HDR

STATEMENT OF QUALIFICATIONS

IDIQ CONTRACT FOR MOVABLE BRIDGE PRESERVATION STATEWIDE

CONTRACT NO. 4400023909

DOTD

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Tuesday, May 10th, 2022

DOTD FORM: 24-102

(Revised March 1, 2022)

PROPOSAL TO PROVIDE CONSULTANT SERVICES

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

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

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

1. Contract title as shown in the advertisement	IDIQ Contract For Movable Bridge Preservation Statewide
2. Contract number(s) as shown in the advertisement	400023909
3. State Project Number(s), if shown in the advertisement	
4. Prime consultant name (as registered with the Louisiana Secretary of State where such registration is required by law)	**HDR Engineering, Inc.**
5. Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law)	EF.0001231
6. Prime consultant mailing address	4970 Bluebonnet Blvd. Suite C Baton Rouge, LA 70809-3089
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	4970 Bluebonnet Blvd. Suite C Baton Rouge, LA 70809-3089
8. Name, title, phone number, and email address of prime consultant's contract point of contact	**Wesley Jacobs, PE** , **Hydraulic Structures Program Lead** (225) 465-6361, wesley.jacobs@hdrinc.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	**David C. Weston, Vice President, Gulf Coast Area Manager** (713) 622-9264, david.weston@hdrinc.com
10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of	

Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.	Signature (shall be the same person as #9): _____ Date: 05/10/2022
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): APS Engineering and Testing, LLC Firm(s)' %: 3%

12. Past Performance Evaluation Discipline Table:

As indicated in the advertisement, insert the completed table here. The percentages for the prime and sub-consultants must total 100% for **each past performance evaluation discipline**, as well as the overall total percent of the contract.

The only past performance evaluation disciplines to be used are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and Other. The crosswalk from the old categories to the new categories can be found at the link below:

http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/General%20Information/CPPR%20Crosswalk%20to%20New%20Evaluation%20Disciplines.pdf. (same link as in the advertisement)

Sub-consultants are allowed to be used for this proposal. Fill in the table by identifying only those evaluation disciplines consistent with the approach and methodology proposed in Section 19 of the DOTD Form 24-102*, the name of each firm that is part of the proposal, and the percentage of work in each past performance evaluation discipline to be performed by that firm. The percentage estimated for each evaluation discipline is for evaluation purposes only and will not control the actual performance or payment of the work. The percentages for the prime and sub-consultants must total 100% for each past performance evaluation discipline, as well as the overall total percent of the contract. (Add rows as needed)						
Evaluation Discipline(s)	% of Overall Contract	HDR Engineering, Inc.	C. H. Fenstermaker & Associates, L.L.C	APS Engineering & Testing, LLC	Bridge Diagnostics, Inc	Meyer Engineers, Ltd.
Bridge	64.5%	85.0%			15.0%	
Traffic	5.0%		100.0%			
Other (Facility Design; Facility Design - Mechanical and Electrical Design)	5.0%	30.0%				70.0%
CE&I/OV	5.0%	90.0%				10.0%
Environmental	2.5%	50.0%	50.0%			
Geotech	3.0%			100.0%		
Road	15.0%		100.0%			
Identify the percentage of work for the overall contract to be performed by the prime consultant and each sub-consultant.						
Percent of Contract	100%	62.1%	21.2%	3%	9.7%	4.0%

13. Firm Size:

For all firms that are part of this team, indicate the approximate number of personnel to be committed to this contract, by DOTD Job Classification and the total number of personnel within the firm that could provide support, if needed. If a specialized job classification is required and not included on the DOTD job classification list, specify "Other (xxxx)" and include the classification title inside the parentheses. The DOTD Job Classification(s) to be used can be found at the following link:
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Job_Qualification/Job%20Classifications%20with%20Descriptions.pdf

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
HDR Engineering, Inc.	Principal	2	10
	Supervisor-Engineer	8	46
	Supervisor-Other	2	6
	Engineer	5	15
	Engineering-Other	6	52
	Environmental Manager	2	6
	Environmental Pro	1	5
	Engineering Intern	1	6
	Designer	3	11
	Bridge Inspector	1	13
A P S Engineering and Testing, LLC	Engineer	3	5
Bridge Diagnostics, Inc. (BDI)	Principal	1	3
	Supervisor – Engineer	2	6
	Engineer – Other	2	4
C. H. Fenstermaker & Associates, L.L.C.	Engineer	1	14
	Environmental Pro	2	4
	Supervisor-Eng	3	4
	Surveyor	2	3
Meyer Engineers, Ltd.	Engineer	1	9
	Principal	1	1
	Supervisor – Engineer	1	2
	Architect – Licensed	2	6

14. Organization Chart

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

PROJECT PRINCIPAL
Brett Geesey, PE *(MPRs 1 & 2)*

PROJECT MANAGER
Wesley Jacobs, PE *(MPR 8)*

DEPUTY PROJECT MANAGER
Ronald Sanchez, PE *(MPR 3)*

QA/QC
Lead: Robert Moses, PE - Electrical
Peter Davis, PE ◆- *Mechanical/Constructability*
Herbert Protin, PE◆ - *Structural*

STRUCTURAL, MECHANICAL AND ELECTRICAL ENGINEERING SUPPORT

STRUCTURAL
Lead: Ronald Sanchez, PE *(MPR 3)*
Wesley Jacobs, PE *(MPR 8)*
Jason Abendroth, PE
David Knickerbocker, PhD, PE *(MPR 6)*
Greg Harrell, PE (*MPR 6)*
Erin O'Malley, PE
Sarah De Moya, PE *(MPR 8)*
Peter Harrison, PE
O Shane Boone, PHD
O Brett Commander, PE
O Jesse Sipple, PHD, PE
O Charles Young, PE ++
O Brice Carpenter, PE +

MECHANICAL
Lead: Matt McGuire, PE *(MPR 4)*
Mike Carlton, PE (*MPR 4)*
Diana Jandreski, PE
Isaac Frederick, PE
Matthew Cassera, PE◆
Joseph Jacobus, PE◆
Andrew Orton, PE, LEED AP BD+C *(MPR 9)*

ELECTRICAL
Lead: Raphael Costa, PE *(MPR 5)*
Jonathan Kohler, PE *(MPR 5)*
Megan Tatara, PE◆
Farid Amador
Jose Gonzalez, PE◆
Carlos Larco

ADDITIONAL SUPPORT

ARCHITECTURE SUPPORT
O James Papia, AIA, NCARB, CSI, RA
O Adrianna Gernon Eschete, LEED AP, RA
O Don Mauras, RA *(MPR 7)*
O Alfonso Romero, NCARB, RA
O Elena Anderson, IIDA, NCIDQ

GEOTECHNICAL SERVICES
O Sergio Aviles, PE
O Sairam Eddanapudi, PE +
O Surendra Raj Pathak, PE+

PROTECTIVE COATINGS SPECIALIST
Gregory Mieczkowski

ROADWAY/TRAFFIC CONTROL
O Diane Hammonds, PE, PTOE*++
O Dax Douet, PE*+
O Luke Hebert, P.E., CFM

UNDERWATER SCANNING/INSPECTION
O Justin Bordelon, LSI +
O Lance Fontenot

CONSTRUCTION SUPPORT
Jonathan Beaugh

HYDRAULIC ANALYSIS AND DESIGN
O Jeanne Hornsby, P.E., CFM

ENVIRONMENTAL AND PERMITTING SERVICES
James Thomas, PWS
Mark Everett, ENV SP
Amber Robinson PWS, ENV SP
O Nicholas Gaspard, PMP
O Christopher Guidry

CADD SERVICES
Jason Clary
Jonathan Beaugh

LEGEND

◆ Licensed Professional Engineer in a U.S. state, not Louisiana
* Personnel Performing Traffic Engineering Analysis
\+ Traffic Control Supervisor
\+ Traffic Control Technician
(MPR #) = Minimum Personnel Requirement

Subconsultants
O A P S Engineering and Testing, LLC.
O Bridge Diagnostics, Inc.
O C. H. Fenstermaker & Associates, L.L.C.
O Meyer Engineers, Ltd.

15. Minimum Personnel Requirements:

Use the table below to identify both prime consultant and sub-consultant staff designated to work on this contract meeting the Minimum Personnel Requirements (MPRs) specified in the advertisement. Ensure the résumé reflects the required experience stated in the MPR.

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 / certification & number	State of license	License / certification expiration date
1	Brett Geesey, PE	HDR Engineering, Inc	PE.0035172	LA	03/31/2024
2	Brett Geesey, PE	HDR Engineering, Inc.	PE.0035172	LA	03/31/2024
3	Ronald Sanchez, PE	HDR Engineering, Inc.	PE.0036556	LA	03/31/2024
4	Matt McGuire, PE Mike Carlton, PE	HDR Engineering, Inc. HDR Engineering, Inc.	PE.0043785 PE.0043927	LA LA	03/31/2024 03/31/2024
5	Raphael Costa, PE Jonathan Kohler, PE	HDR Engineering, Inc. HDR Engineering, Inc.	PE.0043993 PE.0039625	LA LA	03/31/2024 09/30/2022
6	Greg Harrell, PE David Knickerbocker, PhD, PE	HDR Engineering, Inc. HDR Engineering, Inc.	PE.0044014 PE.0040004	LA LA	03/31/2024 03/31/2024
7	Don Mauras, RA	Meyer Engineers, Ltd.	Architect/Lic #3759	LA	12/31/2022
8	Wesley Jacobs, PE Sarah De Moya, PE	HDR Engineering, Inc. HDR Engineering, Inc.	PE.0030774 PE.0038011	LA LA	09/30/2022 03/31/2023
9	Andrew Orton, PE, LEED AP BD+C	HDR Engineering, Inc.	PE.0042463	LA	09/30/2022

16. Staff Experience

Firm employed by	HDR Engineering, Inc.		
Name	**Jason Abendroth, PE**	Years of relevant experience with this employer	3
Title	Senior Engineer	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization		BS / 2008 / Civil Engineering	
Active registration number / state / expiration date		PE 0038198 Louisiana, Exp. 03/31/2024	
Year registered	2013	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		Structural engineering support.	

Experience Summary: Jason has experience in engineering and design of structures ranging from flood control (sector, lift, sluice, and vehicular gates; pump stations, T-Walls, L-Walls, I-walls), bridges (concrete, steel, movable), and municipal sewage lift stations. Experience in other engineering disciplines includes geotechnical analysis and design for earthen levees and retaining walls.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
11/20-06/21	**Louisiana Department of Transportation and Development (LADOTD) - Statewide Bridge Inspections | Statewide LA –** *QA/QC Reviewer*. Jason reviewed the main span inspection report of the Jackson Street Lift Bridge spanning the Red River. The team performed structural, mechanical and electrical inspections of the towers, main span truss, substructure, and machinery using rope access and manlift methods for in-depth inspection techniques.
01/16- 12/17	**LADOTD - Statewide Inventory and Inspection of Sign Trusses | Statewide LA** – *Assistant Project Manager*. Jason performed team coordination, data collection, and inspection work for this five-year contract with LADOTD to perform over 1,500 sign truss inspections throughout Louisiana. He prepared and reviewed the inspection reports after the inspections were completed. Inspections included steel and aluminum welds, high stress moment connections, and fracture critical elements in accordance with FHWA guidelines.
07/17- 05/22	**City of Cedar Rapids/USACE - 16th Ave Floodgate, RR Closure Gates, Reach 2 Floodwalls | Cedar Rapids, IA** – *Structural Design Lead and Engineer of Record.* The project consisted of development of plans and specifications (16th Avenue, Reach 2 downtown riverfront and UPRR Industrial Railyards) for multiple roadway and railroad closure gates varying in opening widths from 35 ft to 70 ft with over 1,000 feet of concrete floodwalls supported by steel H-piles and Micropile foundations. Project features were designed with USACE/HSDRRS Design Criteria.
03/10 - 06/15	**Texas Dept. of Transportation/LADOTD- US 84 – Logansport – Sabine River Bridge Replacement S.P. No. 021-01-0004 | Logansport, LA –** *Structural Engineer*. Jason assisted in the development of the final design, plans and specifications for two bridge structures (EB and WB) spanning the Sabine River in Logansport, LA using AASHTO-LRFD specifications. He designed the new TXPPC girder shapes (Tx62's and Tx70's). The span lengths ranged from 120 ft to 160 ft. The substructure was comprised of multi-column reinforced concrete bents with strutted columns at the main channel locations. The bents were supported by drilled shaft foundations.
03/09- 05/11	**USACE New Orleans District - Seabrook Sector Gate Complex, Hurricane Protection Project | New Orleans, LA** – *Structural Engineer*. This project entailed construction of flood protection measures per USACE Hurricane and Storm Damage Risk Reduction System

06/11-08/14	**USACE New Orleans District - LPV 145 – Bayou Bienvenue Movable Swing Span Bridge - Steel Swing Span| New Orleans, LA –***Structural Engineer.* Jason was responsible for the design ofthe steel girder superstructure, the concrete substructure and foundations. The approach spans were comprised of concrete slab spans that tied into an existing limestone access road. The bridge was designed to provide vehicular access to LPV 145 which is a six-mile isolated levee reach in Chalmette, LA. The timber fender system for the new bridge was designed to tie into the existing system at the sector gate. The bridge was designed using LADOTD Bridge Design Manual and AASHTO-LRFD specifications.
04/11- 05/12	**Valero Port Arthur Refinery - Taylor Bayou (Joint Outfall Canal) Movable Bridge - Steel Swing Span	Port Arthur, TX** – *Bridge Engineer*. Jason was responsible for the design of the steel girder superstructure, the concrete substructure and foundations. Due to close similarities to recent projects in Louisiana, the project was designed using LADOTD design criteria and specifications.
05/18- 07/18	**Coastal Protection and Restoration Authority (CPRA) - Houma Navigation Canal (HNC) Lock Complex (TE-113)	Houma, LA** – *Structural Reviewer*. Jason conducted Independent Technical Reviews for civil and structural features of the HNC Lock Complex final design submittals. The project was comprised of two 110 ft sector gate systems (gulf side constructed in the dry; inland side constructed in the wet via float in methods), pipe pile combi-wall, pipe/concrete pile lock chamber, floating barge gate modifications, timber guidewalls, steel sheet pile dolphin cells, dewatering bulkheads and reinforced concrete chamber transition structure. He performed technical reviews, as the owner's engineer for CPRA, of the plans, specifications, calculations, and cost estimates for the final design stages of this project.
06/09- 05/11	**USACE New Orleans District - Bayou Dupre Control Structure	New Orleans, LA** – *Structural/Civil Engineer.* Jason was responsible for the final design (plans and specifications) for the Bayou Dupre Control Structure. The Bayou Dupre Control Structure is a 56-foot wide, 43.5-foot tall sector gate that closes off Bayou Dupre in the Chalmette Flood Protection Loop. Duties included steel design for the sector gate, concrete design and piled foundation design for the concrete gate bay structure.
02/10-12/10	**IHNC Lake Borgne Barrier Pre-inundation and Fabrication Inspections, USACE New Orleans District, New Orleans, LA** – *Structural Engineer/Structural Inspector*. The project entailed 10 field inspections for various structural components of the IHNC-Lake Borge Barrier project. The inspections encompassed pre-inundation inspection within the respective cofferdams for a 150 ft sector gate complex, a vertical lift gate, and a concrete barge swing gate system. Several inspections were also conducted at the respective fabricator facilities for components such as the concrete barge, steel lift gates, and sector gate leaves. Reports were developed (similar to standard Periodic Inspection Reports) to depict inspection observations and potential remedial actions required prior to inundation or installation of the components. Inspections were conducted on active construction sites and were done under strict safety guidelines. Jason served as the primary Structural Inspector of the project. He specifically inspected the interior (confined-space) and exterior of the concrete barge prior to it being shipped to the project site. The project was constructed using Design/Build alternative delivery method.

