part of the previous Check Print. If the changes have been made accurately on the updated Check Print, the Verifier:

- a) Checks that each correction, addition, and/or deletion as well as each new section that has been redrawn, rewritten, retyped, or recalculated has been correctly transferred to the original from the Check Print(s).
- b) On the most recent Check Print of the corrected document, marks over all the corrections that were made in ORANGE.
- c) Verifies that no inadvertent changes, not noted on the Check Print, have been made to any parts of the drawing and signifies so by striking a YELLOW mark across the drawing.
- d) Marks in RED on the new Check Print any corrections, additions, and/or deletions that were overlooked on the backchecked Check Print.
- e) Returns the Check Prints to the Back Checker, who checks in GREEN the red marks, if found to be correct, on the new print marked by the Verifier, and sends the Check Prints for correction. When all changes in the most recent Check Print have been marked over in ORANGE, the checking process is complete.
- f) The Verifier initials and dates the Check Print stamp on the line designated for the Verifier and signs off in the drawing or calculation sheets as specified and forwards the Check Print to the Originator of the document.

4.1.7 Checking Process for Additional Changes to Drawings

If additional changes or revisions become necessary, following review by the client, for example, they are processed on a new Check Print in the same manner as described previously. Although only the new changes need to be checked, the Originator/Producer and Checker are still responsible for assuring that correct interfacing with the affected changes is checked completely. The Originator/Producer and Checker must verify that any changes or revisions are coordinated throughout the project documents, including calculations, plans, and specifications. They must also ensure changes or revisions are made on CADD files, computer printouts, and contract reports.

4.1.8 Checking Process for Multiple Phase Reviews

Phase Reviews, where required (refer to Section 6.1 Phase Submittals), are processed in the same manner as described previously except as noted herein. Although only the changes, updates and new content not verified on previous Check Prints need to be checked, the Originator/Producer and Checker are still responsible for assuring that the document is checked completely. A yellow slash through a sheet should be used if previously checked and no changes were made since the prior phase submission. If there have been no changes to the entire set or to a discipline specific set, a copy of the prior check set, with a note on the cover sheet indicating no changes from prior check set,

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should be placed in the folder for this phase. The Originator/Producer and Checker must verify that any changes or revisions, including changes implemented in prior checking, are coordinated throughout the project documents, including calculations, plans, and specifications. Unless prior Check Prints are affixed to the current Check Print, the Checker shall note the source (e.g., prior phase Check Print) for items that are accepted based on a previously checked set.

4.2 Calculations

Calculations that support final work product shall be checked for technical content, clarity, style, and conformance with design criteria and standards by someone other than the Originator. This process shall be executed and documented as noted below and in the flow chart of Figure 3.

Design Calculation Development

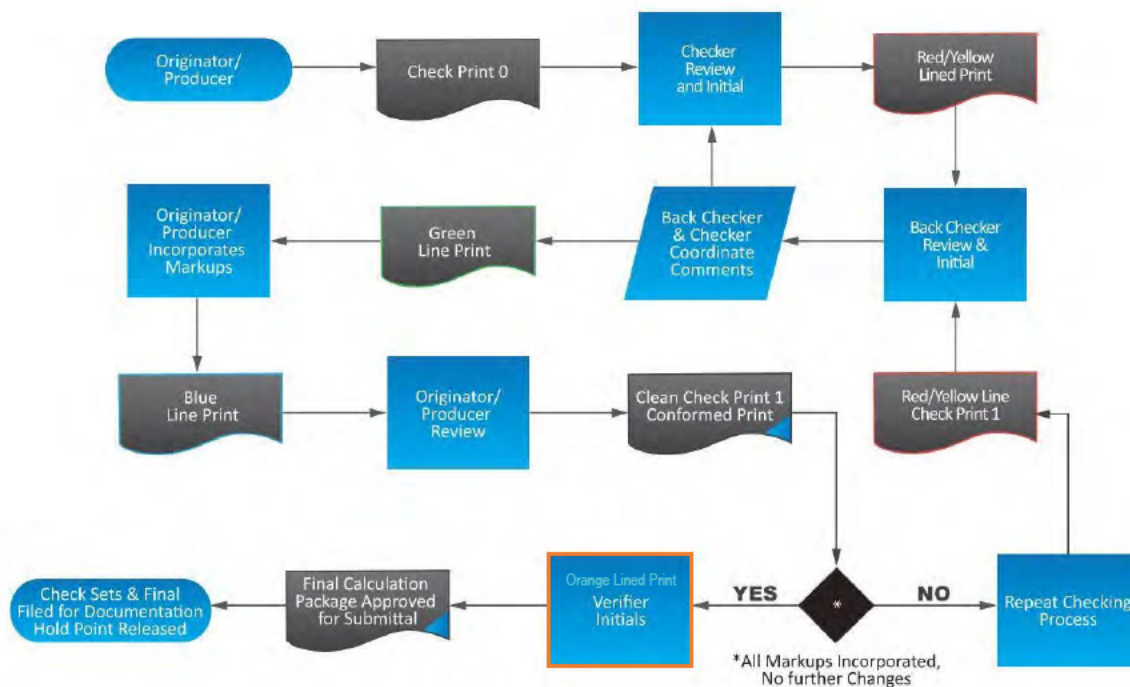


Figure 3

4.2.1 Preparing Check Copies of Calculations

Once the Originator/Producer and PM or PE have agreed that a calculation is substantially complete and ready for checking, a Check Copy will be prepared, and the PM or PE will assign it to the Checker. The Checker will be provided with the design criteria. It is strongly encouraged that a brief narrative for the design element be included as part of the design criteria write up. The first sheet of the calculation must be a Calculation Cover Sheet. Each Check Copy shall

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bear a red Quality Control Stamp as shown in Figure 2 on the cover sheet with the Originator/Producer's initials and date in the "Ready for Checking" boxes. In lieu of placing the QC stamp on the cover sheet, a standalone sheet with the QC stamp may follow the cover sheet. The Check Copy shall be designated as final or for a specific phase submittal. Each sheet of the calculation or each cover page of computer analysis output will include the initials of the Originator/Producer and all pages will be numbered.

4.2.2 Checking Calculations¹

The Checker's colors are YELLOW and RED

The Checker will ascertain that the calculation is consistent with the design reports, design criteria, and other related project documents. The Checker is required to perform the following:

- a) Ascertain that the calculation conforms with reliable engineering judgment and practice and is suitable and sufficient to accomplish the required function; the Checker shall review the calculation in detail for:
 - Technical sufficiency appropriate for the level of design development
 - Conformance with related design calculations
 - Mathematical accuracy
 - Conformance to applicable standards and design criteria
 - Coordination with specifications and other design documents.
- b) Highlight in YELLOW each element, or section checked, that is found to be correct and/or with which the Checker agrees, on the Check Copy. For software programs which use a color highlighting scheme to designate different types of input, a yellow checkmark or yellow slash down left side of the page may be used in lieu of highlighting each element.
- c) Mark in RED on the Check Copy any corrections, additions, and/or deletions.
- d) Prepare and attach any independent calculations made by the Checker.
- e) Resolve significant differences of opinion with the Originator. If an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager before continuing with the checking process.
- f) The Checker initials and dates the cover sheet in the appropriate box of the Quality Control Stamp on the Check Copy and forwards the document for back checking.

¹ The process outlined in this section is intended for calculations that can be checked without generating significant paper waste such as hand calculations, simple Mathcad output, simple Spreadsheets, etc. For computer programs generating voluminous output files the output should not be printed hard copy. The process should be followed electronically on a PDF. Alternately, a summary sheet of the output from the computer program can be prepared and a list of files checked can be appended to the summary sheet with the following information included: file directory / name, timestamp, and list of inputs checked. If the appropriate checked information can be summarized on one screen or input box, screen shots may be appended as appropriate.

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4.2.3 Back Checking Calculations

The Back Checker's color is GREEN

After the Checker has completed review of the Check Copy, the Originator/Producer, acting as Back Checker, reviews the Checker's marks and supervises or personally makes the changes required. The Back Checker is required to perform the following:

- a) Verifies that the complete calculation has been checked in accordance with the above requirements (i.e., all appropriate contents of the calculation are marked in either yellow or red), checkmarks in GREEN each of the Checker's red marked changes to signify agreement with the Checker that the changes marked are to be made, or adds in GREEN any additional changes not identified by the Checker.
- b) Resolves significant differences of opinion with the Checker, if an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager, for resolution.
- c) Confirms that every red marked change made by the Checker now has a GREEN check next to it and that every additional change made in GREEN has been highlighted in YELLOW by the Checker to signify agreement. For software programs which use a color highlighting scheme to designate different types of input, a yellow checkmark may be used in lieu of highlighting.
- d) Crosses out in GREEN each of the Checker's red marked changes that the Back Checker and the Checker agree should not be changed. The Back Checker rewrites next to the crossed out red marks the original information that is to remain unchanged or indicates "stet". The Checker must mark all such green marks in YELLOW.
- e) The Back Checker initials and dates the Check Copy cover sheet in the appropriate box ("Back Checked") of the Quality Control Stamp and forwards the document for correction.
- f) Note: If the Back Checker is also the person correcting the calculation, the Back Checker should still apply the Green check or highlight to show agreement with the change. Documenting that a change was corrected does not eliminate the need for also documenting agreement with the change. This step should not be omitted.

4.2.4 Correcting Calculations

The Corrector's color is BLUE

- a) The Originator/Producer corrects the original document, or supervises correction of the calculation, to implement the reconciled changes. As corrections are made the changed item is highlighted in BLUE on the Check Print to document the action.
- b) The Originator/Producer initials and dates the cover sheet in the appropriate box of the Quality Control Stamp ("Corrected") and forwards the Check Copy and corrected original (or copy) to the Checker for verification.

4.2.5 Verification of Original Check Copy of a Calculation

The Verifier's color is ORANGE

- a) The Verifier compares each of the Back Checker's marked changes on the Check Copy, with the revised part of the corrected calculation. If the Verifier concurs that the changes have been properly implemented, the Verifier marks over the changes in ORANGE on the Check Copy. The Verifier will also make certain that no inadvertent changes, not noted on the Check Copy, have been made. For software programs which use a color highlighting scheme to designate different types of input, an orange checkmark may be used in lieu of highlighting.

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4.2.6 Checking Process for Additional Changes to Calculations

If additional changes or revisions become necessary, following review by the Client or significant changes during detailing, for example, they are processed on a new Check Copy in the same manner as described previously. Although only the new changes or revisions need to be checked, the Originator/Producer and Checker are still responsible for assuring that correct interfacing with the affected changes is checked completely. The Originator/Producer and Checker must verify that any changes or revisions are coordinated throughout the project documents, including calculations, plans, and specifications.

4.2.7 Independent Check in Lieu of Detailed Checking

With approval of the PM, or if required by the Contract, the Checker may perform an Independent Check in lieu of following the detailed checking procedure outlined above. The Independent Check shall consist of a standalone set of calculations that produce results similar enough to the original calculation to confirm its accuracy and adequacy. An Independent Check is most commonly used to check the results of analysis produced using proprietary software or in-house computer applications. An Independent Check may be done by hand calculations or using a software application other than the original calculation.