Firm employed by	HDR Engineering, Inc.		
Name	**Farid Amador**	Years of relevant experience with this employer	4
Title	Senior Electrical Designer	Years of relevant experience with other employer(s)	13
Degree(s) / Years / Specialization		BS / 2010 / Computer Forensics | BS / 2007 / Computer Science	
Active registration number / state / expiration date		N/A	
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities		Electrical Support.	

Experience Summary: Farid responsibilities include the design, specification, inspection, and construction support for projects involving electrical systems for heavy movable bridge structures, remote monitoring, remote operations of bridges, and CCTV monitoring.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
03/16- Ongoing	**CSX Transportation - Movable Bridge On-call Engineering Services (Bascule Bridges - Florida) | Bradenton, FL** - *Senior Electrical Designer*. Farid was responsible for estimating, evaluating, and designing the electrical controls for Big Manatee and Navassa bascule bridges. The upgrades included complete mechanical systems replacement, upgraded interlocking system, remote monitoring, remote operation of bridge, remote data logging, CCTV, and new redundant VFD Drives and motors.
01/16- 12/16	**Florida Dept. of Transportation (FDOT) - Movable Bridge On-call Engineering Services (Bascule Bridges Assessments) | Palm Beach County, FL** –*Senior Electrical Designer*. Farid was responsible for estimating and evaluating the electrical controls. The upgrades included replacing the entire bridge structure (new design), complete electrical controls, remote monitoring, CCTV, machinery equipment, and complete temporary bridge, and bridge controls for the 17th Street Causeway Bridge.
01/19-06/20	**CSX Transportation - Movable Bridge On-call Engineering Services (Swing Bridges - Philadelphia) | Philadelphia, PA** – *Senior Electrical Designer.* Farid performed quality reviews of the scoping and assessment report, electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of the Schuylkill swing bridge. Electrical rehabilitation scope included replacement of the controls systems including introduction of remote-control capabilities.
10/17-06/19	**CSX Transportation - Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Statewide AL** – *Senior Electrical Designer*. Farid was responsible for performing the scoping and assessment reports, preparing electrical systems rehabilitation design plans, calculations, specifications, and cost estimates, and construction inspection reporting for the rehabilitation of three swing bridges (3 Mile Creek, Bayou Sara, and Chickasaw). Electrical rehabilitation scope for bridges included replacement of the controls systems including introduction of remote-control capabilities, replacement/repair of motor and drive systems, and modifications/improvements to the power distribution systems. He was also responsible for performing quality reviews of the electrical systems design plans, calculations, specifications, and cost estimates for the replacement of the Bayou Sara Swing Bridge.
12/20-02/21	**Louisiana Dept. of Transportation and Development (LADOTD) – LADOT Statewide Bridge Inspections | Loreauville, LA –** *Assistant Lead Electrical Designer*. Farid was responsible for performing the detail inspection of the Teche Bayou Vertical Lift Bridge's electrical systems and providing findings and recommendation report.

12/17-Ongoing	**CSX Transportation - Movable Bridge On-call Engineering Services (Lift Bridges) | AL, SC, and TN** – *Senior Electrical Designer.* Farid was responsible for the quality control reviews for the project. He performed quality reviews of the scoping and assessment report, electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of four lift bridges. Electrical rehabilitation scope included replacement of the controls systems including introduction of remote-control capabilities, and electrical power distribution improvements to the Mobile River (Alabama), Tailrace (South Carolina), New Johnsonville (Tennessee), and Joliet Vertical Lift Bridges.
03/19-Ongoing	**LIRC Railroad - LIRC Ohio River Vertical Lift Bridge 108.11 Rehabilitation| Louisville, KY** – *Senior Electrical Designer.* Farid was responsible for electrical re-design and converting the movable bridge to be fully remote controlled. This involved installation of computer servers and virtual machine configurations.
02/18 – Ongoing	**Florida Dept. of Transportation (FDOT) - NE 79th Street Causeway Bascule Bridges Rehabilitation| Miami, FL** – *Senior Electrical Designer.* Farid was responsible for estimating, evaluating, and designing the electrical controls. The upgrades included rehabilitation of relay- based control system replacement, drive system replacement, motor control center replacement, limit switch replacement, and redundant VFD Drives.
09/20 – Ongoing	**BNSF Railroad – Burlington Northern Vertical Lift Bridge Rehabilitation| Portland, OR** – *Senior Electrical Designer.* Farid was responsible for electrical re-design and converting the movable bridge to be fully remote controlled. This involved installation of computer servers and virtual machine configurations.
10/18 – Ongoing	**FDOT – I-395 Signature Bridge | Miami, FL** – *Senior Electrical Designer.* Farid was responsible for the electrical design of the lightning protection system with the latest technology.
10/17-06/19	**CSX Transportation - Movable Bridge On-call Engineering Services (Swing Bridges - Mississippi) | Statewide, MS** - *Senior Electrical Designer.* Farid was responsible for estimating and evaluating the electrical controls. The upgrades included refurbishment of the electrical power and control system including VFD's, PLC's, remote monitoring, power distribution, span motors, gear motors, motor and machinery brakes, encoders, submarine cables, and limit switches for Biloxi Bay, Bay Saint Louis, and Trout River.
08/17-02/18	**CSX Transportation - Movable Bridge On-call Engineering Services (Swing Bridges - Louisiana) | Statewide, LA** – *Senior Electrical Designer*. Farid performed quality reviews of the scoping and assessment report, electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of two swing bridges (Chef Menteur and Rigolets Swing Bridges). Electrical rehabilitation scope for both bridges included replacement of the controls systems including introduction of remote-control capabilities, replacement of the motor and drive systems, lightning protection system replacement, and modifications/improvements to the power distribution systems including new submarine/flexible cable systems

Firm employed by	HDR Engineering, Inc.		
Name	Jonathan Beaugh	Years of relevant experience with this employer	9
Title	CADD Technician	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		CADD services and construction support.	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "design ed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
09/20-03/21	**Port Freeport – GRR Civil Engineering| Brazoria, TX** – CADD Technician. Jonathan provided AutoCAD drafting and design, and volume calculations.
04/18-04/20	**USACE New York District - PH USACE Green Book Design Seg C3-C4	Middlesex County, NJ** – CADD Technician. Jonathan provided AutoCAD drafting and design. The project entailed production of plans and specifications for levees, floodwalls, interior drainage features and a road closure gate.
10/20-10/20	**Alaska Dept. of Transportation& Public Facilities – St. George FEMA Breakwater	St. George, AK** – CADD Technician. Jonathan provided AutoCAD drafting for as-built post construction documentation.
07/17-12/19	**Santa Clara Valley Water District - Calero Dam Seismic Retrofit Project Design Consultant Service	Santa Clara, CA** – CADD Drafter. Jonathan provided 3D AutoCAD drafting and design, and volume calculations. HDR prepared designs, specifications, construction documents, and cost estimates for the District's Calero Dam Seismic Retrofit Project.
06/18-02/22	**Canadian National Railway - Wetland Delineation and Bridge Assessment	St. Charles Parish, LA** – CADD Technician. Jonathan created permit exhibits via AutoCAD and prepared volume calculations.
03/17-10/19	**King County - Lower Russell Road Levee Setback Project Kent	King, WA** – CADD Technician. Jonathan provided 3D AutoCAD design and volume calculations for floodwall.
03/17-07/17	**Northstar Port Arthur - Berth 3 Upgrades Midstream	Port of Port Arthur, TX** – Construction Inspector. Jonathan provided construction administration support and oversight for renovations and upgrades to the existing berth. Upgrades included installation of robust mooring structures, including foundation support. Other responsibilities included observation of construction, including material testing, and documented observations in progress reports.
10/16-11/16	**UGI - Oyster Point As-Built Services	East Hempfield, PA** – Construction Inspector. Jonathan provided construction administration support for the installation of a 12" high pressure gas transmission and distribution pipeline.
06/18-10/20	**USACE - Cedar Rapids, IA, 16th Avenue Floodgate Closure	Cedar Rapids, IA** – CADD Technician. Jonathan provided AutoCAD drafting and design services.
08/15-09/15	**Moorhead Public Service - High Service Pump Station Construction Phase	Moorhead, MN** – *Construction Inspector*. Jonathan provided construction administration and inspection support of ongoing construction, recorded observations in daily logs, and coordinated between the engineer and construction contractor. This project included a new High Service Pump Station with additional dry chemical storage, a vertical turbine can-type pump and emergency power generator, and additional chemical storage.

10/20-Ongoing	**Kansas City Southern Railway Co., Comite Diversion Channel MP | Zachary, LA** – *Construction Inspector.* Jonathan provided construction administration support and oversight railroad track shoofly construction and railroad bridge construction.

Firm employed by	HDR Engineering, Inc.		
Name	Mike Carlton, PE	Years of relevant experience with this employer	6
Title	Senior Mechanical Engineer	Years of relevant experience with other employer(s)	13
Degree(s) / Years / Specialization		BS / 1995 / Mechanical Engineering	
Active registration number / state / expiration date		PE.0043927 Louisiana, Exp. 3/31/2024	
Year registered	2019	Discipline	Mechanical Engineering
Contract role(s) / brief description of responsibilities		Mechanical Engineering - Provide mechanical systems design, specifications, cost estimating, inspections and assessment reporting, feasibility analysis, construction inspection, and construction support. **Meets MPR 4**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/19-Ongoing	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Philadelphia) | Philadelphia, PA** – *Senior Mechanical Engineer*. Mike is responsible for the mechanical systems rehabilitation design plans, calculations, specifications, cost estimates, and post design services for the rehabilitation of the Schuylkill River swing bridge. Post design services include review of shop drawings, RFI's, and site inspection during construction.
12/20-02/21 and 01/20-04/20	**Louisiana Dept. of Transportation and Development(LADOTD) – LADOTD Statewide Bridge Inspections| Loreauville and Alexandria, LA** – *Lead Mechanical Engineer Inspector*. Responsible for performing the detail inspection of the Teche Bayou lift bridge and Red River lift bridge's mechanical systems and providing findings and recommendation report.
05/17-02/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Louisiana) | Statewide LA** – *Senior Mechanical Engineer*. Mike is responsible for the scoping and assessment report, mechanical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of two swing bridges (Chef Menteur and Rigolets Swing Bridges). Mechanical rehabilitation scope for both bridges included replacement of the end and center wedge drive systems, replacement of the Promex rail lift system, upgrading the hydraulic system for operation of the end wedges, center wedges, and rail lift system.
02/03-Ongoing	**Virginia Dept. of Transportation (VDOT) – VDOT Movable Bridge On-Call Contract | Statewide VA** – *Senior Mechanical Engineer.* Mike is responsible for the inspection of the current track segments, which utilizes integral racks for operation, and design of the re-setting of the track segments and installing a new anchorage system for the track segments while keeping the span operable for a 450 ft long double swing span (Coleman Swing Span). Mike also performed the detailed inspection of the mechanical systems for the Coleman bridge.
02/16-Ongoing	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Florida) | Statewide FL** – *Senior Mechanical Engineer*. Mike is responsible for the assessment inspection, scoping and assessment report, mechanical systems rehabilitation design plans, calculations, specifications, cost estimates, and post design services for the rehabilitation of three swing bridges (Little Manatee River, Alafia River, Trout River and Saint Lucie). Mechanical rehabilitation scope for these bridges included replacement of the mechanical drive systems, end and center wedges with mechanical drive systems, and operation of the Promex rail lifts via the end wedge system.

05/17-02/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Louisiana) | Statewide LA –** *Senior Mechanical Engineer.* Mike is responsible for the scoping and assessment report, mechanical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of two swing bridges (Chef Menteur and Rigolets Swing Bridges). Mechanical rehabilitation scope for both bridges included replacement of the end and center wedge drive systems, replacement of the Promex rail lift system, upgrading the hydraulic system for operation of the end wedges, center wedges, and rail lift system.
01/17-12/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Mississippi) | Statewide MS** – *Senior Mechanical Engineer.* Mike was responsible for the assessment inspection, scoping and assessment report, mechanical systems rehabilitation design plans, calculations, specifications, cost estimates, and post design services for the rehabilitation of three swing bridges (Biloxi Bay, Bay St. Lois and Pearl River Swing Bridges). Mechanical rehabilitation scope for the bridges included upgrade of the end and center wedge operating system, replacement of the Promex rail lift system, replacement of the hydraulic motors, and upgrades to the hydraulic power unit to operate the main drive motors, end and center wedges, as well as the rail lift systems. Post design services included review of shop drawings, RFI's, site inspection during construction, and final walk through at the completion of construction.
02/16-7/19	**CSX Transportation – Movable Bridge On-call Engineering Services (Bascule Bridges – Florida) | Statewide FL** – *Lead Mechanical Engineer.* Mike inspected and provided scoping and assessment report, designed the mechanical systems rehabilitation, and performed construction inspection services for three single leaf bascule bridges (Big Manatee River, Hillsborough River and Buffalo Bluff Bascule Bridges). Mechanical rehabilitation scope for the bridges included rehabilitation of the main drive system, installation of a hydraulic auxiliary backup drive system, and shimming between the track and track girders to compensate for the sag of the track girders.
10/15-Ongoing	**Florida Dept. of Transportation (FDOT) – Movable Bridge On-call Engineering Services (Bascule Bridges Assessment) | Fort Lauderdale, FL** – *Lead Mechanical Engineer.* Mike is responsible for mechanical systems inspections and evaluations, studies, design, and construction support for task work orders (TWOs) including movable bridge structures. TWOs included inspections and assessment of 34 bascule bridges, and feasibility studies
12/15-Ongoing	**Florida Dept. of Transportation (FDOT) – NE 79th Street Causeway Bascule Bridges Rehabilitation | Miami, FL** – *Lead Mechanical Engineer*. Mike inspected and provided scoping and assessment report and designed the mechanical systems rehabilitation of the two bascule bridges. The project included the rehabilitation of one twin double leaf bascule bridge and one twin single leaf bascule bridge. Mechanical rehabilitation scope included replacement of hydraulic operating cylinders, hydraulic power units, span locks, and supports for new motors and brakes on the twin single leaf bridges.
05/04-08/08	**Wisconsin Department of Transportation – Bascule Bridge over the Fox River | Oshkosh, WI** - *Lead Mechanical Engineer.* Mike performed the design, specifications, cost estimate, and post design services for the operating machinery and rear lock assemblies of a new double-leaf rolling bascule bridge (Wisconsin Street). The design included calculations for operating loads on the drive machinery, sizing the various components of the drive machinery and design of the rear lock system. Post design work included shop drawing review, responding to RFI's and field inspection of the installed machinery.