To implement an Independent Check, apply the QC Stamp to the cover sheet of the calculations and write "Independent Check" across the Checked box in GREEN pen.

As part of an Independent Check, the Checker is required to perform the following:

- a) Ascertain that the calculation conforms with reliable engineering judgment and practice and is suitable and sufficient to accomplish the required function.
- b) Review the original calculation for:
 - Technical sufficiency
 - Conformance to applicable standards and design criteria
 - Conformance with related design calculations
 - Coordination with specifications and other design documents.
- c) Prepare independent check calculations to confirm the results of the original calculation.
- d) Mark any review comments regarding the original calculations and/or the independent verification on the cover sheet of the original calculations, initial and date the QC stamp.
- e) Provide the original and independent calculations to the Originator/Producer for Back Checking.

As part of an Independent Check, the Back Checker is required to perform the following:

- a) Respond to all comments made by the Checker, either agreeing to or resolving the comments.
- b) If corrections are necessary, correct the original calculation and provide to the Checker for additional review.
- c) Once all review comments are reconciled, or if no corrections are necessary initial and date the QC stamp.
- d) Forward to the Checker for verification.

4.3 Reports & Specifications

Similar to drawings and calculations, all reports and specifications will pass through a quality control process prior to submittal. This process will verify that the document's technical contents are accurate, that the spelling and grammar

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contained in the document are correct, that the format and style of the document are in conformance with project standards, and that the appropriate disclaimers and assumptions are conspicuously defined.

4.3.1 Preparing Check Copies of Reports & Specifications

Once the Originator/Producer and PM have agreed that a report or specification is substantially complete and ready for checking, a Check Copy will be prepared, and the PM will assign it to the Checker. The first sheet of the Check Copy shall bear a red Quality Control Stamp as shown in Figure 2 with the Originator/Producer's initials and date in the "Ready for Checking" boxes. The Check Copy shall be designated as final or for a specific phase submittal. If not included on the first sheet, the Originator/Producer will write "prepared by" and sign his/her initials on the sheet.

4.3.2 Checking Reports & Specifications

The Checker's colors are YELLOW and RED

The Checker will ascertain that the report or specification is consistent with the supporting calculations, plans, and related project documents. The Checker's colors are RED and YELLOW. The Checker is required to perform the following:

- a) Ascertain that the report or specification contents are technically and grammatically correct; the Checker shall review the Check Copy in detail for:
 - Technical sufficiency
 - Conformance to applicable standards and design criteria
 - Correct grammar
 - Correct spelling
 - Appropriate disclaimers and assumptions
 - Conformance with supporting design calculations
- b) Coordination with other design documents
- c) For specifications, the Checker shall ascertain that the format of the specification is consistent with the format of the remaining project documents and project standards for specifications, including the following:
 - Proper titles, headers, footers, date formats, etc.
 - Correct article, section, and paragraph identification and sequence
 - Proper format and sequence of contents (i.e., materials, construction, submittals, payment, etc.)
- d) Each word does not need to be highlighted in YELLOW. One YELLOW slash shall be applied across or down the page to indicate the page was checked. The exception is all numerical values including referenced specification numbers, e.g., ASTM, shall be verified and fully marked in YELLOW if correct.
- e) Mark in RED on the Check Copy, any corrections, additions, and/or deletions, mark any questions directed to the Originator/Producer in RED.
- f) Resolve significant differences of opinion with the Originator. If an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager before continuing with the checking process.

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- g) The Checker initials and dates the first sheet of the copy in the appropriate box of the Quality Control Stamp and forwards the document for back checking and correction unless no changes are required in which case the QC process is complete.
- h) If a check is limited to a particular discipline, or component of the report or specification, this shall be noted on the first sheet of the Check Copy.

4.3.3 Back Checking Reports & Specifications

The Back Checker's color is GREEN

After the Checker has completed review of the Check Copy, the Originator/Producer, acting as Back Checker, reviews the Checker's marks and supervises or personally makes the changes required. In addition, the Back Checker:

- a) Verifies that the complete report or specification has been checked in accordance with the above requirements (i.e., all contents of the report or specification are marked in either yellow or red), checkmarks in GREEN each of the Checker's red marked changes to signify agreement with the Checker that the changes marked are to be made, and adds in GREEN any additional changes not identified by the Checker.
- b) Resolves significant differences of opinion with the Checker, if an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager, for resolution.
- c) Crosses out in GREEN each of the Checker's red marked changes that the Back Checker and the Checker agree should not be changed. The Back Checker rewrites next to the crossed out red marks the original information that is to remain unchanged or indicates "stet". The Checker must mark all such green marks in YELLOW.
- d) The Back Checker supervises or personally corrects the original document. If the Back Checker is also the person correcting the document, the Back Checker should still apply the Green check or highlight to show agreement with the change. Documenting that a change was corrected does not eliminate the need for also documenting agreement with the change. This step should not be omitted.
- e) The Originator/Producer initials and dates the cover sheet in the appropriate box of the Quality Control Stamp and forwards the Check Copy (preferably a redlined print) and a new clean copy of the revised document to the Checker for verification.

4.3.4 Correcting Reports or Specifications

The Corrector's color is BLUE

- f) The Originator/Producer corrects the original document, or supervises correction of the document, to implement the reconciled changes. As corrections are made the changed item is highlighted in BLUE on the Check Print to document the action.
- g) The Originator/Producer initials and dates the cover sheet in the appropriate box of the Quality Control Stamp ("Corrected") and forwards the Check Copy and corrected original (or copy) to the Checker for verification.

4.3.5 Verification of Corrections to Reports & Specifications

The Verifier's color is ORANGE

The Verifier compares each of the Back Checker's marked changes on the Check Copy, with the revised part of the corrected report or specification. If the Verifier concurs that the changes have been properly implemented, the Verifier marks over the changes in ORANGE on the Check Copy. The Verifier will also make certain that no inadvertent changes, not noted on the Check Copy, have been made.

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4.3.6 Checking Process for Additional Changes to Reports or Specifications

If additional changes or revisions become necessary, following review by the client or significant changes to content, for example, they are processed on a new Check Copy in the same manner as described previously. Although only the new changes need to be checked, the Originator/Producer and Checker are still responsible for assuring that correct interfacing with the affected changes is checked completely. The Originator/Producer and Checker must verify that any changes or revisions are coordinated throughout the project documents, including calculations, plans, and specifications.

4.3.7 Checking Reports or Specifications Electronically

Checking / Back Checking / Verifying reports or specifications electronically can be accomplished using the Track Changes feature within Microsoft Word (unique colors will be assigned by Word). Each reviewer should have their name set in the program options so that they are shown as the reviewer. The Originator shall also function as Back Checker and Corrector. Electronic checking using Track Changes shall follow this procedure:

- a) Checker uses Track Changes to make corrections and saves file as both a Word Doc and as a PDF file which becomes the QC check set
- b) The QC Stamp is applied to the PDF QC check set which contains the tracked changes as red markups. The QC stamp is initialed and dated by Originator as Ready for Checking and by the Checker as checked.
- c) Originator/Back Checker first agrees with the changes in the QC PDF check set and applies a green check or highlight mark to the QC PDF check set to show agreement
- d) Originator/Corrector accepts agreed upon changes with Track Changes in the original Word document and applies blue check or highlight mark to the QC PDF check set to confirm changes were made
- e) Checker compares revised Word document, in which tracked changes were accepted, to the QC PDF check set and applies orange check or highlight to the QC PDF check set to verify that all corrections were made
- f) QC PDF check set shall be locked to restrict editing and saved in the 400-Delivery\QC folder for that submittal
- g) One copy of the Final Word doc shall be saved to the 400-Delivery\Deliverables folder for that submission

4.4 Internal Technical Reviews

Internal Technical Reviews (ITR) are specific purpose reviews of work product performed by an individual that was not involved in the production of the work product. Unlike quality control reviews, ITRs are not a detailed check, but rather a general review of work product for applicability of criteria, assumptions, methodology, concept, compliance with project requirements, constructability, biddability or other specific objectives. ITRs are performed by staff with technical experience related to the specific purpose.

ITRs may be performed at any stage or phase of a project, from design criteria to final biddability. However, ITRs are not a substitute for the quality control review process. Instead, ITRs are intended to supplement the quality control process through additional review of project elements deemed by HQ (or in some cases contractual requirements) worthy of supplementary scrutiny.

4.4.1 Preparing Work Product for ITR

Once the Originator/Producer and PM have agreed that a work product is ready for ITR, a review copy will be prepared. The PM will prepare an ITR Form and submit the request to HQ. The ITR Form will designate the work product to be reviewed and the detailed scope of the ITR. Upon receiving notification from HQ that a reviewer has been assigned, the PM will attach the ITR form to the review copy and pass it to the Internal Technical Reviewer assigned by HQ.

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4.4.2 Performing Internal Technical Reviews

The Internal Technical Reviewer's color is RED

The Internal Technical Reviewer is required to perform the following:

- a) Review the work product for the specific objective requested.
- b) Indicate on the ITR Form if review comments are noted on the ITR Form, marked on the work product, or a combination.
- c) Mark in RED any comments that are to be indicated on the work product; and/or type onto the ITR Form any comments.
- d) Sign and date the ITR Form and provide it to the PM and PE for review and distribution to the Back Checker.

4.4.3 Reconciliation of Internal Technical Review Comments

The Back Checker is required to perform the following:

- a) Respond to all comments made by the Internal Technical Reviewer on the ITR Form, either agreeing to or resolving the comments.
- b) If corrections are necessary, correct the work product and provide to the Internal Technical Reviewer for additional review.
- c) Once all review comments are reconciled, or if no corrections are necessary, the PM shall sign and date the ITR Form.
- d) Return the ITR Form to the Internal Technical Reviewer to sign and date acknowledging that all responses are accepted.

5.0 Checklists

Use of checklists is encouraged in the quality control process. Checklists, containing typical items expected to be included in designs, reports, drawings, specifications, or other documents, may be standard in-house checklists, checklists prepared by the client, checklists included in standard plans preparation manuals, or checklists developed specifically for a project.

Checklists which are used in the quality control process shall be completed and initialed by the Checker and attached to the Check Print or copy. The Checker is responsible for verifying that the checklist used is appropriate for the application.

6.0 Submittals

Document submittals, number, degree of development, and schedule, will be defined for each project either by the client or within the client's standards. In addition to these defined submittals, any work product transmitted to a non H&H entity shall be considered a submittal for purposes of QC and QA and documented with a QAR form. The following procedures for checking of various submittals will be implemented for ALL submittals irrespective of their quantity, degree of completion, and schedule.

6.1 Phase Submittals

Phase submittals are required to be checked, back checked, corrected, and verified prior to submittal. The level of detail of the process may be varied at the discretion of the PM for Witness Points provided that all critical information, either specifically required by the contract or considered fundamental to the development of the design, receives the

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full check and back check detailed above for the classification of document and as appropriate for the level of development. Information presented in preliminary documents which is clearly under development, not completed, or subject to change must be reviewed by the Checker but need not be checked as required for final documents or at Hold Points, provided that the document is clearly marked as preliminary and subject to change. For example, in checking of concrete detail drawings to be submitted at the 60% level and required to define the general dimensions of the concrete, the concrete outlines and dimensions must be completely checked, but any rebar details need only be reviewed at this Witness Point.

6.2 Final Submittals

Final submittals are required to be completely checked, back checked, corrected, and verified in accordance with the appropriate procedure defined herein for the type of document. Final submittals are mandatory Hold Points.

6.3 Design Build Submittals

In general, specific requirements for design build submittals will be addressed in the contract and/or the Project Management Plan. Design Build submittals shall be subject the same quality control process as defined herein for design projects. All Issued For Construction (IFC) or Released For Construction (RFC) submittals are mandatory Hold Points and subject to Quality Assurance Review and Certification prior to submittal.

6.4 Miscellaneous Submittals

Any work product transmitted to a non-H&H entity shall be considered a submittal for purposes of QC and QA and documented with a QAR form. This includes but is not limited to work products categorized as progress sets, draft, preliminary or Over-the-Shoulder. The full QC process may not be required but every work product must be reviewed by someone other than the Originator/Producer prior to leaving H&H.

7.0 Post Design Submittal Reviews²

Post design submittals include documents prepared by or for the contractor and submitted to the Engineer for review. Typical documents included in the classification are shop drawings, working drawings, falsework drawings, falsework calculations, erection, etc.

In many cases the processing of submittals is defined in the contract or prescribed in the owner's standard procedures. In such cases those procedures will be followed. If procedures are not so prescribed, the procedures below shall be followed or used as a guide in implementing the owner's procedures.

All submittals from the contractor must be numbered and logged prior to review. The numbering and logging process will be established and coordinated by the PM or their designee. All logs shall be maintained throughout the Post Design Phase. Separate logs should be kept for RFIs, Shop Drawings and Submittals.

² Electronic review of submissions is encouraged and may be required by the Client. Electronic review shall conform to the appropriate document controls specified in the proceeding sections. All comments shall be made in RED, all checked details shall either be highlighted or boxed over with YELLOW (use transparency so that the details are not obscured). All comments shall be tabulated as required by the appropriate document controls.

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Prior to return of the Contractor Submittal, the PM or PE should review the comments and disposition of the submission with the reviewer(s). Upon concurrence between reviewers and the PM or PE, the PM or PE shall return the submittal in accordance with the owner's standard procedures.

7.1 Shop drawings

All shop drawing submittals from the contractor, including drawings and catalog cut sheets, must bear the contractor's stamp of approval. This is necessary to assure that the contractor has noted his or her responsibility to coordinate the submittal with the project requirements and other submittals. Any submittals containing details of construction methods and/or procedures will not be processed as a shop drawing. Such submittals will be reviewed as noted in Article 7.2 below. Once the shop drawings are logged, one copy shall be designated as the "Office Copy" and forwarded to a designated Reviewer.

The Reviewer shall apply a shop drawing review stamp to each drawing, catalog cut, or table of contents of packaged submittals. The stamp will indicate that the Reviewer has "reviewed the contents of the submittal in accordance with appropriate industry standards for general conformance with the design concept of the project and general compliance with the information given in the contract documents." On the Office Copy, the Reviewer will mark in YELLOW information which is acceptable and in RED information which is not acceptable. Once the review is complete the Reviewer will determine a disposition and mark the appropriate box on the shop drawing review stamp. Dispositions will be selected from the following unless Client specific dispositions are required:

Approved	This signifies that the Reviewer has determined that the submittal meets the stated requirements as is and that revision and resubmission is not required
Approved as Noted	This signifies that the Reviewer has determined that the submittal meets the stated requirements if minor corrections are made as noted on the submittal in red and that revision and resubmission is not required
Revise and Resubmit	This signifies that the Reviewer has determined that the submittal is lacking on one or more areas and must be revised and resubmitted for further review
Not Approved	This signifies that the Reviewer has determined that the submittal is not in general conformance with the design concept and that a different concept must be prepared and submitted for review

The Reviewer's comments will be checked for conformance to design criteria and standards by the PM or their designee. Approved comments shall be transcribed in RED onto the copy to be returned to the contractor by the Reviewer or their designee. The Reviewer will verify the transcribing, mark the disposition, initial, and date the copy prior to return of the submittal to the contractor.

7.2 Review of Construction Methods and/or Procedures

Submittals containing details of construction methods and/or procedures will be reviewed as noted herein. Any submittals requiring design calculations performed by the Contractor's engineer shall be rejected if they do not contain the signature and seal of such registered professional engineer in the appropriate jurisdiction.

The Reviewer will review the construction methods and/or procedures submittal and note in RED any exceptions taken to the information provided. The Reviewer's comments will be checked for conformance to design criteria and standards by the PM or their designee. The Reviewer will apply a "Reviewed" stamp containing the following notation to each:

"This submittal contains information regarding construction methods and/or procedures which are solely the responsibility of the Contractor. Review is only for the general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor retains

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sole responsibility for dimensions which shall be confirmed and corrected at the job site; fabrication means, methods, techniques, processes, procedures, and sequences of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

If the exceptions taken require extensive description, a letter containing the comments shall be prepared by the Reviewer, and the submittal shall be marked with a note to see the transmittal letter for additional comments.

8.0 Owner's Engineer or Peer Review Role

Hardesty & Hanover is not responsible for Quality Control of work produced by others. Review of design documents prepared by a firm other than Hardesty & Hanover, when acting in the role of Owner's Engineer or providing Peer Review, shall be in accordance with the contract requirements.

Check Prints shall be initialed and dated by the reviewer. The reviewer shall verify incorporation of all prior comments for each submittal. For digital files, each reviewer shall save an independent copy of the file in the project working directory with their initials and the date in the file name. All comments shall be recorded on a Comment Response Form which shall be submitted to the PM or PE for quality assurance review prior to submittal. The PM or PE must review all comments to confirm technical appropriateness and adherence to standards prior to submittal. Copies of comments and responses should be saved in the project files. Reviews done within a Bluebeam session shall have comments and responses exported to an Excel form. Calculations performed as part of the review shall be checked in accordance with the standard H&H QC plan and a QC check copy shall be saved in the project files.

All Peer Review submittals shall be documented with a Quality Assurance Review (QAR) Form.

Owner's Engineer submittals shall be documented with QAR forms at a schedule or frequency agreed upon by the Project Manager and Quality Manager for the specific project.

Prepared By C. Leahy	Approved By K. Griesing	Quality Control Plan	REV. 3 – Updated 05/27/2021 REV. 4 – Updated 02/28/2022 REV. 5 – Updated 12/29/2022	Page 20
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Project Name		Project Manager	
Project Location		Client Name	
H&H Project Number		Client Project Number	
1 - DOCUMENT INFORMATION	(TO BE FILLED OUT BY THE PROJECT MANAGER)		
	Level of Development (Check all that apply) ☐ Concept ☐ Preliminary ☐ Phase: _____ ☐ Final ☐ Release For Construction ☐ Other: _____		
2 - SUMMARY OF FINDINGS	Documentation reviewed (attach complete list of all items / files reviewed): ☐ Design Criteria ☐ Design Plans ☐ Calculations / Computer Solutions ☐ Reports ☐ Specifications ☐ Interdisciplinary Coordination Documentation ☐ Prior Audit Documentation ☐ External Comment Responses ☐ Other, Specify: _____		
	I have reviewed the above documentation for conformance with Hardesty & Hanover Quality Control Standards. My Conclusions are as follows (if more space required attach additional sheet, indicate format and location of any additional comments):		
3-RECOMMENDED ACTIONS	In consideration of the findings above I recommend the following actions be taken for the continued conformance of future work with the Hardesty & Hanover Standards (if more space required attach additional sheet, indicate format and location of any additional comments):		
	Developed by: _____ Project Quality Assurance Lead Date		
4 APPROVED FOR SUBMISSION	<i>The recommended actions as noted above are in conformance with Hardesty & Hanover Standards and have been completed. The undersigned, as Project Manager, certifies that the noted submittal for the referenced project meets the requirements of the project Quality Management Plan, is complete for the level of development, meets the requirements of Hardesty & Hanover and is ready for submittal</i>		
	_____ _____ Project Manager Date		
Prepared By J. Bade C. Leahy	Approved By K. Griesing	REV.0 - Original Issue Date: 2/7/2017 REV. 1 - Updated: 03/31/2020 REV.2 - Updated: 05/29/2020	
		Page 1 of 1	



INTERNAL QA AUDIT

QA AUDIT CHECKLIST (Design Phase)

Project Name & H&H Job #: Click or tap here to enter text.		Auditor: Click or tap here to enter text.			
Phase/Submission Details: Click or tap here to enter text.		Date(s) of Audit: Click or tap here to enter text.			
Project Manager (PM): Click or tap here to enter text.		Project Quality Assurance Lead (PQAL): Click or tap here to enter text.			
Item Number	Item Audited	Notes	Conforms (check box)		
			Yes	No	N/A
1.0	Project has an approved Quality Management Plan				N/A
1.1	QMP is filed in Projects\200-PM\QA or Work Plan folder.	Click or tap here to enter text.	☐	☐	☐
1.2	QMP has additional project QA or QC requirements.	Click or tap here to enter text.	☐	☐	☐
1.3	Subconsultants Quality Management Plans were reviewed.	Click or tap here to enter text.	☐	☐	☐
1.4	The Quality Management tab in Vision is complete and accurate.	Click or tap here to enter text.	☐	☐	☐
2.0	If submission included plans:	Choose one plan sheet for audit.			
2.1	There is a QC check print with correct markups (yellow, red, green, blue, orange) for all plan sheets. Note missing steps.	Click or tap here to enter text.	☐	☐	☐
2.2	Plan sheets are stamped with the H&H QC Stamp or project specific stamp. Note if stamp applies to multiple sheets.	Click or tap here to enter text.	☐	☐	☐
2.3	QC stamp is initialed and dated for all required roles: ready for checking, checked, back checked, corrected, verified.	Click or tap here to enter text.	☐	☐	☐
3.0	If submission included calculations:	Choose one calculation packed for audit.			
3.1	There is a QC check copy with markups for all calculation sheets. Note missing steps.	Click or tap here to enter text.	☐	☐	☐
3.2	There is a calculation cover sheet with QC Stamp and note to what items are covered with the stamp.	Click or tap here to enter text.	☐	☐	☐
3.3	QC stamp is initialed and dated for all required roles: ready for checking, checked, back checked, corrected, verified.	Click or tap here to enter text.	☐	☐	☒