Firm employed by	HDR Engineering, Inc.		
Name	Matthew Cassera, PE	Years of relevant experience with this employer	7
Title	Mechanical Engineer	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		BS / 2014 / Mechanical Engineering	
Active registration number / state / expiration date		24GE05576800 New Jersey, Exp. 04/30/2024	
Year registered	2019	Discipline	Mechanical Engineering
Contract role(s) / brief description of responsibilities		Mechanical Engineer - Providing mechanical systems design, specifications, cost estimating, inspections and assessment reporting, feasibility analysis, construction inspection, and construction support.	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/21-05/21	**Texas Dept. of Transportation (TxDOT) – TxDOT Movable Bridges Asset Maintenance | Orange, TX** – *Mechanical Engineer*. Matthew was responsible for on-site mechanical maintenance support and creation of Operations and Maintenance Manual for the Cow Bayou Swing Bridge mechanical and electrical systems. Work included deliverables of lubrication charts, lubrication plans, maintenance checklists, and OEM manuals.
01/16-04/22	**Norfolk Southern Corporation – Movable Bridge Task Orders and Remote-Control Upgrades (Swing, Bascule, Vertical Lift) | Seven US States** – *Mechanical Engineer*. Matthew is responsible for inspection and design of curved treads and flat tracks on two bascule bridges. He provided custom lubrication manuals for bascule, swing, and vertical lift bridges. Matthew performed on site bridge inspections to evaluate condition of machinery and provide rehabilitation recommendations for ten Norfolk Southern movable bridges.
05/17-08/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridge – Philadelphia) | Philadelphia, PA** – *Mechanical Engineer*. Matthew conducted Schuylkill swing bridge site visit to confirm the contract specifications were met by the contractor. He inspected the center and end wedge bases, guides, and surrounding steel for section loss.
7/16-06/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Alabama) | Statewide AL** – *Mechanical Engineer*. Matthew was responsible for the scoping and assessment report, and mechanical systems rehabilitation design plans for Chickasaw and Three Mile swing bridges. Mechanical rehabilitation scope included new mechanical span drive systems, and end and center wedge drive systems. He was responsible for new machinery support designs, CAD support, and cost estimates for Bayou Sara new swing bridge.
05/17-08/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Louisiana) | Statewide LA** – *Mechanical Engineer*. Matthew was responsible for the scoping and assessment report, mechanical systems rehabilitation design plans, calculations, specifications, and cost estimates for two swing bridges (Chef Menteur and Rigolets). Mechanical rehabilitation scope for the bridges included end and center wedge drive system replacement, Promex rail lift system replacement, and hydraulic system upgrades.
05/17-8/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges– Mississippi) | Statewide MS** – *Mechanical Engineer.* Matthew was responsible for the field verification and preliminary design of mechanical system plans for the rehabilitation of a swing bridge (Pearl River). Mechanical rehabilitation scope for the bridge included upgrade of the end and center wedge operating system, rail lift system replacement, span drive machinery replacement, and upgrades to the hydraulic power unit.

1/16-6/16	**CSX Transportation – Movable Bridge On-call Engineering Services (Bascule Bridges – Florida) | Statewide FL** – *Mechanical Engineer*. Matthew provided design alternatives and design plans for span drive motor replacements on a single leaf bascule bridge (Big Manatee River). Mechanical rehabilitation scope for the bridge included rehabilitation of the main drive system, installation of a hydraulic auxiliary backup drive system, and shimming between the track and track girders to compensate for the sag of the track girders.
11/16-6/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Bascule Bridges – Mississippi) | Pascagoula, MS** – *Mechanical Engineer*. Matthew provided the scoping and assessment report, mechanical system rehabilitation design and construction support for a single leaf bascule bridge (Pascagoula River). Mechanical rehabilitation scope for the bridge included replacement of the existing span drive motors, instrumentation replacement, hydraulic span lock system rehabilitation, and centering device rehabilitation.
01/20-Ongoing	**Canadian National Railway - Black Rock Swing Bridge Assessment and Rehabilitation| Buffalo, NY** – *Mechanical Engineer*. Matthew is responsible for initial site inspection, recommendation report, staging, design, and strain gauge testing. He conducted a site visit to test torque sharing of the four pinions shafts and verify the rehabilitation design plans met the scope stated. He performed design calculations and drafted plans for rehabilitation of the span drive machinery, radial spoke assembly, and center bearing.
02/17-04/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Lift Bridges) | New Johnsonville, TN** – *Mechanical Engineer.* Matthew was responsible for field condition inspection, design, and construction support of a span drive vertical lift bridge on the Kentucky Lake (Tennessee). Work included design of new auxiliary span drive machinery, brake supports, and limit switches, review of RFI's and shop drawings.
04/17-08/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Lift Bridges) | Mobile, AL –** *Mechanical Engineer.* Matthew was responsible for field condition inspection and design of new machinery for a span drive vertical lift bridge over the Mobile River. Work included field visits to the bridge, design of replacement wire rope rollers, design of new remote actuator for auxiliary span drive machinery, and shop drawing review.
02/19-05/20	**Virginia Dept. of Transportation (VDOT) – Route 156 over James River, Benjamin Harrison Lift Bridge | Hopewell, VA –** *Mechanical Engineer.* Matthew was responsible for the design of new upper and lower span buffers. He performed design calculations, provided specifications, cost estimates, and worked with suppliers and the client to choose economical options based on different design alternatives.
08/16-07/18	**Triborough Bridge & Tunnel Authority (TBTA) - MP-03 Electrical and Mechanical Rehabilitation at the Marine Parkway Bridge | Queens, NY –** *Mechanical Engineer.* Matthew was responsible for inspection, design, shop testing, and construction support for rehabilitation of the vertical lift bridge over Jamaica Bay. Work included shop testing for reducers, field support for trunnion friction mitigation, clutch inspection, and span balance testing, brake support design, and CAD support.

Firm employed by	HDR Engineering, Inc.		
Name	Jason Clary	Years of relevant experience with this employer	2
Title	Structural CADD Technician	Years of relevant experience with other employer(s)	25
Degree(s) / Years / Specialization		NA	
Active registration number / state / expiration date		NA	
Year registered	NA	Discipline	NA
Contract role(s) / brief description of responsibilities		CADD services	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/20-Ongoing	**City of Cedar Rapids - East Side Flood Risk Reduction Reach 2 | Cedar Rapids, IA** – *Structural CADD Technician.* Jason developed structural details for multiple segments of pile supported concrete floodwalls and creating surfaces for civil layout using Power InRoads V8I and Microstation. Jason developed a 3D model with renderings to present to the client. Jason created a new alignment for the floodwall and gates that stretch along the river in downtown Cedar Rapids. He worked with civil closely to create profiles and cross sections along the alignment. Jason created structural plan views, sections, details, and compiled a complete package.
01/20-Ongoing	**USACE St. Paul District - UPRR Flood Gate Design | Cedar Rapids, IA** – *Structural CADD Technician.* Jason worked on the final design of four rail closure gates (ranging from 28 ft – 69 ft openings) including concrete T-walls tie-ins. The steel roller floodgates and T-walls sections were supported by steel H-pile foundations driven to bedrock and include sheet pile seepage cutoff walls. Close coordination was required with Union Pacific and CRANDIC Railroad entities. Project features were designed incorporating USACE HSDRRS Design. Jason created surfaces from survey information for floodwall profiles on existing grade for the design of new flood gate systems using Microstationand InRoads. Jason created a 3D model, with renderings, of the flood wall and gates. Jason created plans, sections, elevations, details, and title sheets for a completed package.
01/21-Ongoing	**Pacificorp – Swift Hydroelectric Project | Skamania County, WA** – *Structural CADD Technician.* The project consists of the Swift Dam Spillway Gates Structural Retrofit. This was an as-built project that was designed using original hand drawn drawings. Jason created an overall plan, demolition plan, end frame sections and details, trunnion sections and details, and a lifting device sections and details. Jason use Autocad 2018 during this design.
04/21-Ongoing	**USACE Santa Clara County - San Francisco Bay Shoreline Gate Closure Structure | Santa Clara County, CA** – *Structural CADD Technician.* The project consists of final design of one rail closure gates (40 ft opening) including concrete T-walls tie-ins. The swing gate floodgates and T-walls sections are supported by steel H-pile foundations with a sheet pile seepage cutoff. Project features were designed incorporating USACE HSDRRS Design Guidelines. Jason created floodwall profiles on existing grade for the design of new flood gate systems using Autocad 2018.

Firm employed by	HDR Engineering, Inc.		
Name	Raphael Costa, PE	Years of relevant experience with this employer	7
Title	Senior Electrical Engineer	Years of relevant experience with other employer(s)	14
Degree(s) / Years / Specialization		MBA / 2009 / Business Administration | MS / 2004 / Electrical Engineering | BS / 2001 / Electrical Engineering	
Active registration number / state / expiration date		PE.0043993 Louisiana, Exp. 3/31/2024	
Year registered	2019	Discipline	Electrical Engineering
Contract role(s) / brief description of responsibilities		Electrical Engineering Lead providing electrical and controls design, specification, cost estimating, inspection and assessment, feasibility analysis, construction inspection, and construction support. **Meets MPR 5**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
06/20-Ongoing	**Virginia Dept. of Transportation (VDOT) – On-call Engineering Services | Statewide, VA** – *Senior Electrical Engineer and QC Reviewer*. Raphael was responsible for the quality control reviews for several tasks including annual bridge inspections and rehabilitation designs. He performed quality reviews of the electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of one swing, two bascule and three lift bridges.
01/20-Ongoing	**Louisiana Dept. of Transportation and Development (LADOTD) – LADOTD Statewide Bridge Inspections | Statewide LA** – *Lead Electrical Engineer Inspector*. Raphael was responsible for performing the detail inspection of the Teche Bayou, Red River, Bayou LaCarpe and Bayou Little Cailou Lift Bridges' electrical systems including power, controls and lighting systems, and providing findings and recommendation report.
10/14-06/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Statewide AL –** *Senior Electrical Engineer.* Raphael was responsible for performing the scoping and assessment reports, preparation of electrical systems rehabilitation design plans, calculations, specifications, and cost estimates, and construction inspection report for the rehabilitation of three swing bridges (3 Mile Creek, Chickasaw, Bayou Sara). Electrical rehabilitation scope for bridges included replacement of the controls systems including introduction of remote-control capabilities, replacement/repair of motor and drive systems, and modifications/ improvements to the power distribution systems. He was also responsible for performing quality reviews of the electrical systems design plans, calculations, specifications, cost estimates for the replacement of the Bayou Sara Swing Bridge.
01/16-05/22	**FDOT Districts 1 and 7 – Asset Maintenance On-Call Services and Inspections | Districtwide, Florida** – *Senior Electrical Engineer and Lead Electrical Inspector.* Raphael was responsible for bridge inspections and emergency repairs for State and Local Government owned movable bridges He inspected and evaluated movable bridges' electrical and drive elements, and provided design and other engineering services for emergency response to the contract's 44 movable bridges**.**
02/16-07/19	**CSX Transportation – Movable Bridge On-call Engineering Services (Bascule Bridges – Florida) | Statewide, FL** – *Lead Electrical Engineer*. Raphael inspected and provided a scoping and assessment report, designed the electrical systems rehabilitations, and performed construction inspection and services for three single leaf bascule bridges (Big Manatee River, Hillsborough River and Buffalo Bluff Bascule Bridges). The electrical rehabilitation scope for the bridges included replacement of the controls systems with introduction of remote-control capabilities, replacement of the motor and drive systems, lightning protection system replacement, introduction of an emergency drive systems, and improvements to the

	power distribution systems including new submarine/flexible cable systems.
02/16-07/19	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Louisiana and Mississippi) | Statewide LA and MS** – *Senior Electrical Engineer.* Raphael was responsible for the quality reviews for the scoping and assessment report, electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of five swing bridges (Chef Menteur, Rigolets, Biloxi Bay, Bay St. Louis and Pearl River Swing Bridges). The electrical rehabilitation scope for the bridges included replacement of the controls systems, replacement of the motor and drive systems, lightning protection system, and modifications/improvements to the power distribution systems including new submarine/flexible cable systems.
10/15-Ongoing	**Florida Dept. of Transportation, District 4 – Movable Bridge On-call Engineering Services | Fort Lauderdale, FL** – *Lead Electrical Engineer.* Raphael is responsible for electrical systems inspections and evaluations, studies, rehabilitation design, and construction support for task work orders (TWOs) supporting 37 bascule bridges.
06/15-Ongoing	**CSX Transportation – Movable Bridge On-call Engineering Services | Nationwide –** *Senior Electrical Engineer.* Raphael is responsible for the quality control reviews for the project. He has performed quality reviews of the scoping and in-depth reports, electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of movable bridges. Electrical rehabilitation scope includes replacement of the controls systems with introduction of remote control capabilities, and electrical power distribution and drive systems improvements to 7 Lift Bridges, 16 Swing Bridges, and 5 Bascule Bridges.
01/19-06/20	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Philadelphia) | Philadelphia, PA** - *Senior Electrical Engineer*. Raphael was responsible for the quality reviews for the Schuylkill Swing Bridge rehabilitation and automation. He performed quality reviews of the scoping and assessment report, electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the swing bridge rehabilitation.
03/06-10/08	**New Jersey Dept. of Transportation - Route 71 & Route 88 Lift Bridges Rehabilitation | Statewide, NJ –** *Electrical Engineer.* The rehabilitation involved the complete replacement of the tractor type barrier gates with new barrier gates and new barrier gate platforms, and control systems improvements as required to provide safe and reliable operating systems. Raphael was responsible for the detailed inspections, design of repairs and improvements, and construction support services for the electrical systems.
12/16-Ongoing	**CSX Transportation – Movable Bridge On-call Engineering Services (Lift Bridges) | Statewide AL, SC and TN –** *Senior Electrical Engineer.* Raphael is responsible for the quality control reviews for the project. He has performed quality reviews of the scoping and assessment report, electrical systems rehabilitation design plans, calculations, specifications, and cost estimates for the rehabilitation of four lift bridges.
02/05-06/11	**New York City Dept. of Transportation –Willis Avenue Swing Bridge Over the Harlem River| New York City, NY** – *Lead Electrical Engineer*. Raphael was responsible for the electrical design of a new off-line replacement of a major 345 ft long swing span bridge, preparation of electrical contract plans, roadway and bridge lighting, calculations, specifications and engineer cost estimates, and construction support services

Firm employed by	**HDR Engineering, Inc.**				
Name	**Peter Davis, PE**		Years of relevant experience with this employer	21	
Title	Movable Bridge Program Leader		Years of relevant experience with other employer(s)	26	
Degree(s) / Years / Specialization			MS / 1974 / Mechanical Engineering | BS / 1972 / Civil Engineering		
Active registration number / state / expiration date			PE 24GE0428500 New Jersey, Exp. 4/30/2024		
Year registered	2001	Discipline	Mechanical Engineering		
Contract role(s) / brief description of responsibilities			QC Reviewer for Mechanical and Constructability.		