3.4	Each calculation sheet header has <i>Made By</i> and <i>Checked By</i> initialed & dated.	Click or tap here to enter text.	☐	☐	☐
3.5	Input and Output files for software have been checked and software program has been verified for use.	Click or tap here to enter text.	☐	☐	☐
4.0	If submission included reports:	Choose one report for audit			
4.1	There is a QC check copy with markups (yellow, red, green, blue, orange) for all reports. Note any missing steps.	Click or tap here to enter text.	☐	☐	☐
4.2	The report cover sheet has a QC Stamp.	Click or tap here to enter text.	☐	☐	☐
4.3	QC stamp is initialed and dated for all required roles: ready for checking, checked, back checked, corrected, verified.	Click or tap here to enter text.	☐	☐	☐
5.0	If submission included specifications:	Choose one specification item for audit			
5.1	There is a QC check copy with markups (yellow, red, green, blue, orange) for all specifications. Note any missing steps.	Click or tap here to enter text.	☐	☐	☐
5.2	The specification cover sheet has a QC Stamp.	Click or tap here to enter text.	☐	☐	☐
5.3	QC stamp is initialed and dated for all required roles: ready for checking, checked, back checked, corrected, verified.	Click or tap here to enter text.	☐	☐	☐
6.0	If submission included a cost estimate:				
6.1	There is a QC check copy with markups (yellow, red, green, blue, orange) for all cost estimate sheets. Note missing steps.	Click or tap here to enter text.	☐	☐	☐
6.2	The cost estimate cover sheet has a QC Stamp.	Click or tap here to enter text.	☐	☐	☐
6.3	QC stamp is initialed and dated for all required roles: ready for checking, checked, back checked, corrected, verified.	Click or tap here to enter text.	☐	☐	☐
7.0	If submission included quantities:	Choose one random quantity calculation for audit			
7.1	There is a QC check copy with markups (yellow, red, green, blue, orange) for all quantity calculation sheets. Note missing steps.	Click or tap here to enter text.	☐	☐	☐
7.2	The quantity cover sheet has a QC Stamp.	Click or tap here to enter text.	☐	☐	☐
7.3	QC stamp is initialed and dated for all required roles: ready for checking, checked, back checked, corrected, verified.	Click or tap here to enter text.	☐	☐	☐
8.0	If an internal technical review (ITR) was performed:				



INTERNAL QA AUDIT

8.1	Review comments were documented in Section 3 of the ITR form, in the Comment Response Form (CRF) or other.	Click or tap here to enter text.			
8.2	Responses to ITR comments are marked directly on the review document or on the CRF. Note any other procedure.	Click or tap here to enter text.			
8.3	All ITR comments were addressed and self-checked by the originator. PM has verified and signed Section 4 of ITR form.	Click or tap here to enter text.			
8.4	Any revised models, calculations, drawings, reports, etc. have been re-reviewed and accepted by ITR reviewer.	Click or tap here to enter text.			
8.5	ITR reviewer has approved changes and signed Section 5 of ITR form.	Click or tap here to enter text.			
9.0	There is a completed QAR form for this submission:				
9.1	The QAR form is filed in project 200-PM\QA folder.	Click or tap here to enter text.			
10.0	Any additional information or comments.				
Comments					
Click or tap here to enter text.					



INTERNAL QA AUDIT

QA AUDIT CHECKLIST (Construction Phase)

Project Name & H&H Job #: Click or tap here to enter text.		Auditor: Click or tap here to enter text.			
Phase/Submission Details: Click or tap here to enter text.		Date(s) of Audit: Click or tap here to enter text.			
Project Manager (PM): Click or tap here to enter text.		Project Quality Assurance Lead (PQAL): Click or tap here to enter text.			
Item Number	Item Audited	Notes	Conforms (check box)		
			Yes	No	N/A
1.0	Project has a Completed Quality Management Plan:				N/A
1.1	QMP is filed in Projects\200-PM\QA or Work Plan folder.	Click or tap here to enter text.	☐	☐	☐
1.2	QMP has additional project QA or QC requirements.	Click or tap here to enter text.	☐	☐	☐
1.3	Subconsultants Quality Management Plans were reviewed.	Click or tap here to enter text.	☐	☐	☐
1.4	The Quality Management tab in Vision is complete and accurate.	Click or tap here to enter text.	☐	☐	☐
2.0	General:				
2.1	The post design documents are in Projects\600-Post Design Services. If not, specify where located.	Click or tap here to enter text.	☐	☐	☐
2.2	Tracking logs of RFI, Submittals and Shop Drawings have been created and are being maintained.	Click or tap here to enter text.	☐	☐	☐
2.3	The conformed Contract Documents (standards, specifications, plans, etc) are available for checking the submittals against.	Click or tap here to enter text.	☐	☐	☐
3.0	If shop drawings are reviewed:	Choose one random submittal for audit			
3.1	The "office copy" submittal is identified with unique project number/code and has "Received On" date.	Click or tap here to enter text.	☐	☐	☐
3.2	Shop Drawing utilize H&H or project shop drawing review stamp as indicated in Section 7.1 of the QC Plan.	Click or tap here to enter text.	☐	☐	☐
3.3	Reviewer marked in yellow information which are acceptable and in red information which are not acceptable. Review comments are discussed with qualified staff before returning.	Click or tap here to enter text.	☐	☐	☐

INTERNAL QA AUDIT

3.4	Stamp is completed and appropriately marked: Approved, Approved as Noted, Revise & Resubmit or Not Approved.	Click or tap here to enter text.	☐	☐	☐
4.0	If construction methods and/or procedures are reviewed:	Choose one random procedure for audit			
4.1	Submittal is signed & sealed by a Professional Engineer in the project jurisdiction.	Click or tap here to enter text.	☐	☐	☐
4.2	Submittal was review for general conformance with project requirements and reasonableness for use.	Click or tap here to enter text.	☐	☐	☐
4.3	Any review comments/exceptions have been marked in red on the submission.	Click or tap here to enter text.	☐	☐	☐
4.4	"Reviewed" stamp and general review note as specified in H&H QC Plan Section 7.2 has been applied.	Click or tap here to enter text.	☐	☐	☐
5.0	If construction support services require revised design plans:	Choose one random Plan sheet for audit			
5.1	There is a QC check print with markups for all plan sheets, specifications, etc. that were updated.	Click or tap here to enter text.	☐	☐	☐
5.2	Documents are prepared and issued in accordance with Client or project standards for changes during construction.	Click or tap here to enter text.	☐	☐	☐
5.3	QC stamp is initialed and dated for all roles: ready for checking, checked, back checked, corrected, verified.	Click or tap here to enter text.	☐	☐	☐
6.0	If plan revisions required revised calculations or quantities:	Choose one random calculation packet for audit			
6.1	There is a QC check print with markups for all calculations, quantities, cost estimate, etc. that were updated.	Click or tap here to enter text.	☐	☐	☐
6.2	Documents are prepared and issued in accordance with Client or project standards for changes during construction.	Click or tap here to enter text.	☐	☐	☐
6.3	QC stamp is initialed and dated for all roles: ready for checking, checked, back checked, corrected, verified	Click or tap here to enter text.	☐	☐	☐
6.4	Each calculation sheet is initialed & dated by Originator/Producer and initialed & dated by Checker.	Click or tap here to enter text.	☐	☐	☐
6.5	There is a QAR form for all Design Revision Submittals.	Click or tap here to enter text.	☐	☐	☐
7.0	Any additional information or comments				
	Click or tap here to enter text.				

Project Name		Project Manager	
H&H Project Number		Client Name	
1 - DOCUMENT INFORMATION	(TO BE FILLED OUT BY THE PROJECT MANAGER)		
	Level of Development (Check all that apply) ☐ Concept ☐ Preliminary ☐ Phase: _____ ☐ Other: _____ ☐ Final ☐ Release For Construction		
	Discipline Reviewed (Check all that apply) ☐ Overall / Policy ☐ Structural ☐ Geotechnical ☐ Mechanical ☐ Electrical ☐ Highway/Civil ☐ Constructability ☐ Other, Specify: _____		
Document type reviewed: ☐ Design Plans ☐ Calculations ☐ Report ☐ Specification ☐ Other, Specify: _____			
Prepared by: _____ Document Date / Version: _____			
QC STAMP	☐ Document contains Incomplete QC stamp, specify completed steps: _____ ☐ Document contains Completed QC stamp		
2 - DETAILED ITR SCOPE			
	Submitted by: _____ Project Manager Date		
3 - REVIEWER COMMENTS	(TO BE FILLED OUT BY THE INDEPENDENT REVIEWER) I have reviewed the above referenced document in accordance with Hardesty & Hanover and Industry Standards. My Conclusions are as follows (if more space required attach additional sheet, indicate format and location of any comments): 		
	Reviewed by: _____ Internal Reviewer Date		
4 - VERIFIED	All Reviewer comments have been addressed, either satisfactorily resolved or incorporated into the document. This document is complete. Submitted by: _____ Project Manager Date		
5 - APPROVAL	This review is complete. Submitted by: _____ Internal Reviewer Date		



Hardesty & Hanover
[Project]
[Type of Review]
Comment / Response Form (CRF)

DOCUMENT NAME:										
REVIEWER:				RECEIVED DATE:						
REVIEW DATE:				REVIEW STATUS:						
RESPONSE CODES: A - Team Member agrees and will take action; D - Team Member does not agree and will pursue resolution, comment has not been resolved; F - Follow up required										
No	Page	Section	Comment	Comment By	Response	Response By	Response Code	Comment	Comment By	Change Incorporated
1										
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Distribution:



SUBCONSULTANT QUALITY CERTIFICATION FORM

Project Name:	
Project / Contract Number:	
Subconsultant Firm:	
Description of Submission & Stage:	
Subconsultant's Submission Scope:	

H&H requests all Subconsultants to certify that they have performed and completed the quality assurance and quality control tasks necessary to certify that the submission is complete, to the indicated level of development, and meets the requirements of the project's Quality Management Plan and Contract documents.

Documentation of quality checking is provided to H&H: Yes ☐ No ☐ N/A ☐

Signature: _____

Subconsultant's Project Manager (typed) Date

I have reviewed the subconsultant's submission and certify that the submission is complete to the indicated level of development and meets the requirements of the project's Quality Management Plan and Contract documents.