Peter has over 47 years of experience in the inspection, assessment, design and maintenance of complex Infrastructure systems. The first 20 years of his career was in emergency service contracting for movable bridges, railroads, and hydraulic structures (lock and dam gates). He currently manages complex infrastructure inspection and design projects for public agencies and freight railroads. Peter is active in ACEC, AREMA Committee 10 and was the past Secretary for Heavy Movable Structures. He has authored multiple technical papers on predictive maintenance and life cycle costs for hydraulic structures and movable bridges and was the co-editor of the AREMA Bridge Inspection Handbook. He is an active instructor for the AREMA Bridge Inspection and Scour four-day training program.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
02/01-Ongoing	**Virginia Dept. of Transportation (VDOT) - Moveable Bridge On-call Contract | Statewide VA** – *Project Senior Mechanical Engineer/Constructability Specialist*. Peter is responsible for the technical leadership and quality assurance for this project. The bridges include vertical lift (counter weight rope replacement, capital plan development, misc steel repairs etc.), swing span, and bascule designs. These responsibilities included responding to emergencies (operational failures), conducting field inspections, preparing rehabilitation scoping reports, permitting package preparation, rehabilitation designs/contract document preparation, maintenance planning and providing contractor oversight during construction. This project has included over 90 task orders.
01/21-01/22	**MTA Metro North RR – Park Avenue Viaduct Master Plan |New York, NY** – *Constructability Evaluation.* Peter was responsible for developing a constructability and phasing plan to replace this 1.5 mile elevated four track railroad structure carrying 748 trains per day through New York City while maintaining rail traffic. He evaluated various design concepts, rigging plans and prefabrication schemes as well as impacts to the local residents. The various options were evaluated using life cycle and delay cost analysis to determine the most cost effective plan and schedule to replace the structure contemplating a design build procurement.
04/18-09/20	**MTA LIRR – Best Value Analysis | New York, NY** – *Best Value Analysis.* Peter was responsible for leading the independent team performing a best value analysis (BVA) on seven different bridge projects (six fixed/one movable). The work involved reviewing the design team 30% document package and developing alternative concepts to provide LIRR "the best possible design which optimizes both cost and performance". Alternatives were evaluated based upon life cycle cost analysis weighted by LIRR project objectives. For BVA's performed, LIRR accepted at least one recommendation for each project.

05/10-09/12	**CSX Transportation – Mobile River Bridge Replacement (Lift Bridges) | Hurricane, AL** – *Technical Lead.* Peter's responsibilities included field investigation, replacement design (new VLB substructure, towers, movable span and fender system) and support during construction including resident engineering. This Truman Hobbs and ARRA funded project required HDR to coordinate cost allocation between the Coast Guard, CSX, and the contractor. The project included replacement of an existing swing span with a new vertical lift span, as well as modification of both approach trusses. The change out of the swing span to the new lift span was required to occur during a 36-hour river and rail outage since the track is a main line.
03/15-08/16	**CSX Transportation, Movable Bridge On-call Engineering Services (Lift Bridges) | New Johnsonville, TN** - *Technical Lead and QC Review.* Peter was technical lead and QC review of operating rope replacement and span drive upgrades for the New Johnsonville vertical lift bridge. He developed an operating rope replacement procedure and trained CSX staff to perform this work.
08/09-Ongoing	**New Jersey Transit – Bridge and Railway Engineering Task Order Contract | Newark, NJ** – *Project Manager for the Past five Three-year Cycles*. Peter led the scope development for task assignments, provided technical guidance for constructability and standardization across their inventory. The work includes fixed, bascule, swing and vertical lift bridges as well as emergency response. Current projects include grade crossing evaluation, undergrade bridge replacements, drainage analysis, and culvert replacement. He performs overall quality assurance and guidance to the various task managers.
03/11-09/20	**Port Authority of New York and New Jersey (PANYNJ) – Cross Harbor Freight Program** – *Program Manager.* This contract included 11 separate design and construction projects and 7 subconsultants. The work performed under this program includes assessment, design and construction support of two rail yards, rehabilitation of one transfer bridge (single leaf bascule). The facility was destroyed by Superstorm Sandy. Peter was tasked with leading both the design and construction teams to return the system to service which included the rehabilitation design of a pontoon bridge. The system was returned to service in 52 days.
07/07-12/13	**NYCDOT - Roosevelt Island Vertical Lift Bridge | New York City, NY** – *Movable Bridge Expert and Chief Mechanical Inspector*. Peter was responsible for shop and field inspection during construction and start-up of this tower drive vertical lift bridge. The project included complete electrical, mechanical, and structural rehabilitation. In addition, he served as the owner expert regarding technical issues during construction and start-up.
03/14-Ongoing	**Vermont Agency of Transportation (VTrans) - North Hero Grande Isle Bridge | North Hero, VT –** *Project Manager.* Peter managed the scope development, replacement design, construction support and development of an electronic bridge management system. The first phase of the project included inspection of the existing facility, preparation of the bridge scoping report which included 4(f) and Section 106 investigations, public outreach and development of options to meet the purpose and need statement. Peter is leading the design team in cooperation with the CM contractor. A new twin leaf trunnion bascule bridge with an adjusted profile has been selected. The bridge management system is based upon the ARCGIS platform which maintains a database of bridge system components, their condition, maintenance needs and product information. This innovative concept allowed VTrans to receive additional FHWA funding.

Firm employed by	**HDR Engineering, Inc.**		
Name	**Sarah De Moya, PE**	Years of relevant experience with this employer	9
Title	Senior Bridge Engineer	Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization		BS / 2006 / Civil Engineering | MS / 2007 / Structural Engineering	
Active registration number / state / expiration date		PE.38011 Louisiana, Exp. 3/31/2023 PE 108548 / Texas / Exp. 3/31/2023	
Year registered	2011	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		Senior Structural Engineer Support. **Meets MPR 8.**	

Sarah's experience includes structural design and analysis of bridges. She has experience in each stage of bridge design including preliminary planning, structural design, and construction phase services. Sarah has served as a bridge engineer for numerous public clients including FDOT, NYSTA, ADOT, TxDOT, USACE, Houston METRO, HCTRA, BCTRA, FBCTRA, and various cities and counties in Texas.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
08/15-05/22	**Harris County Toll Road Authority – Sam Houston Tollway East – Ship Channel Bridge Replacement | Harris County, TX** – *Bridge Lead Engineer/Deputy Project Manager.* HDR designed the South Main Bridge Approach structures for new twin bridges to replace the existing Houston Ship Channel Bridge, which carries Sam Houston Tollway-East over the Houston Ship Channel. Each approach bridge is over a mile long with a combined deck area of nearly 800,000 square feet. The approach structures interface with the main span bridge to the North and the SH 225 interchange to the South and incorporate corridor wide aesthetic treatments. The new bridges also provide an interface to allow for future direct connectors at the SH 225 interchange. The South Main Bridge Approach structures required the design of 42 prestressed concrete girder spans per bridge and a wide variety of substructure and foundation elements. Span lengths range from 60 ft to 150 ft with 98,500 linear feet of Tx70 girders. Column heights range from 5 ft to 135 ft. Foundations range from 8 ft and 10 ft diameter monoshafts to multi-shaft footings perched above finished ground to reduce excavation and temporary shoring requirements. Sarah led the bridge layout & structural design, which was influenced by difficult site constraints including 9 Railroad tracks, access roads, existing bridge foundations, poor soil, highly skewed box culverts, operating petcoke facility & roughly 90 utilities. Despite the large number of obstacles, the new bridge was designed such that only overhead power lines required relocation. Sarah designed bridge substructure and foundation elements. Sarah checked superstructure designs and developed go-by details utilized by the bridge design teams. Construction is on-going and Sarah continues to provide construction phase services including responding to RFI's and non-conforming construction issues.
8/20-12/21	**TxDOT Beamount District – Cardinal Interchange | Beaumount, TX –** *Senior Bridge Engineer.* Reconstruction and widening of IH-10 including a 3-level interchange IH-10/US-69. Sarah designed the bridge geometry and bent locations for Direct Connector Bridge US-69 N to IH-10 W. She designed or checked the design of various structural elements for IH-10 ML WB and EB over Washington Ave Bridge. Design included monoshaft foundations, skewed inverted tee multi-column phased bents, Tx54 prestressed concrete girders, gore areas and phased construction. Sarah utilized AASHTO LRFD Bridge Design Specifications and TxDOT design criteria.
6/14-8/15	**METRO Houston Transit Authority – Harrisburg Blvd. UPRR Overpass, Harris County, TX –** *Bridge Engineer.* Structural design for 9-span bridge consisting of 2 light rail tracks, 2 highway lanes and 2 sidewalks over Union Pacific Rail Road tracks. Sarah supervised and reviewed bridge design including prestressed concrete Tx54 I-girders, deck design, substructure design, special railing details, track plinth design, rail structure interaction model, approach slab design, cased drilled shafts due to contaminated

	soil, OCS pedestal details and OCS/light pole anchorage design. Utilized Houston METRO design criteria as well as TxDOT and AASHTO Standard Specifications.
1/13-4/14	**New York State Thruway Authority – Governor Mario M. Cuomo Bridge, Westchester-Rockland County, NY –** *Bridge Engineer***.** The Governor Mario M. Cuomo Bridge replaced the existing Tappan Zee Bridge crossing. The new twin bridges are more than three miles long and cross the Hudson River at one of the widest points to connect Rockland and Westchester Counties. Key features of the new bridge include twin iconic cable-stayed main spans with 1,200-foot center spans. Each bridge carries four general traffic lanes plus shoulders and extra wide emergency lanes. The northern bridge has a shared-use path (dedicated bicycle and pedestrian) with scenic overlooks. The bridge is designed for a 100-year service life and is mass-transit ready for bus rapid transit and can accommodate future commuter or light rail on a separate structure between the two highway bridges. Detailed design included deep foundations, cable-stayed main span and steel girder/sub-stringer approach span structures and pre-cast substructure and superstructure components. Sarah designed Units 6 and 9 EB and WB substructure and foundations including precast bent caps, reinforced concrete columns, and deep foundations. Designs accounted for ice loading, seismic loading and potential future loading from future light rail. Design also incorporated a corrosion resistant design for the harsh environmental conditions.
1/12-11/12	**CTRMA – US290 Manor Expressway, Manor, TX –** *Structural Engineer.* HDR designed 6.2 miles for six lane grade-separated tollway reconstruction with 3 general purpose lanes in each direction. Design included roadway, 32 bridges, retaining walls, drainage, sign structures/toll gantries, and a 10ft shared path based on AASHTO LRFD, TxDOT, FHWA, and ADA design criteria. Sarah designed and analyzed truss structures for overhead sign bridges, cantilever sign structures, DMS structures and toll gantries utilizing RISA and AASHTO LTS criteria. Sarah performed shop drawing review and approval of sign structure/DMS/toll gantry trusses, sealed expansion joint assemblies, drainage structures, pedestrian railing and prestressed concrete beams.
01/10-10/11	**City of Sugar Land – University Boulevard South Extension, Bridges over Ditch H | Sugar Land, TX** – B*ridge Engineer*. Sarah performed structural calculations and detailed structural elements of these twin curved bridges. Sarah designed Type IV prestressed concrete I-beams, raised sidewalk, containment rails, deck drains, heavily skewed multi-column bents and abutments with deep foundations, founded wingwalls, and bridge mounted utilities. She also reviewed shop drawings and responded to RFI's during the construction phase.
06/11-10/11	**City of Sugar Land – Sweetwater, Harman and Dulles Avenue Bridge Condition Assessments & Rehabilitation | Sugar Land, TX**– *Bridge Engineer.* Sarah performed a condition assessment of the existing bridges at Sweetwater Blvd over Steep Bank Creek, Harman Street over Oyster Creek and Dulles Avenue over Oyster Creek. She then developed rehabilitation plans and specifications to repair the bridge deficiencies.
01/10-10/11	**Fort Bend County Toll Road Authority, Grand Parkway Segment D5, NBML & SBML Bridges over Harlem Road | Fort Bend County, TX -** *Bridge Engineer.* Sarah performed structural calculations and detailed structural elements. Sarah designed bridge layouts, Type Tx54 prestressed concrete I-girders, curved steel plate girders, heavily skewed bents on a curved alignment w/ superelevation, abutments designed for ultimate condition & used client provided aesthetic guidelines and CADD standards.

Firm employed by	HDR Engineering, Inc.		
Name	Mark Everett, ENV SP	Years of relevant experience with this employer	< 1
Title	Environmental Project Manager	Years of relevant experience with other employer(s)	22
Degree(s) / Years / Specialization		MS / 1996 / Soil Science | BS / 1993 / Biological Science	
Active registration number / state / expiration date		Envision Sustainability Professional (ENV SP), No state, US, No. 29662, Exp. 10/09/2022, LEED Accredited Professional (LEED AP), No state, no expiration	
Year registered	NA	Discipline	NA
Contract role(s) / brief description of responsibilities		Environmental/Permit Support.	

Mark serves as an Environmental Project Manager at HDR, with over 20 years of experience in the environmental and planning fields. His experience includes a large variety of projects within the public and private sectors, with an emphasis in regulatory permitting and NEPA. Previously Mark served as a project manager and team leader with the US Army Corps of Engineers Regulatory Branch, where he performed reviews of permit requests under the Corps' jurisdiction. Mark has served as PM, Environmental Task Leader, or Environmental Planner/Scientist on projects involving NEPA documentation, regulatory permitting and compliance at federal, state, and local levels, wetland/WOUS assessments (Section 10/404 delineation, permitting, mitigation, water quality certification), stormwater permitting (SWP3/ erosion/sediment control), USCG bridge permitting, and Phase I Environmental Site Assessments.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
10/21-Ongoing	**Harris County Toll Road Authority – Beltway 8 Houston Ship Channel Bridge | Harris County, TX -** *Environmental Task Lead.* The project includes the design and construction of the new Sam Houston Tollway bridges over the Houston Ship Channel. Mark's responsibilities include updates to the USCG bridge permit, review/updates to wetland permits and TCEQ Water Quality Certification, assisting with other permit updates and time extensions, and environmental documentation updates.
08/14-12/16	**NETRMA - Toll 49 Segment 4 (Lindale Relief Route) PS&E | Lindale, TX -** *Environmental Scientist*. Mark provided PS&E-phase environmental services and USACE permitting (including TCEQ Water Quality Certification) for Phase I of Segment 4 for the Loop 49 tollway around Lindale, Texas. The project involved a two-lane tolled facility within Segment 4 that can be expanded into an ultimate four-lane tolled facility.
12/21-Ongoing	**Port of Houston Authority – Deepening and Maintenance Dredging of Wharves, Houston Ship Channel | Houston, TX -** *Environmental Task Lead*. Mark is providing task management and technical review for an amendment and extension of time request for the Port of Houston's USACE Individual Section 10 and 404 permit for dredging of their wharves. The project involves coordination with TCEQ for Water Quality Certification as well as Texas GLO Coastal Consistency updates, T&E species updates, and cultural resources review.
08/18-04/21	**Texas Department of Transportation (TxDOT) Bryan - SH 6 Central BCS Expansion Project | Bryan, TX -** *Environmental Task Lead*. Mark was responsible for environmental task management, quality control, Waters of the U.S. Delineation Report, 404/10 Impacts Table, and hazardous materials ISA for this project which consisted of schematic design and NEPA clearance (CatEx) for SH 6 from SH 21 to SH 40, a distance of 12.5 miles. The delineation report and impacts table were written to support the PS&E phase Waters of the U.S. permitting with USACE.

Firm employed by	**HDR Engineering, Inc.**		
Name	**Isaac Frederick, PE**	Years of experience with this firm/employer	<1
Title	Moveable Bridge Engineer	Years of experience with other firm(s)/employer(s)	5
Degree(s) / Years / Specialization		BS / Mechanical Engineering / 2015	
Active registration number / state / expiration date		PE.0044322; Louisiana, Exp. 09/30/2022	
Year registered	2020	Discipline	Mechanical Engineering
Contract role(s) / brief description of responsibilities		Mechanical Inspector	
ATSSA Traffic Control Technician			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc.
11/18-5/20	**Greater New Orleans Expressway Commission (GNOEC) - Lake Pontchartrain Causeway Safety Bay Improvements CE&I	Metairie, LA –** *Mechanical Engineer Intern.* Isaac conducted construction engineering and inspection services required during the safety bay improvement project for the fabrication of pre-stressed piles and girders, caps and decks as well as other construction activities including field monitoring, documentation, preparation of daily reports, participation in construction progress meetings, and construction close-out.
03/19-3/22	**Port of New Orleans - Almonaster Rehabilitation	New Orleans, LA –** *Engineer.* Isaac assisted with the mechanical design for the full rehabilitation of Almonaster Strauss Bascule Bridge. Scope of work included inspection and rehabilitation of structural, mechanical, and electrical bridge components, roadway approaches and development of maintenance and repair plans. Designs were in accordance to AASHTO, AREMA, and DOTD guidelines and specifications.
03/18-3/22	**Mississippi Dept. of Transportation (DOT) - SR-609 Movable Bascule Bridge Rehabilitation	Ocean Springs, MS --** *Engineer.* Isaac assisted with the mechanical design 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 included inspection and rehabilitation of structural, mechanical, and electrical bridge components, roadway approaches and development of maintenance and repair plans. Designs were in accordance to AASHTO, FHWA and MDOT guidelines and specifications.
03/19-3/22	**Mississippi DOT - SR-605 Movable Bascule Bridge over Industrial Waterway	Harrison, County, MS -- *Engineer*.** Isaac assisted with the mechanical design for full rehabilitation of SR-605 bascule bridge as a task-order to the IDIQ Master Bridge Contract which includes engineering assessment, mechanical, electrical, and structural design and traffic control plans. Designs were completed in accordance with AASHTO, FHWA and MDOT guidelines and specifications.
05/18-12/18	**Mississippi DOT - I-110 Bridge, 2018 Biennial Inspection, IDIQ Master Bridge Design |Harrison, MS -** *Mechanical Engineering Intern.* Isaac conducted routine/fracture critical inspection; electrical, mechanical and structural inspection of the bascule and anchor spans components; and NBIS and element inspection of the bridge.
08/18-08/18	**Florida Dept. of Transportation (FDOT) - Main Street Bridge (US-1) over the St. Johns River	Jacksonville, FL –** *Mechanical Inspector/Engineering Intern.* Isaac contributed to the mechanical inspection and inspection report on the vertical lift bridge mechanical systems. He recorded measurements of pinion backlash, bearing clearance, and gear tooth.

08/18–12/18	**Florida DOT - Jupiter Federal Bridge Replacement | Jupiter, FL –** *Mechanical Engineering Intern.* Isaac assisted with the preliminary mechanical design of this bascule bridge replacement project. The project addresses the structural and functional deficiencies of the existing US-1 / SR-5 Jupiter Federal Bridge from CR-A1A (Ocean Boulevard) to Beach Road.
05/18–09/18	**North Carolina DOT - US-17 Swing Bridge over the Perquimans River Design-Build | Perquimans County, NC -** *Mechanical Engineering Intern.* Isaac was responsible for providing design and plan preparation services to replace the existing swing bridge with a new off-line bridge as well as technical special provisions for the control house. The project 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 will improve geometrics, increase load carrying capacity and vertical clearance, and include the conveniences of a modern operational system.
4/18–10/19	**Florida DOT - Districtwide Local Government Bridge Inspections Contract | Districtwide FL –** *Mechanical Inspector / Engineering Intern.* Isaac was responsible for inspection and report preparation for local government-owned movable bridges in FDOT District 6. Work included review of existing documents, field inspections of mechanical components and preparation of inspection reports.
06/18–07/18	**Florida DOT - Districtwide State In-Depth Movable Bridge Inspection Contract | Districtwide FL –** *Mechanical Inspector / Engineering Intern.* Isaac was responsible for the inspection of machinery and detailed inspection report for movable bridges in FDOT District 2. Work included review of existing documents, field inspections of mechanical components and preparation of inspection reports.
07/18–09/18	**Broward County - Andrews Avenue Bascule Bridge over the New River | Fort Lauderdale, FL –** *Mechanical Engineering Intern.* Isaac was responsible for performing shop drawing review during the post-design phase to validate that parts and assemblies were adequate and abided with AASHTO standards. Scope of work included electrical and machinery rehabilitation of a single-leaf bascule span. HVAC and plumbing rehabilitation consisted of sizing new HVAC system and new interior water and sewage system. The renovated, four-level tender house required three levels to be cooled and heated by a split-type AC system. Machinery rehabilitation includes new span drive hydraulic cylinders and HPUs.
03/19–10/19	**Port of New Orleans - Seabrook Railroad Bridge Annual / In-Depth Bridge Inspection |New Orleans, LA –** *Mechanical Engineering Intern.* Isaac conducted the annual inspection of the Seabrook Trunnion Bascule Bridge crossing the IHNC. This inspection included a structural inspection of the fracture critical steel, primary and secondary steel members, an electrical inspection of the electrical systems and controls, and an inspection of the mechanical systems and machinery.

Firm employed by	HDR Engineering, Inc.		
Name	Brett Geesey, PE	Years of relevant experience with this employer	15
Title	Associate Vice President	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		BS / 2005 / Mechanical Engineering ME / 2006 / Ocean Engineering	
Active registration number / state / expiration date		PE.0035172 Louisiana, Exp. 3/31/2024	
Year registered	2009	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		Brett will serve as Project Principal. **Meets MPR's 1 & 2**	

Brett manages a team of engineers and scientists and has experience in project management and design of various engineering projects. He has experience in the analysis of complex coastal processes, applied design, and preparation of detailed plans and specifications. His project experience includes dredging, marsh restoration, shoreline protection, numerical wave and circulation modeling, and the evaluation of coastal processes and their interaction with structures.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
2018 – Ongoing	**Lafayette Consolidated Government – Drainage Initiative Environmental Surveys | Lafayette Parish, LA** – *Project Principal*. Brett works with the project manager to provide the resources needed to deliver the project and oversees the management of the overall contract. HDR has been providing LCG with wetland delineation services to assist them with their overall drainage initiative program.
2021 - Ongoing	**Canadian National Railway – Baton Rouge Bridge Replacement Permitting Services | St Charles Parish, LA** – *Project Principal.* Brett works with the project manager to provide the resources needed to deliver the project and oversees the management of the overall contract. HDR is providing permitting services for the replacement of CN's rail bridge near Norco, LA.
2019 - Ongoing	**Tangipahoa Parish Government – Lake Pontchartrain Shoreline Protection | Tangipahoa Parish, LA** – *Project Principal.* Brett works closely with the project manager to provide the resources the project needs. HDR is performing the design of a shoreline protection system along the Lake Pontchartrain shoreline between Pass Manchac and Tangipahoa River and between Tangipahoa River and the Tangipahoa Parish boundary. Challenges included in-field adjustments due to numerous cypress tree stumps and debris and a rapidly eroding shoreline.
2015 - 2020	**Coastal Protection and Restoration Authority – Black Bayou Hydrologic Restoration | Cameron and Calcasieu Parishes, LA** – *Project Manager.* Brett managed and led design and construction administration for the maintenance of the hydrologic restoration project located in Cameron and Calcasieu Parishes. The project includes multiple features aimed at reducing the saltwater intrusion into the 25,000 acre project area. The Burton Sutton weir was chosen to be relocated due to the proximity to existing pipelines. Relocation of the Burton Sutton weir included the removal of the existing weir and design of a new graded riprap weir structure with plunge pools and scour protection to reduce the potential for future scour issues. Hydraulic models were developed and utilized to assess the efficiency of several alternative configurations.

Firm employed by	HDR Engineering, Inc.		
Name	Jose Gonzalez, PE	Years of relevant experience with this employer	14
Title	Senior Electrical Engineer	Years of relevant experience with other employer(s)	14
Degree(s) / Years / Specialization		BS / 1992 / Electrical Engineering	
Active registration number / state / expiration date		PE 58896 Florida, Exp. 2/28/2023 | PE Puerto Rico 12702, Exp. 12/19/2022	
Year registered	2002-FL / 1993-PR	Discipline	Electrical Engineering
Contract role(s) / brief description of responsibilities		Electrical Engineering Support.	

Jose is responsible for preparing power distribution designs, one line diagrams and performing Quality Control (QC) reviews of electrical plans and specifications of several movable bridges including swing and bascule bridges. Reviews included the power service, electrical distribution from main service disconnect, panelboards, drive panels with variable frequency drives and loads. The reviews included the control wiring diagrams and control panels, consoles, and mounting details.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
08/18-08/18	**Florida Dept. of Transportation (FDOT) Movable Bridge On-call Engineering Services (Bascule Bridges Assessments) District 4 | Ft Lauderdale, FL –** *Professional Electrical Engineer.* HDR was contracted to prepare a Guidance for Submarine Duct Systems along with the required Technical Special Provisions (TSP) specifications. Jose was responsible for the quality control review of the Guidance for Submarine Duct Systems and the TSP specifications.
03/17-03/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Bascule Bridges - Florida) | Putnam County, FL** – *Professional Engineer.* Jose was responsible for the quality control review of the electrical plans and specifications of the Buffalo Bluff Crossing St. Johns River project. Reviews included the power service, electrical distribution main service disconnect, panelboards, drive panels with variable frequency drives, terminal enclosures, submarine cable or duct system and Control House power and lighting systems. The reviews included the control wiring diagrams and control panels, consoles, and electrical equipment mounting details.
03/17-04/17	**Florida Dept. of Transportation – NE 79th Street Causeway Bascule Bridges Rehabilitation | Miami, FL** – *Professional Engineer.* Jose was responsible for the quality control review of the electrical plans and specifications. Reviews included the power service, electrical distribution main service disconnect, panelboards, drive panels with variable frequency drives, terminal enclosures, submarine cable or duct system and Control House power and lighting systems. The reviews included the control wiring diagrams and control panels, consoles, and electrical equipment mounting details.
07/18-08/18	**Pinellas County – Park Blvd Bascule Bridge Rehabilitation| Indian Shores, FL** – *Professional Engineer.* Jose was responsible for the quality control review of the electrical plans and specifications. Reviews included the power service, electrical distribution main service disconnect, panelboards, drive panels with variable frequency drives, terminal enclosures, submarine cable or duct system and Control House power and lighting systems. The reviews included the control wiring diagrams and control panels, consoles, and electrical equipment mounting details.
03/17-04/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Statewide, AL** – *Professional Electrical Engineer.* Jose was responsible for designing the one line power diagram to replace an existing single phase drive panel and motors with new three phase drive panel and motors which were powered by a single phase utility

	power service. Design included utilizing Variable Frequency Drives to run large three phase motors and a Rotary Phase Converter to run large and small three phase motors from a single phase power service for the Chickasaw Swing Bridge.
11/12-10/15	**Dare County - Bonner Bridge Replacement Design-Build | Dare County, NC** – *Senior Electrical Engineer.* Jose was responsible for the design of the Solar Powered Navigational Lighting System and interior LED box girder maintenance lighting system, including a report for the selection of LED lighting, solar arrays and battery system to power the box girder maintenance lighting system and navigational lighting
08/10-10/17	**FDOT District 4 - SR A1A (Flagler Memorial Bascule Bridge) from Olive Ave. to Cocoanut Row | Palm Beach County, FL** – S*enior Electrical Engineer.* Jose was responsible for design of the roadway lighting system for the design build project to replace the Flagler Memorial Movable Bridge SR 1A1.