Signature: _____

H&H Project Manager (typed) Date

Prepared By J. Fitzhenry	Approved By R. Jarrett	Subconsultant Quality Certification Form	Rev.0 - Original Issue: 22 May 2024	Page 1
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Subconsultant Quality Assurance Checklist Design Projects

Project Name:

Sub-consultant Name:

Project Status/Phase:

Date:

YES	NO*	N/A*	* = ATTACH EXPLANATION
☐	☐	☐	1. Design calculations have been checked and back checked
☐	☐	☐	2. Geometry calculations have been checked and back checked
☐	☐	☐	3. Computer program input has been checked and results have been determined to be reasonable
☐	☐	☐	4. Quantity estimates have been checked
☐	☐	☐	5. Engineer's estimate has been checked
☐	☐	☐	6. Pay items have been reviewed to ensure that all work is included
☐	☐	☐	7. Specifications have been reviewed
☐	☐	☐	8. Designers have checked plan sheets
☐	☐	☐	9. Plan details and specifications have been checked for conformance with client standard details and specifications
☐	☐	☐	10. Plan details and specifications have been coordinated with design calculations
☐	☐	☐	11. Drawing layout, preparation, and CADD standards meet current client specifications
☐	☐	☐	12. Designers have checked interdisciplinary interfaces
☐	☐	☐	13. Discipline Leaders, Project Engineer, and Project Manager have verified design coordination
☐	☐	☐	14. Utility coordination is complete and details comply with standards
☐	☐	☐	15. Constructability review has been made
☐	☐	☐	16. Design has been coordinated with adjacent construction or abutting facilities
☐	☐	☐	17. Technical Policy review has been made
☐	☐	☐	18. Permit and Agency Sign offs have been obtained (as applicable)
☐	☐	☐	19. Client's comments have been addressed
☐	☐	☐	20. Client and H&H QA/QC requirements have been satisfied

Project Manager

Signature

Date

Project Quality Lead/QA Reviewer

Signature

Date

Louisiana Department of Transportation and Development
Bridge Design Section Pre-Approved Software List
Updated: February 21, 2024

Developer	Website	Software Name	Production Version
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare Bridge Design	7.4.1
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare Bridge Rating	7.4.1
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare PS Design Tool	7.4.1
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare Steel Design Tool	7.4.1
Acuity Brands Lighting, Inc.	https://www.visual-3d.com/	Visual	2020 R2
AutoDesk	https://www.autodesk.com/	AutoCAD LT	AutoCAD LT 2024
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	LEAP Bridge Concrete	22.0.4.24
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	LEAP Bridge Steel	22.0.4.24
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	Microstation Connect Edition	10.16.00.080
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	Microstation v8i	08.11.09.883
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	Open Roads Designer	10.10.13
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	OpenBridge Designer	10.10.1.73
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	OpenBridge Modeler	10.12.183
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	RM Bridge	11.16.031
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	STAAD	22.12.00.142
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	STAAD Beava	22.12.00.142
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	STAAD Section Wizard	22.12.00.142
Bridge Software Institute	http://bsi-web.ce.ufl.edu	FB-Pier	v5.8.31
Computers and Structures, Inc.	https://www.csiamerica.com/	CSiBridge	CSiBridge 2016 v1820
Computers and Structures, Inc.	https://www.csiamerica.com/	CSICOL	CSICOL 9 v901
Computers and Structures, Inc.	https://www.csiamerica.com/	SAP 2000	SAP 2000 v1820
CSI, Ltd.	https://www.csi-europe.com/	DDM	DDM 2023
Elite Software	https://www.elitesoft.com/	CHVAC 8	CHVAC 8
Ensoft, Inc.	https://www.ensoftinc.com/	L-Pile	2022-09
Finite Element Analysis, Ltd.	https://www.lusas.com/	LUSAS	LUSAS 19.1-3
Informer Technologies, Inc.	https://powergear.software.informer.com/	Power Gear	4.0.64
LARSA, Inc.	https://www.larsa4d.com/	LARSA 4D Bridge Plus	LARSA 4D_8.00.9016
Lighting Analysts, Inc.	https://www.lightinganalysts.com/catalog/login.php	AGI32	AGI32-20.11.0.12
MIDASoft		Midas Civil	Civil 2023(v1.1)
Operating Technology, Inc.	https://www.etap.com/	ETAP	ETAP 2023 (22.5.0)
PTC, Inc.	https://www.ptc.com/en/support	MathCAD Prime	Prime 9.0
Smart Bridge Technology	http://www.smartbridgetech.com/	Smart Bridge Suites	4.0
SolidWorks Corporation	https://www.solidworks.com/	SOLIDWORKS	2023 SP02.1
Structure Point, LLC	https://structurepoint.org/	spColumn	spColumn 10.00
University of Maryland	https://best.umd.edu/sabre/	Sabre	6.2

Note:

- 1. If any other software is required for unique applications for which pre-approved software cannot be used, a synopsis of the software shall be submitted to the Bridge Design Engineer Administrator for approval prior to use. The synopsis shall include the name of the software and the developer, a general description of the functions, a certification from the software developer stating that it is maintained in accordance with the latest AASHTO LRFD Bridge Design Specifications, and an account of the requester's experience and the experience of other organizations or agencies that use the software. Data/results from in-house software will not be accepted as part of the deliverable.**
- 2. The cost of software shall be included in the overhead cost of the firm and not a direct expense for the projects.**



Design Criteria Checklist

Design criteria for each project shall include, but not limited to, the following sections:

— **Cover sheet**

The following information must be included on the cover sheet:

- LADOTD project number
- Project name
- Revision date
- The Supervisor or Team Leader's signature and date

— **Governing Design and Construction Specifications and Other References**

A list of governing design and construction specifications and other references used for the project shall be included in this section. The edition number, interim revisions, and/or publication date must be specified for each reference.

— **Design Assumptions and Design Exceptions**

All design assumptions and design exceptions received must be included in this section along with supporting documents.

— **General Information**

The general information as listed below should be included in this section:

- Bridge information (no. of bridges, bridge clear width, length, no. of lanes, lane width, shoulder width, etc.)
- Road information (roadway classifications, design speed, traffic data, etc.)
- Vertical datum
- Vertical and horizontal clearances
- Other relevant information

— **Hydraulic Design Criteria**

All hydraulic design criteria (design year, design water elevations, scour depth and scour elevation, etc.) shall be included in this section and the information shall be provided by the Hydraulic Engineer.

— **Design Factors**

The ductility factor Γ_D , redundancy factor Γ_R , and operational importance factor Γ_I shall be listed in this section.



— **Design Loads**

All design loads (dead load, live load, wind load, thermal loads, vessel collision loads, seismic load, wave loads, etc.) used for the project shall be included in this section.

— **Limit States**

All applicable limit states for this project shall be listed in this section.

— **Bridge Barrier**

The design criteria, types, and test levels for bridge barriers shall be listed in this section. Standard plans and special details should be listed if they are utilized.

— **Guardrail**

The design criteria, types, and test levels for guardrails shall be listed in this section. Standard plans and special details should be listed if they are utilized.

— **Approach Slab**

Design criteria for approach slab shall be included in this section. Standard plans and special details should be listed if they are utilized.

— **Deck and Deck Drainage**

All design criteria for deck and deck drainage design shall be included in this section. Standard plans and special details should be listed if they are utilized.

— **Bearing**

All bearing types and design criteria for each bearing type shall be included in this section. Standard plans and special details should be listed if they are utilized.

— **Joint**

All joint types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

— **Superstructure**

All superstructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

— **Substructure**

All substructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.



— **Piles and Drilled Shafts**

All pile types, sizes, and structural design criteria shall be included in this section. Standard plans and special details should be listed if they are utilized.

— **Geotechnical Design**

All geotechnical design criteria shall be included in this section and the information shall be provided by the Geotechnical Engineer. Standard plans and special details should be listed if they are utilized.

— **Mechanical Design**

All mechanical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.

— **Electrical/Lighting Design**

All electrical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.

— **As-Designed Bridge Rating Criteria**

All as-designed bridge rating criteria shall be included in this section.

— **Software**

All software used for design and check shall be included in this section.



Final Calculation Book Checklist

The final calculation book for each project shall include, but not limited to, the following sections:

— **Cover Sheet**

The following information must be included on the cover sheet:

- LADOTD project number
- Project name
- The title of “Final Calculation Book”
- The EOR’s seal with signature and date

— **Final Calculation Book Check List**

— **QC/QA Certifications**

— **Peer Review Resolution Agreement (if peer review is performed)**

— **Design Criteria**

— **Final Hydraulic Analysis Report from Hydraulic Engineer**

— **Final Geotechnical Analysis Report from Geotechnical Engineer**

— **Superstructure Design Calculations**

— **Substructure Design Calculations**

— **Quantity Calculations**

— **Special Provisions/NS-Items**

— **Construction Cost Estimate**

— **As-Designed Rating Report**

— **List of All Final Electronic Design Files and File Locations (ProjectWise directory name)**

Consultants shall submit the final calculation book to LADOTD bridge task managers; the submittal shall be on a CD or Flash Drive or placed to a designated ProjectWise folder including the following information:

— **A PDF File of the Calculation Book**

— **All Electronic Design Files**

— **A PDF File of the As-Designed Rating Report Only**

The final calculation book for in-house projects shall include the same files listed above for consultant projects. The final calculation book and other final design documents for all projects including in-house and consultant projects shall be uploaded to the archiving location designated in the record retention policy within 30 calendar days after the stamped final plans are delivered.



QA Information Package Checklist

Project No.:

Project Description:

- _____ Calculation Book
- _____ Plans
- _____ Special Provisions
- _____ Cost Estimate
- _____ Other Documents _____



Appendix C
QC/QA Certification

Project No.:

Project Name:

We, the undersigned designers, detailers, checkers and reviewers for this project, have reviewed and accepted the calculations, plans, quantities, special provisions, and cost estimate prepared for the project. We certify that the work for which we are responsible has been completed in accordance with the LADOTD Bridge Design Section policy on QC/QA.

Team Members	Name	PE Registration No.	Responsible Plan Sheets	Responsible Special Provisions	Construction Cost Estimate	Signature
Designers						
Design Checkers						
Detailers						
Detail Checkers						
Reviewers						
Peer Reviewer						
Geotechnical Engineer						
Hydraulic Engineer						
EOR						



Peer Review Resolution Agreement

Project No.:

Project Name:

We, the undersigned Peer Reviewer, Supervisor or Team Leader of the design team, and LADOTD Representative for this project, have reviewed and accepted the attached peer review resolutions. We certify that the peer review has been performed in accordance with the LADOTD Bridge Design Section policy on QC/QA.

Team Members	Name	Signature
Peer Reviewer		
Supervisor or Team Leader		
LADOTD Representative		



Consultant Submittal QC/QA Certification

Project No.:

Project Name:

I, the undersigned Supervisor or Team Leader for this project, certify that the information included in this submittal has been prepared in accordance with the QC/QA plan documents and LADOTD Bridge Design Section policy on QC/QA and the information presented is accurate and meets the requirements of this submittal. All CAD drawings meet LADOTD CAD standards.

Submittal Description

Supervisor or Team Leader Name

Signature

Date

Appendix D

LADOTD QA/QC Forms & Checklists



LADOTD
BDEM Chapter 3, Part I, Appendix D
QC/QA Certification

Project No.:

Project Name:

We, the undersigned designers, detailers, checkers and reviewers for this project, have reviewed and accepted the calculations, plans, quantities, special provisions, and cost estimate prepared for the project. We certify that the work for which we are responsible has been completed in accordance with the LADOTD Bridge Design Section policy on QC/QA.

Team Members	Name	PE Registration No.	Responsible Plan Sheets	Responsible Special Provisions	Construction Cost Estimate	Signature
Designers						
Design Checkers						
Detailers						
Detail Checkers						
Reviewers						
Peer Reviewer						
Geotechnical Engineer						
Hydraulic Engineer						
EOR						



LADOTD

BDEM Chapter 3, Part I, Appendix I

Consultant Submittal QC/QA Certification

Project No.:

Project Name:

I, the undersigned Supervisor or Team Leader for this project, certify that the information included in this submittal has been prepared in accordance with the QC/QA plan documents and LADOTD Bridge Design Section policy on QC/QA and the information presented is accurate and meets the requirements of this submittal. All CAD drawings meet LADOTD CAD standards.

Submittal Description

Supervisor or Team Leader Name

Signature

Date

LADOTD**BDEM Chapter 3, Part I, Appendix A****Design Criteria Checklist**

Design criteria for each project shall include, but not limited to, the following sections:

— *Cover sheet*

The following information must be included on the cover sheet:

- LADOTD project number
- Project name
- Revision date
- The Supervisor or Team Leader's signature and date

— *Governing Design and Construction Specifications and Other References*

A list of governing design and construction specifications and other references used for the project shall be included in this section. The edition number, interim revisions, and/or publication date must be specified for each reference.