Firm employed by	HDR Engineering, Inc.		
Name	Greg Harrell, PE	Years of relevant experience with this employer	3
Title	Senior Movable Bridge Engineer	Years of relevant experience with other employer(s)	19
Degree(s) / Years / Specialization		BS / 1999 / Civil Engineering | ME / 2001 / Structural Engineering	
Active registration number / state / expiration date		PE.0044014 Louisiana, Exp. 3/31/2024	
Year registered	2019	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		Structural Engineering. **Meets MPR 6**	
Training: FHWA-NHI Course No. 130078, Fracture Critical Inspection Techniques for Steel Bridges			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
02/22-Ongoing	**CSX Transportation – Ashley River Bridge Rehabilitation | Charleston , SC** – *Structural Design Lead*. Greg inspected this double-track, single-leaf rolling lift bridge. He is developing rehabilitation recommendations to accommodate track modifications and to extend the life of the span in conjunction with replacement of the approach spans.
12/21-Ongoing	**Florida Dept. of Transportation, District 4 – Sunrise Blvd. Rehabilitation | Ft. Lauderdale, FL –** *Structural Design Lead*. Greg is designing a rehabilitation plan for a pair of double-leaf highway bascule bridges. The scope includes structural steel repairs and painting, span lock replacement and access improvements, drive machinery access improvements, deck replacement, span balance, scour countermeasure installation, and fender system replacement.
06/19-Ongoing	**New York City Transit – North Channel Bridge Fender Replacement | Jamaica Bay, NY –** *Structural Design Lead*. Greg designed a replacement fender system. The existing swing span is no longer operable. The new fender system is configured for a non-movable span. In addition, he led the permitting coordination and is supporting the owner during construction.
12/19-Ongoing	**CSX Transportation – Movable Bridge On-Call Engineering Services (Swing Bridges – Alabama) | Statewide AL** – *Structural Design Lead*. Greg is designing and coordinating structural modifications to accommodate machinery and electrical improvements for the Chickasaw Swing Bridge. He is designing FRA-compliant walkway and platform retrofits for safe access to the mechanical and electrical components. He also supported the permitting effort for submarine cable replacement.
12/19-Ongoing	**CSX Transportation – Movable Bridge On-Call Engineering Services (Swing Bridges – Florida) | Statewide FL** – *Structural Design Lead.* Greg developed the scope and designed structural components for mechanical/electrical rehabilitation and safe access for three deck girder swing bridges. At the St. Lucie Canal bridge, he designed a repair for the pivot girder. The bottom flange was broken, allowing the floorbeam to flex and the span to twist during operation, resulting in disengagement at the rack and pinion interface. He also supported the permitting for submarine cable replacement. (Alafia River, Little Manatee River, and St. Lucie Canal swing bridges).
06/19-07/21	**CSX Transportation – Movable Bridge On-Call Engineering Services (Swing Bridges-Philadelphia) | Philadelphia, PA** – *Structural Design Lead*. Greg designed and coordinated structural modifications for machinery and electrical improvements for the Schuylkill River Swing Bridge. He also designed a temporary support scheme for end and center wedge rehabilitation, designed structural repairs at the end wedge supports, and designed FRA-compliant walkway and platform retrofits for safe access to mechanical and electrical components. He also supported the contractor during construction with shop drawing reviews, RFI's, and field changes.

10/20-07/21	**Canadian National Railway – Black Rock Swing Bridge Assessment and Rehabilitation	Buffalo, NY** – *Structural Design Lead*. Greg load rated the main trusses, gusset plates, floor system, and turntable, and he evaluated the remaining fatigue life of fatigue-sensitive members. Greg also developed strategies for rehabilitation and strengthening based on the results of the load rating and fatigue life evaluation.
12/19-01/21	**Virginia Dept. of Transportation – Route 156 over James River, Benjamin Harrison Lift Bridge	Hopewell, VA** – *Senior Structural Engineer.* Greg inspected the lift span towers after divers observed active cracks in the foundations. He worked with the Department to install a temporary monitoring system, developed a long-term monitoring plan, and designed a range of repair options. In addition, Greg designed supports for aerial cables spanning between the lift span towers and rehabilitation details for span guides and deck joints.
06/19-01/21	**CSX Transportation – Movable Bridge On-Call Engineering Services (Swing Bridges – Mississippi)	Statewide MS** – *Structural Design Lead*. Greg designed FRA-compliant walkway and platform retrofits for safe access. He also provided engineering support and coordinated the installation of structural modifications for mechanical/electrical improvements and throughout the bridges. (Bay St. Louis and Biloxi Bay Bridges)
06/19 - Ongoing	**Florida Dept. of Transportation District 4 (FDOT-D4) – Movable Bridge On-Call Engineering	Districtwide, Southeast FL** – *Senior Structural Engineer.* Greg is designing and coordinating bascule span structural features with mechanical and electrical work for rehabilitation, repair, and balance projects.
06/19-03/20	**Seattle Dept. of Transportation – Ballard Bridge Planning Study |Seattle,** WA – *Movable Span Design Lead*. Greg designed multiple concepts for rehabilitation and replacement of an existing historic double-leaf bascule bridge to accommodate various configurations of additional lanes and a multi-use path on multiple profiles and alignments. For each concept, he considered impacts to structural, mechanical, electrical, and architectural features of the bridge, as well as construction staging and impacts to roadway users and navigation.
09/14-05/18	**Connecticut Dept. of Transportation – Walk Bridge Replacement Project	Norwalk, CT** – *Structural Design Lead and Interdisciplinary Coordinator*. Greg designed five bridge replacement concepts for comparative evaluation. He also evaluated the existing swing span for major rehabilitation to extend its life, as well as for partial demolition during removal and replacement. Upon completion of the conceptual design study, Greg designed the approach span trusses, main span trusses, floor system, and towers for a pair of replacement lift spans.
09/12-06/13	**Broward County – SW 4th/7th Avenue Bridge	Ft. Lauderdale, FL** – *Movable Span Design Lead.* Greg designed and implemented a project- specific balance plan to support the County's plan to install concrete wheel paths on the existing open-grid deck. The plan included assessing the current span balance, preparing concrete material and balance specifications, and monitoring/adjusting the balance during construction.
09/08-06/14	**King County – South Park Bridge Replacement	Seattle, WA** – *Movable Span Design Lead.* Greg designed the main girders, floor system, and trunnion support/machinery towers inside the bascule piers. He designed the innovative main girders to satisfy historic and maintainability commitments. He also designed the alignment, locking, support and joint features of the bascule span for seismic resiliency.
12/07-12/08	**Connecticut Dept. of Transportation – Walk Bridge Rehabilitation Project	Norwalk, CT** – *Structural Design Engineer.* Greg inspected and load rated the existing swing span. He designed rehabilitation and strengthening strategies to address deterioration and fatigue deficiencies in the main trusses and floor system.

Firm employed by	HDR Engineering, Inc.		
Name	Peter Harrison, PE	Years of relevant experience with this employer	8
Title	Bridge Inspection Section Lead	Years of relevant experience with other employer(s)	20

Degree(s) / Years / Specialization			BS / 1998 / Civil Engineering
Active registration number / state / expiration date			PE.0039771 Louisiana, Exp. 9-30-2023
Year registered	2015	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities			Structural (Inspection).

Peter has over 28 years of experience in program management, bridge inspection and construction engineering. He has experience in various levels of project development with an extensive background in bridge design, inspection, and construction. He has completed courses in NHI "Safety Inspection of In-Service Bridges", "Fracture Critical Inspection Techniques for Steel Bridges" and "National Tunnel Inspection Standards". He has served as bridge inspection team leader on assignments in Iowa, Nebraska, Texas, California, Kansas and Missouri. For inspections recently completed he has used access techniques that include unmanned aircraft systems, industrial rope access, underbridge inspection cranes, manlifts, and confined-space entry. **Training:** SPRAT Level 1 Rope Access Technician.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
3/16-3/22	**Texas Dept. of Transportation (TxDOT) – Fracture Critical Bridge and Tunnel Inspection | Statewide TX** – *Project Manager.* Peter managed and coordinated each of the FHWA fracture critical and tunnel inspection work authorizations. He was the onsite team leader for approximately 30 percent of the bridges and 100 percent of the tunnels. The project averaged 20 bridge per month over the 6-year time frame. Structures varied from major trusses (Rainbow Bridge), cable stayed bridges (Margaret Hunt Hill) movable structures (Rio Hondo Lift Bridge), and tunnels (Klyde Warren Tunnel).
06/15-Ongoing	**TxDOT – Routine Bridge Inspection | Statewide TX** – *Project Manager*. Peter managed and coordinated each of the FHWA routine bridge inspection work authorizations. He is the onsite team leader for approximately 20 percent of the bridges. The project averages 100 bridges a month over the 7 years. The work includes review of existing load rating and if necessary, development of a new load rating. On average two bridges a month would need to be load rated.
06/03-05/04	**Canadian Pacific Railroad – Bridge 282.21 | La Crosse, WI** – *Onsite Construction Engineer*. Peter performed inspection for the steel erection and machinery installation for the 150' rolling bascule. He developed balance calculations for the bascule span. He was the construction inspector during the change out of the swing span to the new bascule span.
12/19-12/19	**TxDOT Bridge Division - Movable Bridges Asset Management | Rio Hondo, TX** – *Inspection Lead*. Peter served as an inspection lead for the execution of the damage assessment of the Rio Hondo Lift Bridge after vehicle impact to the counterweight tower leg. He developed the report which summarized the damage and proposed temporary and permanent repairs.
01/22 – 03/22	**TxDOT RBI WA#6 – Complex Steel Bridge Load Rating | Houston TX** – *Project Manager.* Peter was responsible for the load rating of six interchange bridge in the Houston metro area. These curved and flared steel structures were designed per Allow Stress Design. TxDOT asked HDR to perform a load rating analysis using Load Factor Design. Due to the geometry of these structures, load rating software, MDX, was used. Peter performed load ratings and managed a team of up to 6 engineers performing 800 hours of load rating work in under 3 months.
06/21 – 08/21	**TxDOT - FCI WA#11 – Load Rating of Historic Trusses| San Antonio, TX** – *Project Manager.* Peter was responsible for the

	fracture critical inspection, NDT Pin Inspection, and subsequent load rating of three historic trusses in the San Antonio Riverwalk area. The three lenticular trusses were constructed in the early 1900s. The revised load ratings were required to take into consideration additional section loss in the controlling members.
10/19 – 10/2019	**TxDOT Bridge Division, JFK Causeway over Gulf Coast Intracoastal Waterway - Corpus Christi, TX** – *Bridge Inspection Team Leader*. Peter led the condition assessment of the prestressed concrete approach spans while our sub-consultant performed the investigation of the post-tensioned box girder spans. Three separate teams worked on this bridge over a three-week period, utilizing a combination of UBIVs, man-lifts, UAVs and boats.

Firm employed by	**HDR Engineering, Inc.**			
Name	**Wesley Jacobs, PE**		Years of relevant experience with this employer	7
Title	Hydraulic Structures Program Lead		Years of relevant experience with other employer(s)	17
Degree(s) / Years / Specialization			BS / 1998 / Civil Engineering	
Active registration number / state / expiration date			PE.30774 Louisiana, Exp. 9/30/2022	
Year registered	2003	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Project Manager and Structural Support for bridge rehabilitation and design services. **Meets MPR 8**	

Wesley has over 24 years of demonstrated expertise in several aspects of civil and structural design/ inspection, including bridges (high-level river crossings, movable bridges, overpasses, rail bridges with common elements such as complex geometry, PPC girder, steel plate girder, curved steel plate girders, pier design/protection, cofferdams, column and pile bent design), sign structures, urban/rural roadway/drainage design, levees, retaining walls, floodwalls, sector gates, miter gates, and closure gates (hwy/rail). Through this experience, he has gained a solid foundation of expertise pertaining to civil and structural design due to the complexity of the projects completed including CMAR/ECI and D/B (estimated construction cost totaling more than $10 billion). His responsibilities have included independent technical review, plan production, structural design, seismic review, forensic analysis, civil design, geometrics, drainage design, structural inspection, specification development, cost estimation and project management.
Training: Maintenance and Rehabilitation of Historic Bridges - completed on 4/12/2016

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
11/19-Ongoing	**Louisiana Dept. of Transportation and Development (LADOTD) - LADOTD Statewide Bridge Inspections | Statewide LA** – *HDR Project Manager and Engineering Lead (Sub-consultant).* Wes is leading the main span inspections (field work and report preparation) of the Jackson Street Lift Bridge spanning the Red River and the lift bridge spanning Teche Bayou. The team performed structural, mechanical and electrical inspections of the towers, main span truss, substructure, and machinery using rope access and manlift methods for in-depth inspection techniques.
06/08-12/09	**TxDOT Waco – US 84 at Mexia – Union Pacific RR Overpass | Waco, TX** – *Engineer of Record*. Wes was responsible for the design of the replacement of this railroad overpass. The bridge was comprised of prestressed concrete girders and concrete column bents supported by drilled shafts. The bridge geometry was set to accompany the required horizontal and vertical clearances for Union Pacific Railroad. The overall bridge length was 715 feet and 81 feet wide to accommodate four lanes of traffic using split-phased construction. He designed the PPC Girders, concrete column bents and drilled shaft foundations.
05/11-06/14	**USACE New Orleans District - LPV 145 – Bayou Bienvenue Movable Swing Span Bridge - Steel Swing Span (H-04-47839) | New Orleans, LA** – *Project Manager and Engineering Lead*. Wes was responsible for the development of the preliminary design, final design, plans, specifications and engineering construction services for a 135 ft unequal arm steel swing span structure. The swing span is supported by a reinforced concrete pivot pier (designed with timber fender protection) with prestressed concrete pile foundations. The approach spans were comprised of concrete slab spans that tied into an existing limestone access road. The bridge was designed using LaDOTD Bridge Design Manual and AASHTO-LRFD specifications.
01/11-01/12	**Valero Port Arthur Refinery - Taylor Bayou (Joint Outfall Canal) Movable Bridge - Steel Swing Span | Port Arthur, TX** – *Project Manager and Lead Bridge Engineer*. Wes was responsible for the development of the preliminary designs, plans of an unequal arm steel swing span bridge (129 ft) supported by a pivot pier on steel pipe pile foundations with PPC girder approach spans. Due to close similarities to recent projects in Louisiana, the project is being designed using LADOTD design criteria and specifications.

01/10-08/11	**LADOTD - Chef Menteur Bridge Replacement EA, S.P. No. 700-36-0125 | Orleans Parish, LA** – *Structural Lead*. Wes was responsible for the development of high level (75 ft vertical clearance) fixed bridge alternatives for the replacement of a historical swing span bridge in Orleans Parish. The span arrangements were comprised of PPC AASHTO Type 3 (80 ft), BT 78 (130 ft) approach spans with steel composite girders for the main span (200 ft and 270 ft). He developed conceptual designs for deep river concrete piers with water level footings supported by large diameter PPC cylinder piles.
01/02-05/03	**City of Shreveport - Benton Road Railroad Overpass | Shreveport, LA** – *Project Engineer.* The project consisted of preliminary and final design of this RR Overpass project. Wes designed a 12-span prestressed concrete girder/pile bent structure with bobtail and skewed spans crossing the railroad main line. The total bridge length was approximately 800 feet across KCS Railroad. His responsibilities also included project management for final portion of project.
01/11-05/15	**TxDOT/LADOTD– US 84 Sabine River Bridge | Logansport, LA** – *Structural Lead and Engineer of Record.* Wes developed the final design, plans and specifications for two bridge structures (eastbound and westbound) using AASHTO-LRFD specifications. The bridges were comprised of the new Tx shapes (Tx62's and Tx70's). The span lengths ranged from 120 ft to 160 ft. The substructure was comprised of multi-column reinforced concrete bents with strutted columns at the main channel locations. The bents were supported by drilled shaft foundations. Although not a navigable channel at this location, the bridges were designed with adequate geometry to provide the necessary freeboard above the 100 year flood levels in addition to superelevation rotation on the eastbound structure.
06/03-05/05	**LADOTD - US 171 South Railroad Overpass | Mansfield, LA** - *Engineer of Record*. Wes was responsible for the final design that included twin bridge structures in concentric curves with bobtail and skewed spans crossing the KCS railroad main line for the TIMED program. Each bridge was approximately 700 ft long. The spans were comprised of precast prestressed concrete girders supported by precast prestressed concrete pile bent substructure.
02/04–04/05	**TxDOT Waco – IH-35 Southbound Frontage Road Connector | Waco, TX** – *Engineer of Record*. Wes was responsible for the final design of this curved steel plate girder roadway overpass. The bridge was comprised of two continuous steel plate girder units, 360 feet and 420 feet, respectively. The spans were designed using AASHTO Standard Bridge specifications for Curved Girders as well as a straight girder case using AASHTO-LRFD specifications. Reinforced concrete hammer-head bents founded on drilled shaft foundations were used for the substructure. His responsibilities included design of the curved steel girder units as well as developing and sealing the girder details.
02/05–01/06	**TxDOT Houston – SH 35 Bridge Widening | Houston, TX** - *Engineer of Record.* Wes was responsible for the design modifications of three bridge widenings totaling more than 700 feet – Oyster Creek, Jamison Slough and Drainage Ditch Bridges (skewed spans). The design plans called for cast-in-place slab spans. Specifically, he designed and sealed the prestressed concrete slab panels, the continuity joints, bent modifications/drilled shaft foundations and developed the corresponding structural details.
02/09-04/10	**SH 95 Brushy Creek - TxDOT, Austin District, Williamson County**– *Engineer of Record*. Wes was responsible for the development of the final designs and plans for this bridge replacement project. The bridge spans Brushy Creek near Coupland, TX. The bridge is 520 feet in length and comprised of seven PPC Type C girder spans varying in length from 70 feet to 90 feet. The superstructure is supported by reinforced concrete column bents founded on drilled shafts. The bridge was designed using split phased construction due to the existing structure location. The bridge was designed using TXDOT standard and LRFD specifications.

Firm employed by	HDR Engineering, Inc.		
Name	Joseph Jacobus, PE	Years of relevant experience with this employer	13
Title	Mechanical Engineer	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization	NA		
Active registration number / state / expiration date	PE 54417 Washington, Exp. 12/01/2023		
Year registered	2016	Discipline	Mechanical Engineering
Contract role(s) / brief description of responsibilities	Mechanical Engineering Support.		

Joseph has 13 years of experience in the design, inspection, and construction of mechanical, electrical, and structural systems for heavy movable structures. This includes experience with highway, railway, and infrastructure systems as well as lock, dam, and navigation structures.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
09/15-04/20	**CSX Transportation - Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Statewide AL** –*Mechanical QC.* Joseph performed QC for the design of the mechanical rehabilitation for two bridges, the Bayou Sara Swing Bridge and the Chickasaw Swing Bridge.
04/20-04/20	**CSX Transportation - Movable Bridge On-call Engineering Services (Swing Bridges - Philadelphia) | Philadelphia, PA** – *Mechanical QC.* Joseph performed QC for the design of the mechanical rehabilitation of the Schuylkill Swing Bridge.
03/19-05/19	**Virginia Dept. of Transportation (VDOT) – VDOT Movable Bridge On-Call Contract | Statewide VA** – *Mechanical Designer.* Joseph performed mechanical design for the removal and replacement of the main rack and track segments located on the top of the center pier of Coleman Swing Bridge.
06/16-06/20	**Texas Dept. of Transportation (TxDOT) – Rio Hondo Construction Management | Rio Hondo, TX** – *Mechanical Inspector.* Joseph performed construction inspection during the installation of the tower drive machinery for the Rio Hondo vertical lift bridge. After construction was completed, he consulted with maintenance personnel on means and methods of lubrication for bearings, guides, wire ropes, open gears, and couplings.
09/19-03/20	**Canadian Pacific - Kinnikinick Swing Bridge | River Falls, WI** – *Project Manager and Lead Designer.* Joseph was responsible for managing the project and led the design for the emergency replacement of the main pinion shaft and bearing.
01/16-12/18	**Canadian Pacific - La Crosse Swing Bridge | La Crosse, WI** – *Mechanical Engineer.* Joseph performed design tasks under multiple task orders. Tasks included replacement of gravity latch assembly, replacement of end machinery motor, rehabilitation of operating machinery, and limit switch replacement.
04/16-07/16	**Canadian Pacific - Menomonee Swing Bridge | Milwaukee, WI** – *Mechanical Engineer.* Joseph performed design for the replacement of end machinery limit switches and the operating machinery limit switches.
12/17-08/18	**Sacramento Regional Transit District - Downtown Riverfront Streetcar Design | Sacramento, CA** – *Mechanical Engineer.* Joseph led the design for the installation of new span locks on the Tower Bridge (owned and operated by CalTrans) to accommodate the new light rail traffic across the existing structure.
06/18-08/18	**BNSF - Bridge 36.8 over the Duwamish River | Seattle, WA –** *Mechanical Designer.* Joseph provided design for the replacement of the counterweight pin. Joseph provided construction management services which included the role of Resident Engineer. The bridge is an abt style bascule bridge and required a unique jacking scheme to remove the existing pin and install a new pin.

06/18-08/18	**Ohio Dept. of Transportation, Port Clinton Bascule Bridge Replacement | Ottawa County, OH –** *Mechanical Construction Consultant*. Joseph provided installation expertise in the field for the mechanical system installation for a replacement of the dual leaf bascule bridge.
09/15-03/20	**Multnomah County - Burnside Bridge Rehabilitation | Portland, OR –** *Mechanical Designer*. Burnside Bridge is a Strauss underneath counterweight bascule bridge over the Willamette River. Joseph provided design for the rehabilitation of the span locks and bridge balancing.
05/19-04/22	**BNSF Railroad - Orwood Bridge Fender Replacement | Contra Costa County, CA -** *Deputy Project Manager*. Orwood Bridge is an ab bascule bridge. BNSF had identified the fender system as needing replacement and contracted HDR for engineering services to provide contract documents, provide construction support, and perform construction management. Joseph's responsibilities included coordination between engineering disciplines and oversaw the production of the contract documents. Joseph provided construction management services which includes the role of Resident Engineer.
0/16-04/22	**Canadian Pacific - Hastings Vertical Lift Bridge | Hastings, MN** – *Mechanical Engineer.* Joseph performed inspection of mechanical systems. Performed design of an emergency lock bar and associated machinery replacement.
08/14 – 12/16	**Sonoma Marin Area Rail Transit - New Haystack Bridge | Sonoma County, CA** – *Mechanical Inspector*. New Haystack Bridge is a relocated rolling bascule bridge which is replacing the existing swing bridge over the Petaluma River. HDR is a technical advisor to the owner. Joseph performed drawing review and construction inspection.
11/14-07/15	**Union Pacific Railroad - Clinton Swing Bridge | Clinton, IA** – *Deputy PM.* HDR was scoped to perform an inspection and mechanical rehabilitation for the operating machinery and end wedge machinery. After the inspection and concept report, the project was re-scoped to only replace the end wedge machinery. Joseph performed inspection of mechanical systems and design of the end wedge machinery rehabilitation.
07/17-07/17	**Union Pacific Railroad - Kalan Bridge Emergency Repairs | Kennewick, WA** – *Mechanical Engineer.* Joseph performed onsite inspection and engineering for the emergency repairs of the operating rope drum bearings. The bearing cap bolts and caps broke when the bridge was unintentionally operated with the lock bars still partially engaged. The bolts, caps and bearings were located and replaced within a few days' time.
06/14-12/17	**Union Pacific Railroad - Steel Bridge Electrical Rehabilitation | Portland, OR** – Deputy PM & Construction Inspector. Steel Bridge is a telescoping vertical lift bridge over the Willamette River. The purpose of the project is to increase reliability and safety with upgrades to the bridge electrical systems. Joseph provided project management and design for mechanical systems associated with the electrical rehabilitation. Joseph provided construction inspection as well as review of RFI's and submittals during construction.

Firm employed by	HDR Engineering, Inc.		
Name	Diana Jandreski, PE	Years of relevant experience with this employer	2.75
Title	Mechanical Engineer	Years of relevant experience with other employer(s)	5.5
Degree(s) / Years / Specialization		MS / 2015 / Civil Engineering Concentrated in Structures | BS / 2014 / Mechanical Engineering	
Active registration number / state / expiration date		PE.0045009 Louisiana, Exp. 03/31/2023	
Year registered	2020	Discipline	Mechanical Engineering
Contract role(s) / brief description of responsibilities		Mechanical Engineering support providing mechanical design, specification, cost estimating, inspection and assessment, construction inspection, and construction support.	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
04/21-Ongoing	**Florida Dept. of Transportation (FDOT) – Sunrise Boulevard Bascule Bridge Rehabilitation | Fort Lauderdale, FL** – *Project Engineer and Mechanical Engineer*. Diana's responsibilities include the design of the mechanical systems rehabilitation of the twin double leaf bascule bridge. Mechanical rehabilitation scope included replacement of main span drive with electro-mechanical systems consisting of new motors, brakes, couplings, primary differential reducers, secondary planetary reducers, spherical roller bearing, ball bearings, shafts, and open gearing pinion and racks. The rehabilitation also included replacement of the span lock and live load shoe assemblies.
1/19-Ongoing	**LADOTD – Complex Bridge Inspection | Statewide, LA** – *Mechanical Engineer*. Diana is responsible for writing and reviewing the mechanical sections of inspection reports. She has performed reviews of the Teche Bayou inspection and wrote the Bayou Little Caillou and Bayou LaCarpe reports.
11/20-Ongoing	**Florida Dept. of Transportation (FDOT) – NE 79th St. Causeway Bascule Bridges Rehabilitation | Miami, FL** – *Mechanical Engineer*. Diana provided final design of the mechanical systems rehabilitation of the two bascule bridges. The project included the rehabilitation of one twin double leaf bascule bridge and one twin single leaf bascule bridge. Mechanical rehabilitation scope included replacement of main span drive hydraulic systems including HPUs and cylinders for the double leaf and main span drive electro-mechanical systems with new motors, motor couplings, and brakes for the single leaf. The rehabilitation also included replacement of the span lock assemblies.
10/19-Ongoing	**Pinellas County - Park Blvd Bascule Bridge Rehabilitation | Indian Shores, FL** – *Mechanical Engineer*. Diana is responsible for the mechanical rehabilitation post design services of the double leaf bascule bridge including construction support. Mechanical rehabilitation scope for the double leaf bascule bridge included replacement of the main span drive electro-mechanical systems with new motors, motor couplings, and brakes. The rehabilitation also included replacement of the span lock assemblies.
03/21-Ongoing	**Canadian National Railway - Black Rock Swing Bridge Assessment and Rehabilitation | Buffalo, NY** – *Mechanical Engineer*. Diana is responsible for the rehabilitation design of the rail lock systems, centering latch systems, and end rocker pedestals. Machinery included motors, reducers, bearings, shafts, couplings, cranks, crank shafts, and pin assemblies. She performed design calculations and created design plans for the rehabilitation of this truss swing bridge.

09/19-Ongoing	**Palm Beach County - Park Blvd Bascule Bridge Rehabilitation | Indian Shores, FL** – *Mechanical Engineer*. Diana is responsible for the design of the mechanical system for the rehabilitation of this twin single leaf bascule bridge. Mechanical rehabilitation scope included replacement of main span drive hydraulic systems including HPUs and cylinders including cylinder pin assemblies as well as the replacement of the bumper blocks.
1/19-Ongoing	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Florida) | Statewide, FL –** *Mechanical Engineer*. Diana is responsible for mechanical rehabilitation design of three electro-mechanical swing bridges including Little Manatee, Alafia, and St. Lucie. Her responsibilities include rehab design of existing pivot bearing, main pinion bearing, spanstop, and end balance wheel assemblies and limit switch designs with plans and calculations. Her responsibilities also include construction support and shop drawing review.
06/20-03/21	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Statewide AL –** *Mechanical Engineer.* Diana was responsible for mechanical rehabilitation design of this electro-mechanical swing bridge. Her responsibilities included design of span drive system, span stop assembly, and limit switch details with plans, calculations, construction support and shop drawing review. (Chickasaw). Her responsibilities also included site visit for assessment and coordination for machinery platform with structural elements (3 Mile Creek).
01/20-08/20	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Philadelphia) | Philadelphia, PA –** *Mechanical Engineer*. Diana was responsible for mechanical rehabilitation design of the Schuylkill electro-mechanical swing bridge. Her responsibilities included design of span buffer assembly improvements and span jacking design including center pivot girder strengthening with plans and calculations.
10/20-02/21	**Virginia Dept. of Transportation (VDOT) – Route 156 over James River, Benjamin Harrison Lift Bridge | Hopewell, VA –** *Mechanical Engineer.* Diana was responsible for the construction inspection for the project. Construction activities included main drive clutch coupling, shaft, and bearing replacements, main and auxiliary counterweight wire rope replacements, and ariel cable and outrigger installation for this tower drive vertical lift bridge. Her responsibilities included daily on-site inspection of construction work performed and documentation through reports and photos. Additional responsibilities included machinery parts and installation quality checks and rope tension testing verification.
08/19-04/20	**LIRC Railroad | LIRC Ohio River Vertical Lift Bridge 108.11 Rehabilitation | Louisville, KY** – *Mechanical Engineer*. Diana was responsible for the rehabilitation design for counterweight rope replacement for this span drive vertical lift bridge, including development of counterweight jacking scheme design and main sheave trunnion bearing cap replacement with design plans and calculations.
08/20-09/20	**Alabama Dept. of Transportation (ALDOT) | Wintzell Memorial Lift Bridge Assessment and Rehabilitation | Mobile County, AL** – *Mechanical Engineer.* Diana was responsible for strain gauge testing of this cross tower vertical lift bridge for span balance determination using strain gauges welded to the machinery shafts. Her responsibilities included field strain gaging installation and data acquisition followed by data review and calculations. Her responsibilities also included observation of span balance adjustments in field followed by post testing, data review, and calculations to confirm proper span balance.
06/17-09/17	**Union Pacific Railroad – Steel Bridge Special Inspection | Portland, OR -** *Mechanical Engineer*. Diana was responsible for the special inspection of the double deck, span drive/tower span, vertical lift bridge including determination of span alignment for ongoing upper deck rail track replacement work. Inspection included assessment of drive machinery and counterweight ropes, span guides, and live load bearings as well as a cursory inspection of additional machinery components.