— *Design Assumptions and Design Exceptions*

All design assumptions and design exceptions received must be included in this section along with supporting documents.

— *General Information*

The general information as listed below should be included in this section:

- Bridge information (no. of bridges, bridge clear width, length, no. of lanes, lane width, shoulder width, etc.)
- Road information (roadway classifications, design speed, traffic data, etc.)
- Vertical datum
- Vertical and horizontal clearances
- Other relevant information

— *Hydraulic Design Criteria*

All hydraulic design criteria (design year, design water elevations, scour depth and scour elevation, etc.) shall be included in this section and the information shall be provided by the Hydraulic Engineer.

— *Design Factors*

The ductility factor η_D , redundancy factor η_R , and operational importance factor η_I shall be listed in this section.

— *Design Loads*

— All design loads (dead load, live load, wind load, thermal loads, vessel collision loads, seismic load, wave loads, etc.) used for the project shall be included in this section.

— *Limit States*

— All applicable limit states for this project shall be listed in this section.

— *Bridge Barrier*

— The design criteria, types, and test levels for bridge barriers shall be listed in this section. Standard plans and special details should be listed if they are utilized.

— *Guardrail*

— The design criteria, types, and test levels for guardrails shall be listed in this section. Standard plans and special details should be listed if they are utilized.

— *Approach Slab*

— Design criteria for approach slab shall be included in this section. Standard plans and special details should be listed if they are utilized.

— *Deck and Deck Drainage*

— All design criteria for deck and deck drainage design shall be included in this section. Standard plans and special details should be listed if they are utilized.

— *Bearing*

— All bearing types and design criteria for each bearing type shall be included in this section. Standard plans and special details should be listed if they are utilized.

— *Joint*

— All joint types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

— *Superstructure*

— All superstructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

— *Substructure*

— All substructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

— *Piles and Drilled Shafts*

— All pile types, sizes, and structural design criteria shall be included in this section. Standard plans and special details should be listed if they are utilized.

— *Geotechnical Design*

— All geotechnical design criteria shall be included in this section and the information shall be provided by the Geotechnical Engineer. Standard plans and special details should be listed if they are utilized.

— *Mechanical Design*

— All mechanical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.



— *Electrical/Lighting Design*

All electrical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.

— *As-Designed Bridge Rating Criteria*

All as-designed bridge rating criteria shall be included in this section.

— *Software*

All software used for design and check shall be included in this section.

LADOTD
BDEM Chapter 3, Part I, Appendix B
Final Calculation Book Checklist

The final calculation book for each project shall include, but not limited to, the following sections:

___ *Cover Sheet*

The following information must be included on the cover sheet:

- LADOTD project number
- Project name
- The title of "Final Calculation Book"
- The EOR's seal with signature and date

___ *Final Calculation Book Check List*

___ *QC/QA Certifications*

___ *Peer Review Resolution Agreement (if peer review is performed)*

___ *Design Criteria*

___ *Final Hydraulic Analysis Report from Hydraulic Engineer*

___ *Final Geotechnical Analysis Report from Geotechnical Engineer*

___ *Superstructure Design Calculations*

___ *Substructure Design Calculations*

___ *Quantity Calculations*

___ *Special Provisions/NS-Items*

___ *Construction Cost Estimate*

___ *As-Designed Rating Report*

___ *List of All Final Electronic Design Files and File Locations (ProjectWise directory name)*

Consultants shall submit the final calculation book to LADOTD bridge task managers; the submittal shall be on a CD or Flash Drive or placed to a designated ProjectWise folder including the following information:

___ *A PDF File of the Calculation Book*

___ *All Electronic Design Files*

___ *A PDF File of the As-Designed Rating Report Only*

The final calculation book for in-house projects shall include the same files listed above for consultant projects. The final calculation book and other final design documents for all projects including in-house and consultant projects shall be uploaded to the archiving location designated in the record retention policy within 30 calendar days after the stamped final plans are delivered.



LADOTD
BDEM Chapter 3, Part I, Appendix C
QA Information Package Checklist

Project No.:

Project Description:

☐	<i>Calculation Book</i>
☐	<i>Plans</i>
☐	<i>Special Provisions</i>
☐	<i>Cost Estimate</i>
☐	<i>Other Documents</i> _____

LADOTD

BDEM Chapter 3, Part I, Appendix K CONSULTANT SUBMITTAL REVIEW CHECKLIST

Items	Submittals												
	Design Criteria	TS&L	30'7r PP	60'7r PP	90'7c PP	100'7c PP	30'7r FP	60'7c FP	90'7c FP	100'7c FP	Final Calculation Book	Plan Revisions	Change Orders
Consultant Submittal QC/QA Certification			R	R	R	R	R	R	R	R	R	R	R
Design Criteria	C												
TS&L		C											
Bridge Index			D	D	D	D	D	D	C	S			
General Notes			D	D	D	D	D	D	C	S			
Summary of Estimated Quantities			D	D	C	C	D	D	C	S			
General Plans			D	D	C	C	C	C	C	S			
Typical Sections			D	D	C	C							
Superelevation Diagram				D	D	C	C	C	C	S			
Construction Phasing Details				D	D	C	C	C	C	S			
Traffic Controls Details				D	D	C	C	C	C	S			
Foundation/Pile Layout				D	D	C	C	C	C	S			
Pile Loads/Details					D	D	D	C	C	S			
Pile Data Tables							D	D	C	S			
Bent Details							D	D	C	S			
Fender Details							D	D	C	S			
Girder Details							D	D	C	S			
Span Details							D	D	C	S			
Joint Details								D	C	S			
Bearing Details								D	C	S			
Approach Slab								D	C	S			
Guardrail Details								D	C	S			



Bridge Barrier/Mailing Details								D	C	S			
Bridge Drainage Details								D	C	S			
Detour Bridge Details								D	C	S			
Revetment Details								D	C	S			
Signing/Lighting Details								D	C	S			
Year Plate								D	C	S			
Rebar Support								D	C	S			
Misc. Details								D	C	S			
Project Specific Standard Plans and Special Details								D	C	S			
Electrical/Lighting Details								D	C	S			
Mechanical Details								D	C	S			
As-Built Plans								D	C	C			
Special Provisions/NS-Items							D	D	C	C			
Cost Estimate					D	D	D	D	C	C			
Final Calculations											S		
Revised Plans/Calculations												S	S

Legends:

“R” = The item is required and shall be included in the submittal.

“C” = The item shall be complete and shall be included in the submittal.

“D” = The item shall be in development and shall be included in the submittal. “S” = The item is stamped by the EOR and shall be included in the submittal.

22. Sub-consultant information:

Firm Name (Name must match <u>exactly</u> as registered with Louisiana's Secretary of State (SOS): <u>including punctuation, include screenshot(s) from SOS at the end of Section 20</u>)	Address	Point of Contact and email address	Phone Number
APS Engineering and Testing, LLC	1645 Nicholson Drive Baton Rouge, LA 70802	Sergio Aviles, P.E. sergio@aps-testing.com	225-281-1917
Bridge Diagnostics, Inc.	4300 S I-10 Service Rd W, Suite 210 Metairie, LA 70001	Steven Fall, PE stevenf@bditest.com	504-874-1042
Surveying and Mapping, LLC	5344 Brittany Dr Baton Rouge, LA 70808	Matthew Estopinal Matt.Estopinal@sjbgroup.com	225-769-3400
Providence Engineering and Environmental Group LLC	1201 Main Street Baton Rouge, LA 70802	Chad Turner chadturner@providenceeng.com	225-766-7400
Urban Systems Associates, Inc.	2000 Tulane Ave. Suite 200 New Orleans, LA 70112	Alison Catarella-Michel acmichel@urbansystems.com	504-569-3958
KTA-Tator, Inc.	145 Enterprise Drive Pittsburgh, PA 15275	Robert S. Lanterman rlanterman@kta.com	412-303-9407
Moffatt & Nichol Inc.	301 Main Street, Suite 800 Baton Rouge, LA 70801	Chace Hulon, P.E. chulon@moffattnichol.com	225-610-1932



OFFICIAL DIVISION
225-325-4704
REGISTRATION
225-325-5117 (Admin. Services)
225-325-5114 (Corporations)
225-325-5218 (UCC)

Name: APS ENGINEERING AND TESTING, LLC Type: Limited Liability Company City: BATON ROUGE Status: Active

Previous Names

Business: APS ENGINEERING AND TESTING, LLC
Charter Number: 40611988R
Registration Date: 8/9/2012
Domicile Address: 3445 ALCANTARA DR.
BATON ROUGE, LA 70802

Mailing Address: 5251 HIGHWAY RD #100
BATON ROUGE, LA 70806

Status

Status: Active
Annual Report Status: In Good Standing
File Date: 8/9/2012
Last Report Filed: 7/25/2015
Type: Limited Liability Company

Registered Agent(s)

Agent: SERGIO AVILES
Address 1: 5251 HIGHWAY RD #100
City, State, Zip: BATON ROUGE, LA 70806
Appointment Date: 6/25/2015

Officer(s)

Officer: SERGIO AVILES
Title: Member
Address 1: 5251 HIGHWAY RD #100
City, State, Zip: BATON ROUGE, LA 70806

Mergers (1)					
Filed Date	Effective Date	Type	Charter#	Charter Name	Role
3/25/2012	3/25/2012	MERGE	40611988R	APS ENGINEERING AND TESTING, LLC	SUBVIVOR
			27100003R	APS DESIGN AND TESTING, LLC	ACQU-SUBVIVOR

Amendments on File (3)	
Description	Date
Dormant, LLC Aging/Dormant Change	11/15/2017
Dormant, LLC Aging/Dormant Change	6/25/2015
Merge	3/25/2012

Print



OFFICIAL DIVISION
225-325-4704
REGISTRATION
225-325-5117 (Admin. Services)
225-325-5114 (Corporations)
225-325-5218 (UCC)

Name: BRYCE DIAGNOSTICS, INC. Type: Business Corporation (Non-Louisiana) City: LOUISVILLE Status: Active

Previous Names

Business: BRYCE DIAGNOSTICS, INC.
Charter Number: 40761007R
Registration Date: 1/27/2017
Domicile Address: 740 S PERCE AVE
UNIT 15
LOUISVILLE, CO 80027

Mailing Address: 4000 S I-70 SERVICE RD W
SUITE 210
METairie, LA 70001

Principal Business Office: 740 S PERCE AVE
UNIT 15
LOUISVILLE, CO 80027

Registered Office in Louisiana: 8550 UNITED PLAZA BUILDING D, STE 305
BATON ROUGE, LA 70809

Principal Business Establishment in Louisiana: 4000 S I-70 SERVICE RD W
SUITE 210
METairie, LA 70001

Status

Status: Active
Annual Report Status: In Good Standing
Qualified: 3/27/2012
Last Report Filed: 2/14/2016
Type: Business Corporation (Non-Louisiana)

Registered Agent(s)

Agent: CAPITAL CORPORATE SERVICES, INC.
Address 1: 8550 UNITED PLAZA BUILDING D, STE 305
City, State, Zip: BATON ROUGE, LA 70809
Appointment Date: 7/15/2015

Officer(s)

Officer: DARYN NELSON
Title: President
Address 1: 740 PERCE STREET
City, State, Zip: LOUISVILLE, CO 80026

Amendments on File (2)	
Description	Date
State of Org or Org's In Bus Off	12/28/2015
State of Org or Org's In Bus Off	7/15/2016

Print



OFFICIAL DIVISION
225.925-4704
Publications
225.925-5317 (Admin. Services)
225.925-5334 (Exposures)
225.925-5339 (ACQ)



OFFICIAL DIVISION
225.925-4704
Publications
225.925-5317 (Admin. Services)
225.925-5334 (Exposures)
225.925-5339 (ACQ)

Name:	HARDESTY & HANOVER, LLC	Type:	Limited Liability Company (Non-Louisiana)	City:	WILMINGTON	Status:	Active																																																
Previous Names:																																																							
Business:	HARDESTY & HANOVER, LLC																																																						
Charter Number:	300000100																																																						
Registration Date:	7/8/2012																																																						
Domestic Address:	2711 CONVENT ST. ROAD, SUITE 100 WILMINGTON, DE 19808																																																						
Mailing Address:	1001 BROADWAY, 6TH FLOOR NEW YORK, NY 10036																																																						
Principal Business Office:	261 BROADWAY, 6TH FLOOR NEW YORK, NY 10036																																																						
Registered Office in Louisiana:	301 PUEBLO BLVD, SUITE 202 LAKE CHARLES, LA 70601																																																						
Principal Business Establishment in Louisiana:	2807N. CAUSEWAY BOULEVARD, SUITE 1425 METairie, LA 70002																																																						
Status:	Active																																																						
Annual Report Status:	In Good Standing																																																						
Qualified:	7/8/2012																																																						
Last Report Filed:	6/1/2013																																																						
Type:	Limited Liability Company (Non-Louisiana)																																																						
Registered Agent(s)	<table><tr><td>Agent:</td><td>REGISTERED AGENTS INC.</td></tr><tr><td>Address 1:</td><td>501 PUEBLO BLVD, SUITE 202</td></tr><tr><td>City, State, Zip:</td><td>LAKE CHARLES, LA 70601</td></tr><tr><td>Appointment Date:</td><td>5/27/2012</td></tr></table>							Agent:	REGISTERED AGENTS INC.	Address 1:	501 PUEBLO BLVD, SUITE 202	City, State, Zip:	LAKE CHARLES, LA 70601	Appointment Date:	5/27/2012																																								
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City, State, Zip:	LAKE CHARLES, LA 70601																																																						
Appointment Date:	5/27/2012																																																						
Officer(s)	<table><tr><td>Officer:</td><td>SEAN BURN</td><td>Title:</td><td>Member</td></tr><tr><td>Address 1:</td><td>1001 BROADWAY, 6TH FLOOR</td><td>City, State, Zip:</td><td>NEW YORK, NY 10036</td></tr><tr><td>Officer:</td><td>WILLIAM WATSON</td><td>Title:</td><td>Member</td></tr><tr><td>Address 1:</td><td>1001 BROADWAY, 6TH FLOOR</td><td>City, State, Zip:</td><td>NEW YORK, NY 10036</td></tr><tr><td>Officer:</td><td>KATHY GREENE</td><td>Title:</td><td>Member</td></tr><tr><td>Address 1:</td><td>1001 BROADWAY, 6TH FLOOR</td><td>City, State, Zip:</td><td>NEW YORK, NY 10036</td></tr><tr><td>Officer:</td><td>SEAN SCOTCHDOPO</td><td>Title:</td><td>Member</td></tr><tr><td>Address 1:</td><td>1001 BROADWAY, 6TH FLOOR</td><td>City, State, Zip:</td><td>NEW YORK, NY 10036</td></tr><tr><td>Officer:</td><td>ROBERT DUBOY</td><td>Title:</td><td>Member</td></tr><tr><td>Address 1:</td><td>1001 BROADWAY, 6TH FLOOR</td><td>City, State, Zip:</td><td>NEW YORK, NY 10036</td></tr><tr><td>Officer:</td><td>SCOTT REYNOLDS</td><td>Title:</td><td>Member</td></tr><tr><td>Address 1:</td><td>1001 BROADWAY, 6TH FLOOR</td><td>City, State, Zip:</td><td>NEW YORK, NY 10036</td></tr></table>							Officer:	SEAN BURN	Title:	Member	Address 1:	1001 BROADWAY, 6TH FLOOR	City, State, Zip:	NEW YORK, NY 10036	Officer:	WILLIAM WATSON	Title:	Member	Address 1:	1001 BROADWAY, 6TH FLOOR	City, State, Zip:	NEW YORK, NY 10036	Officer:	KATHY GREENE	Title:	Member	Address 1:	1001 BROADWAY, 6TH FLOOR	City, State, Zip:	NEW YORK, NY 10036	Officer:	SEAN SCOTCHDOPO	Title:	Member	Address 1:	1001 BROADWAY, 6TH FLOOR	City, State, Zip:	NEW YORK, NY 10036	Officer:	ROBERT DUBOY	Title:	Member	Address 1:	1001 BROADWAY, 6TH FLOOR	City, State, Zip:	NEW YORK, NY 10036	Officer:	SCOTT REYNOLDS	Title:	Member	Address 1:	1001 BROADWAY, 6TH FLOOR	City, State, Zip:	NEW YORK, NY 10036
Officer:	SEAN BURN	Title:	Member																																																				
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Amendments on File (2)	<table><tr><td>Description:</td><td>Date:</td></tr><tr><td>Formal LLC Statement of Change</td><td>6/2/2013</td></tr><tr><td>Formal LLC Statement of Change</td><td>6/2/2013</td></tr></table>							Description:	Date:	Formal LLC Statement of Change	6/2/2013	Formal LLC Statement of Change	6/2/2013																																										
Description:	Date:																																																						
Formal LLC Statement of Change	6/2/2013																																																						
Formal LLC Statement of Change	6/2/2013																																																						

Print

Name:	ITA-TUTOR, INC.	Type:	Business Corporation (Non-Louisiana)	City:	PITTSBURGH	Status:	Active																																																																								
Previous Names:																																																																															
Business:	ITA-TUTOR, INC.																																																																														
Charter Number:	3402149																																																																														
Registration Date:	4/29/1995																																																																														
Domestic Address:	345 ENTERPRISE DRIVE PITTSBURGH, PA 152052234																																																																														
Mailing Address:	345 ENTERPRISE DRIVE PITTSBURGH, PA 152052234																																																																														
Principal Business Office:	345 ENTERPRISE DRIVE PITTSBURGH, PA 152052234																																																																														
Registered Office in Louisiana:	450 LAUREL STREET, 8TH FLOOR BATON ROUGE, LA 70801																																																																														
Principal Business Establishment in Louisiana:	450 LAUREL STREET, 8TH FLOOR BATON ROUGE, LA 70801																																																																														
Status:	Active																																																																														
Annual Report Status:	In Good Standing																																																																														
Qualified:	4/29/1995																																																																														
Last Report Filed:	4/29/2013																																																																														
Type:	Business Corporation (Non-Louisiana)																																																																														
Registered Agent(s)	<table><tr><td>Agent:</td><td>COMPRODUCTION SERVICE COMPANY</td></tr><tr><td>Address 1:</td><td>450 LAUREL STREET, 8TH FLOOR</td></tr><tr><td>City, State, Zip:</td><td>BATON ROUGE, LA 70801</td></tr><tr><td>Appointment Date:</td><td>9/9/2014</td></tr></table>							Agent:	COMPRODUCTION SERVICE COMPANY	Address 1:	450 LAUREL STREET, 8TH FLOOR	City, State, Zip:	BATON ROUGE, LA 70801	Appointment Date:	9/9/2014																																																																
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Officer(s)	<table><tr><td>Officer:</td><td>KENNETH S. TUTOR</td><td>Title:</td><td>Director</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>KENNETH A. TUTOR</td><td>Title:</td><td>Director</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>LEWIS HADLITS</td><td>Title:</td><td>Director</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>KAREN CARBON</td><td>Title:</td><td>Officer</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>JOHN QUIGLEY</td><td>Title:</td><td>Director</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>MATTHEW SAWYERS</td><td>Title:</td><td>Director</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>ROBERT POWELL</td><td>Title:</td><td>Director</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>J. JENNIFER REE</td><td>Title:</td><td>President, Secretary</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr><tr><td>Officer:</td><td>DANIEL HENNINGSEN</td><td>Title:</td><td>Treasurer</td></tr><tr><td>Address 1:</td><td>345 ENTERPRISE DRIVE</td><td>City, State, Zip:</td><td>PITTSBURGH, PA 152052234</td></tr></table>							Officer:	KENNETH S. TUTOR	Title:	Director	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	KENNETH A. TUTOR	Title:	Director	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	LEWIS HADLITS	Title:	Director	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	KAREN CARBON	Title:	Officer	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	JOHN QUIGLEY	Title:	Director	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	MATTHEW SAWYERS	Title:	Director	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	ROBERT POWELL	Title:	Director	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	J. JENNIFER REE	Title:	President, Secretary	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234	Officer:	DANIEL HENNINGSEN	Title:	Treasurer	Address 1:	345 ENTERPRISE DRIVE	City, State, Zip:	PITTSBURGH, PA 152052234
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Amendments on File (7)	<table><tr><td>Description:</td><td>Date:</td></tr><tr><td>Cancellation of Charter No.</td><td>5/16/1995</td></tr><tr><td>Form of Org or Org from Bus. Off.</td><td>1/25/2007</td></tr><tr><td>Form of Org or Org from Bus. Off.</td><td>1/25/2009</td></tr><tr><td>Form of Org or Org from Bus. Off.</td><td>6/9/2014</td></tr></table>							Description:	Date:	Cancellation of Charter No.	5/16/1995	Form of Org or Org from Bus. Off.	1/25/2007	Form of Org or Org from Bus. Off.	1/25/2009	Form of Org or Org from Bus. Off.	6/9/2014																																																														
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State of
Louisiana
Secretary of
State

COMMERCIAL DIVISION
225-625-4704

Provisional
225-932-5317 (Admin. Services)
225-932-5314 (Corporations)
225-932-5318 (LLC)

Name:	HOFFATT & NICHOL, INC.	Type:	Business Corporation (Non-Louisiana)	City:	LONG BEACH	Status:	Active
Previous Names							
HOFFATT & NICHOL (ENGINEERS, INC.) (Expires: 10/17/2008)							
Business:	HOFFATT & NICHOL, INC.						
Charter Number:	5452956						
Registration Date:	5/22/2006						
Domicile Address:	4025 E. CONANT STREET, SUITE 101 LONG BEACH, CA 90803						
Mailing Address:	4025 E. CONANT STREET, SUITE 101 LONG BEACH, CA 90803						
Principal Business Office:	4025 E. CONANT STREET, SUITE 101 LONG BEACH, CA 90803						
Registered Office in Louisiana:	387 PLAZA TOWER DR. BATON ROUGE, LA 70801						
Principal Business Establishment in Louisiana:	301 MANO STREET SUITE 402 BATON ROUGE, LA 70801						
Status							
Status:	Active						
Annual Report Status:	In Good Standing						
Qualified:	5/22/2006						
Last Report Filed:	5/23/2006						
Type:	Business Corporation (Non-Louisiana)						
Registered Agent(s)							
Agent:	C.T. CORPORATION, 35518M						
Address 1:	387 PLAZA TOWER DR.						
City, State, Zip:	BATON ROUGE, LA 70801						
Appointment Date:	5/23/2006						
Officer(s)							
Officer:	ERIC NICHOL						
Title:	President, Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	CLAUDE ARRENDON						
Title:	Treasurer						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	DAVID HUEYEL						
Title:	Secretary						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	PAUL H. LARSON						
Title:	Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	RODOLFO STREASE						
Title:	Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	LARRY SCHROEDER						
Title:	Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	MICHAEL KOSCH						
Title:	Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	JOHN CARUTO						
Title:	Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	RANDELL FARRIS						
Title:	Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						
Officer:	MARK HANDEL						
Title:	Director						
Address 1:	4025 E. CONANT STREET, SUITE 101						
City, State, Zip:	LONG BEACH, CA 90803						



State of
Louisiana
Secretary of
State

COMMERCIAL DIVISION
225-625-4704

Provisional
225-932-5317 (Admin. Services)
225-932-5314 (Corporations)
225-932-5318 (LLC)

Name:	PROVIDENCE ENGINEERING AND ENVIRONMENTAL GROUP LLC	Type:	Limited Liability Company	City:	BATON ROUGE	Status:	Active
Previous Names							
Business:	PROVIDENCE ENGINEERING AND ENVIRONMENTAL GROUP LLC						
Charter Number:	34914727K						
Registration Date:	3/23/2000						
Domicile Address:	1201 MAIN STREET BATON ROUGE, LA 70802						
Mailing Address:	1201 MAIN STREET BATON ROUGE, LA 70802						
Status							
Status:	Active						
Annual Report Status:	In Good Standing						
File Date:	3/23/2000						
Last Report Filed:	2/23/2005						
Type:	Limited Liability Company						
Registered Agent(s)							
Agent:	GEORGE E. MAJUL						
Address 1:	1201 MAIN STREET						
City, State, Zip:	BATON ROUGE, LA 70802						
Appointment Date:	3/23/2000						
Officer(s)							
Officer:	JAMES KILLER						
Title:	Manager						
Address 1:	1201 MAIN STREET						
City, State, Zip:	BATON ROUGE, LA 70802						
Officer:	WALTER SMITH						
Title:	Manager						
Address 1:	1201 MAIN ST						
City, State, Zip:	BATON ROUGE, LA 70802						
Officer:	GEORGE E. MAJUL						
Title:	Manager						
Address 1:	1201 MAIN STREET						
City, State, Zip:	BATON ROUGE, LA 70802						
Mergers (2)							
Filed Date:	Effective Date:	Type:	Charter #	Charter Name:	Role:		
12/29/2014	12/31/2014	MERGE	34914727K	PROVIDENCE ENGINEERING AND ENVIRONMENTAL GROUP LLC	SURVIVOR		
			41262216K	PROVIDENCE CORP. LLC	NON-SURVIVOR		
9/30/2000	9/30/2000	MERGE	34914727K	PROVIDENCE ENGINEERING AND ENVIRONMENTAL GROUP LLC	SURVIVOR		
			36933073K	PROVIDENCE HOLDING GROUP, LLC	NON-SURVIVOR		
			37124719K	PROVIDENCE ENGINEERING AND DESIGN, LLC	NON-SURVIVOR		
Amendments on File (14)							
Description:	Date						
Appointing, Change, or Resign of Officer	7/9/2008						
Appointing, Change, or Resign of Officer	11/16/2009						
Domestic LLC Agent/Domicile Change	9/11/2013						
Appointing, Change, or Resign of Officer	4/16/2014						
Merge	12/29/2014						
Appointing, Change, or Resign of Officer	12/29/2014						
Appointing, Change, or Resign of Officer	3/7/2016						
Appointing, Change, or Resign of Officer	10/11/2018						
Appointing, Change, or Resign of Officer	9/7/2019						
Domestic LLC Agent/Domicile Change	10/23/2019						
Domestic LLC Agent/Domicile Change	11/18/2019						
Merge	9/30/2020						
Appointing, Change, or Resign of Officer	4/29/2021						
Appointing, Change, or Resign of Officer	5/23/2025						

Print



OFFICIAL DIVISION
225-345-4794
Toll-Free
(252) 517-1300 (Toll-Free)
(252) 517-1300 (Toll-Free)
(252) 517-1300 (Toll-Free)



OFFICIAL DIVISION
225-345-4794
Toll-Free
(252) 517-1300 (Toll-Free)
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(252) 517-1300 (Toll-Free)

Name	TYPE	City	Status		
SURVEYING AND MAPPING, LLC	Limited Liability Company (From Louisiana)	AUSTIN	Active		
Previous Names					
SURVEYING AND MAPPING, INC. (Changed: 4/10/2014)					
Business					
Charter Number:	33548790				
Registration Date:	5/26/2009				
Domestic Address					
4801 SOUTHWEST PARKWAY BUILDING 2, SUITE 300 AUSTIN, TX 78738					
Mailing Address					
4801 SOUTHWEST PARKWAY BUILDING 2, SUITE 300 AUSTIN, TX 78738					
Principal Business Office					
4801 SOUTHWEST PARKWAY BUILDING 2, SUITE 300 AUSTIN, TX 78738					
Registered Office in Louisiana					
387 PLAZA TOWER DR., 1ST FLOOR BATON ROUGE, LA 70801					
Principal Business Establishment in Louisiana					
387 PLAZA TOWER DRIVE 1ST FLOOR BATON ROUGE, LA 70801					
Status					
Status:	Active				
Annual Report Status:	In Good Standing				
Qualified:	5/26/2009				
Last Report Filed:	5/15/2018				
Type:	Limited Liability Company (From Louisiana)				
Registered Agent(s)					
Agent: INCORP SERVICES, INC.					
Address 1: 387 PLAZA TOWER DR., 1ST FLOOR					
City, State, Zip: BATON ROUGE, LA 70801					
Appointment Date: 5/26/2009					
Officer(s)					
Officer: SAN HOLDING COMPANY B, INC.					
Title: Manager, Member					
Address 1: 4801 SOUTHWEST PARKWAY					
Address 2: SUITE 217E 300					
City, State, Zip: AUSTIN, TX 78738					
Mergers (1)					
Filed Date	Effective Date	Type	Charter#	Charter Name	Role
10/26/2018	10/26/2018	Merger	33548790	SURVEYING AND MAPPING, LLC	MANAGER
Amendments on File (3)					
Description	Date				
Name Change	4/10/2014				
Conversion	4/10/2014				
Merger	10/26/2018				

Name	TYPE	City	Status		
LEGACY THIRD GENERATION, LLC	Limited Liability Company	BATON ROUGE	Active		
Previous Names					
SIR GROUP, L.L.C. (Changed: 5/15/2018)					
Business					
Charter Number:	300637796				
Registration Date:	12/12/2005				
Domestic Address					
5344 BRITTON DRIVE BATON ROUGE, LA 70801					
Mailing Address					
C/O MATTHEW ESTORFAL 5344 BRITTON DRIVE BATON ROUGE, LA 70801					
Status					
Status:	Active				
Annual Report Status:	In Good Standing				
File Date:	11/29/2017				
Last Report Filed:	11/29/2017				
Type:	Limited Liability Company				
Registered Agent(s)					
Agent: MATTHEW ESTORFAL					
Address 1: 5344 BRITTON DRIVE					
City, State, Zip: BATON ROUGE, LA 70801					
Appointment Date: 4/15/2013					
Officer(s)					
Officer: MATTHEW ESTORFAL					
Title: Manager, Member					
Address 1: 5344 BRITTON DRIVE					
City, State, Zip: BATON ROUGE, LA 70801					
Mergers (1)					
Filed Date	Effective Date	Type	Charter#	Charter Name	Role
12/12/2005	12/12/2005	Merger	300637796	LEGACY THIRD GENERATION, LLC	MANAGER
SIR GROUP, INCORPORATED					
12/12/2005					
Amendments on File (10)					
Description	Date				
Merger	12/12/2005				
Discharge of Ownership	10/26/2018				
Appointment, Change, or Resign of Officer	4/15/2013				
Appointment, Change, or Resign of Officer	10/16/2018				
Conversion, LLC Agent/Domestic Change	05/01/2017				
Appointment, Change, or Resign of Officer	04/15/2013				
Domestic LLC Agent/Domestic Change	04/15/2013				
Appointment, Change, or Resign of Officer	04/15/2013				
Domestic LLC Agent/Domestic Change	04/15/2013				
Name Change	04/15/2013				



OFFICIAL DIVISION
225.353.4300
Corporations
225.353.2111 (Business Services)
225.353.2104 (Corporations)
225.353.2000 (FAC)

Name	UPRA SYSTEMS ASSOCIATES, INC.	Type	Business Corporation	City	NEW ORLEANS	Status	Active
Previous Names							
Business	UPRA SYSTEMS ASSOCIATES, INC.						
Charter Number	3812602						
Registration Date	11/02/2014						
Domicile Address							
2000 TULANE AVENUE							
SUITE 200							
NEW ORLEANS, LA 70112							
Mailing Address							
2000 TULANE AVENUE							
SUITE 200							
NEW ORLEANS, LA 70112							
Principal Office Address							
2000 TULANE AVENUE							
SUITE 200							
NEW ORLEANS, LA 70112							
Status							
Status	Active						
Annual Report Status	Annual Reporting						
File Date	11/02/2014						
Last Report Filed	01/14/2015						
Type	Business Corporation						
Registered Agent(s)							
Agent	ALISON MICHEL						
Address 1	2000 TULANE AVE						
Address 2	SUITE 200						
City, State, Zip	NEW ORLEANS, LA 70112						
Appointments	Date: 12/31/2019						
Officer(s)							
Officer	ALISON C. MICHEL						
Title	President						
Address 1	877 CHARLIE STREET						
City, State, Zip	NEW ORLEANS, LA 70124						
Officer	REX C. STEWART						
Title	Secretary-Treasurer						
Address 1	845 BEECHWOOD COURT						
City, State, Zip	NEW ORLEANS, LA 70127						
Amendments on File (12)							
Description	Date						
Amended	01/14/2015						
Amendment	11/02/2014						
Disclosure of Ownership	11/02/2014						
Disclosure of Ownership	11/02/2014						
Disclosure of Ownership	11/02/2014						
Disclosure of Ownership	11/02/2014						
Appointment, Change, or Resign of Officer	11/02/2014						
Resigned Officer	11/02/2014						
Domestic Agent Change or Resign of Agent	11/02/2014						
Disclosure of Ownership	11/02/2014						
Resigned Officer	11/02/2014						
Domestic Agent Change or Resign of Agent	11/02/2014						

Print

23. Location:

Not Applicable



3850 N. Causeway Blvd, Suite 1625
Metairie, LA 70002
T: 504.962.9212
la@hardestyhanover.com