Firm employed by	HDR Engineering, Inc.		
Name	David Knickerbocker, PhD, PE	Years of relevant experience with this employer	7
Title	Movable Bridge Practice Lead	Years of relevant experience with other employer(s)	15
Degree(s) / Years / Specialization		PhD / 2005 / Structural Engineering | MS / 2001 / Structural Engineering | BS / 1998/Civil and Environmental Engineering	
Active registration number / state / expiration date		PE.0040004 Louisiana, Exp. 3/31/2024	
Year registered	2007 (NJ-initial); 2015 (LA)	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		Structural Engineering Support - Lead structural aspects; Coordinate site inspections, load ratings, NBIS inspections, rehab scoping and design, and construction support services. **Meets MPR 6**	

David is a Lead Structural Designer/Analyst and Task Manager with 20 years of experience in design, analysis, inspection, and load rating for a variety of structure types. This includes movable (swing, bascule, and lift) bridges, retractable stadium roofs, and fixed-type bridges including arch, truss, as well as more common multi-girder bridges. He is also experienced in rehabilitation and complex jacking scheme development, construction support services, and bridge-related research. Certs: Certified FHWA-NHI-130055 Safety Inspection of In-Service Bridges (Refresher Course 12/2017)

Experience dates mm/yy–mm/yy	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
07/21-11/21	**South Carolina Dept. of Transportation (SCDOT) – Wappoo Creek Bascule Bridge | Charleston, SC** – *Structural Lead.* The project consists of rehabilitation for span lock and platforms replacement, floorbeam strengthening, live load bearing rehabilitation and bearing stiffeners replacement, balancing, grid deck weld repairs, and localized painting. David oversaw the analysis, detailed design, 60% inspection, and production of plans, specifications and estimates.
09/18-01/19 & 06/20-09/20	**Virginia Dept. of Transportation (VDOT) – Movable Bridge Limited Services Term Contract, Benjamin Harrison Lift Bridge | Hopewell, VA** – *Task Manager.* David directed the load rating of the lift span and flanking tower spans through truss main members, gusset plates, and floor systems and generated demand-capacity ratios for the tower truss members. This included report production, and coordination of quality reviews. *Structural Engineer*- David assessed ASCE ice-on-cable and wind loads. He produced demand and capacity calculations and detailed plans for aerial cable anchorage frame.
02/17-05/19	**Florida Dept. of Transportation District 4 (FDOT-D4) – (37) Movable Bridge Inventory | Districtwide, Southeast FL –** Task Work Orders on the district's 37 bascule bridges. *Inspection Team Leader/Structural Lead* responsible for (1) Program of multi-discipline evaluation inspections on the full inventory focused on improved operation, functionality, and safety. (2) Load rating execution and report for two drawbridges: one double-leaf Scherzer rolling lift bascule (Davie Blvd Bridge), and one single-leaf trunnion bascule (SR-84 Bridge) span, along with their flanking spans. (3) Installation design for aluminum deck test panel in place of an existing open grid steel deck panel, on the North Bridge bascule span. (4) Feasibility study for redecking of A1A over Boca Raton Inlet, a Hanover skew single-leaf bascule span, including load rating analysis of trunnion for additional weight, and preliminary design incorporating SPS roadway deck system and aluminum bridge rail and sidewalk plate.
03/12-06/12	**Triunfo Concepa-Guaiba Vertical Lift Bridge Assessment and Weighing | Porto Alegre, Rio Grande do Sul, Brazil** – *Lead Structural Engineer.* David performed assessment and weighing of lift span, including structural inspection of orthotropic-deck lift span, piers, towers, and counterweights. Lead Designer/Analyst: He produced detailed procedure and fabrication plans for weighing of lift span and counterweights. Lead Field Engineer: David oversaw execution of jacking procedure for

	span weighing on-site.
05/16-05/18	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Statewide AL** – *Structural Advisor/Quality Control.* David led the construction-phase design of a structural steel pier cap component as an alternative to the originally designed precast concrete pier cap, to allow for an accelerated replacement schedule on the Bayou Sara Swing Bridge Replacement. *Field engineer:* David oversaw the Bayou Sara swing span's overnight float-in replacement, refined location, bearing anchorage, and return to rail service.
02/10 - 10/11	**Bahia State Infrastructure Department – Salvador-Itaparica Crossing Feasibility Study | Bahia, Brazil –** *Structural Lead.* David performed structural design for double swing span, on the preliminary design of a $2 Billion, 8 mile long bridge that includes two 2 mile long floating approach structures with transition spans accommodating an 8-foot tidal shift, and a 1300-ft long double-swing span portal to allow passage of fully assembled oil rig platforms.
07/05 - 05/07	**AbiGroup/South Australia Dept.of Infrastructure and Transport – Port River Expressway Bascule Bridges | Port Adelaide, South Australia** – *Structural Lead.* David performed detailed design of roadway bascule span – plate girders, balance design and calculations, counterweight design and detailing. He performed detailed design of railway bascule span support trunnion tower, per (LRFD-based) Australian Standard Specifications AS5100. Also, he performed construction support services including design of various erection-related components.
04/07 - 02/12	**New York City Dept.of Transportation (NYCDOT) – Roosevelt Island Vertical Lift Bridge| New York, NY -** *Structural Engineer.* David performed design of replacement 'droop' cables support and routing, and improved access walkways along the top of the lift span through truss, and at utility junctions for access, on the rehabilitation of a 418ft long roadway through-truss lift span over the East River. He performed structural construction support services, including shop drawing review for machinery supports, design of fender repairs, replacement of conduit supports and utility walkways, and review of structural submissions.
05/17-09/17	**PCL Construction (for North Carolina Department of Transportation) – Perquimans River Swing Bridge| Hertford, NC –** *Lead Movable Bridge/Structural Engineer*. David managed the preliminary design of replacement through-truss swing span in a short-listed design build pursuit. He led design and detailing tasks for the structure design, including reinforced concrete deck, armored deck joints, structural steel floor system, truss members and gusset plate arrangement, structural bolted connections, pivot pier framing for pivot bearing, center wedges, jacking provisioning, and balance wheel support. He performed coordination between movable bridge (mechanical/electrical/architectural) and adjacent roadway/structure/foundations disciplines.
01/13-04/15	**City of Victoria – Johnson Street Bridge Replacement | Victoria, BC, Canada -** *Lead Structural/Seismic Analyst*. David performed detailed 3D structural analysis of bascule span, roller bearings, bascule and rest piers, and flanking spans. He applied loads and determined internal forces for design of roadway bascule span (including balance), bearings, piers, and drilled shaft foundations. He performed time-history seismic analysis on this model, with simulation of multiple nonlinear aspects including soil response, bearing friction, and plastic behavior of structural 'hinge' designed and detailed as part of the operation of this analysis effort.
04/05-07/05	**New York City Dept.of Transportation (NYCDOT) –Willis Avenue Bridge Replacement| New York, NY –** *Structural Engineer*. David designed and detailed swing span through truss. Construction support – He performed and coordination shop drawing reviews for truss members and assembly, and structural steel (curved tub girder and I-girder)

Firm employed by	HDR Engineering, Inc.		
Name	Jonathan Kohler, PE	Years of relevant experience with this employer	9
Title	Electrical Engineer	Years of relevant experience with other employer(s)	5

Degree(s) / Years / Specialization			BS / 2007 / Electrical Engineering
Active registration number / state / expiration date			PE. 0039625 Louisiana, Exp. 9/30/2022
Year registered	2015	Discipline	Electrical and Computer Engineering
Contract role(s) / brief description of responsibilities			Electrical engineering support. **Meets MPR 5**

Jonathan has over 14 years of experience on over 70 movable bridges providing inspections and designs for electrical power distribution and control systems specifically for movable bridges. His responsibilities include designing, specifying, and inspecting equipment for electrical distribution and control systems. These projects have provided experience in power distribution, lighting and motor controls, motor control centers, flux vector drives, motor starters, camera systems and movable bridge control systems that are relay or programmable controller (PLC) based. In addition to inspections and design services, he also excels at troubleshooting and recommending emergency repairs.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
11/21-Ongoing	**BNSF Railway Berwick Vertical Lift Bridge VFD Replacement | Morgan City, LA** – *Project Manager and Lead Electrical Engineer.* Jonathan is responsible for designing the replacement of the existing variable frequency drives (VFDs) and associated motor encoders for this tower drive vertical lift bridge. In addition to the designs, HDR is providing construction management services for the installation, testing and final commissioning of the new VFDs.
06/21-Ongoing	**BNSF Railway Bayou Boeuf Conductor Replacement | Amelia, LA -** *Project Manager and Lead Electrical Engineer.* Over the past several years BNSF had been plagued with several operational failures due to failed conductors inside conduits on the movable span and terminations becoming loose within electrical enclosures. The failures have been attributed to the high vibration this swing span experiences from train traffic. Jonathan led the designs and construction management to replace the existing conduit and conductor system with armored cable and install vibration dampeners on electrical enclosures to reduce the effects of vibration the conductors. Additional designs included a new submarine cable/droop loop termination cabinet, droop loop support system and drive motors. The droop loop design eliminated the flexible cable from being drug across the concrete pier during bridge operations.
11/20-12/20	**Virginia Dept. of Transportation (VDOT) – VDOT Movable Bridge On-call Contract | Yorktown, VA** – *Electrical Inspector.* Jonathan provided oversight for the in-depth inspection of the electrical components, including the power distribution and control systems of the Coleman double swing span. The inspections also consisted of insulation testing and three-phase voltage and current measurements for the motors.
08/13-10/15	**BNSF Railway - Bridge 32.06 Over Bayou Des Allemands | Des Allemands, LA** – *Lead Electrical Engineer.* Jonathan was responsible for developing electrical and control designs for this swing span railroad bridge. Previously the bridge utilized a diesel motor located on the span for operations. The swing span was replaced, and a new power distribution and control system was installed. Jonathan designed the PLC based control system to be capable of operating the span locally at the bridge or remotely from the control house on the shore. He was also the resident engineer during construction, providing construction oversight and inspection.

08/20-04/22	**BNSF Railway – Ft. Madison Swing Span| Ft. Madison, IA** - *Project Manager and Lead Electrical Engineer.* Jonathan was responsible for the designs to replace the existing end lift motors for this double track, double deck swing span. In addition to the motor replacement, new armored cable will be installed to each motor as well as some control modifications.
10/20-Ongoing	**Texas Dept. of Transportation (TxDOT) Movable Bridges Asset Management | Orange, TX** – *Lead Electrical Engineer*. Jonathan was responsible for the in-depth inspection of the electrical components, including the power distribution and control systems of this Cow Bayou swing span. The inspections also consisted of insulation testing and three-phase voltage and current measurements for the motors. He provided the condition report and recommendations with preliminary cost estimates. These inspections serve as the basis for future rehabilitation scopes of work. In addition to the inspection and report, an operations and maintenance manual was created to assist the DOT for maintenance activities.
03/16-02/22	**Canadian Pacific Railway - Mississippi River Swing Span (Tomah Bridge 283.40) | La Crescent, MN** – *Project Manager/Lead Electrical Engineer.* Jonathan was responsible for designing and installing several new mechanical and electrical updates on this 110+ year old swing bridge. For this multi-year project, the mechanical design included replacing the existing centering latch, main pinions, rail lift/eccentric motors and supports and several limit switches throughout the span. Jonathan's electrical design included the installation of new VFD's, and a PLC based controlled system. Additional design provided included a controls designs for the end lifts, a new alignment ram and new rail lifts to assist with bridge alignment and a new rail lift system. Jonathan provided on-site testing and commissioning services.
02/20-03/21	**Canadian National Railway - Sault Ste. Marie Double Leaf Bascule | Sault Ste. Marie, MI** – *Project Manager/Lead Electrical Engineer.* Jonathan was responsible for providing mechanical and electrical inspection and the electrical and controls design for the motor and brake replacement for the Sault Ste. Marie Bascule, which is the only double leaf Strauss railroad bascule in existence. The design included further modifications to PLC and HMI to allow for automatic type operations and additional alarming. Due to the motor and brake modifications from the design, the speed of the bridge was able to doubled from the previous configuration.
05/18-06/19	**Canadian National - Bridge 46.85 (Old EJ&E Bridge 631) | East Chicago, IN** – *Project Manager and Lead Electrical Engineer*. Jonathan was responsible for a targeted rehabilitation for a single leaf, rolling lift bascule. Jonathan's electrical design included the installation of a VFD and a new PLC based controlled system. The PLC based controlled system was further designed with the intent of providing remote control capabilities in the future. The new systems were fully operational 6 hours before the 64 hour navigation outage scheduled with the United States Coast Guard ended. Jonathan also provide on-site testing and commissioning services.
05/20-04/22	**Michigan Dept. of Transportation– Houghton-Hancock Vertical Lift Bridge | Houghton, MI** – *Lead Electrical Engineer*. Jonathan was responsible for the electrical design that included the replacement of the existing main and auxiliary motors with inverter duty motors. Additional electrical designs that Jonathan provided in heat tracing for hydraulic intermediate retractable bearings, cable reel replacement, re-indexing bridge height rotary cam limit switches, updating bridge control schematics, and the requirements for modifying the PLC and VFD programming for the new motors.
05/09-02/11	**New England Central Railroad – Bridge 15.21 Modification | Swanton,VT** – *Project Electrical Engineer*. Jonathan was responsible for designing a power distribution and relay based control system for this swing span bridge. The bridge had been operated manually using a center capstan and is protected as a state historic resource. Jonathan's design successfully incorporated an electric powered system without altering the appearance and function of the bridge.

Firm employed by	HDR Engineering, Inc.		
Name	Carlos Larco	Years of relevant experience with this employer	6
Title	Electrical Designer	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		BS / 2015 / Electrical Engineering	
Active registration number / state / expiration date		NA	
Year registered	NA	Discipline	NA
Contract role(s) / brief description of responsibilities		Electrical support: Electrical and controls system design, specification, cost estimating, and construction support.	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
08/19-Ongoing	**Texas Dept. of Transportation (TxDOT) – TxDOT Movable Bridges Asset Maintenance | Orange, TX** – *Electrical Inspector.* Carlos is responsible for in depth inspection of the Cow Bayou Swing Bridge. The work involved included visual inspection of electrical equipment on the bridge, observation of several operations, interlock testing, and inspection report. The inspection report includes issues found during the inspection and recommended repairs.
08/18-12/19	**CSX Transportation - Movable Bridge On-call Engineering Services (Swing Bridges - Mississippi) | Statewide MS**– *Electrical Designer.* Carlos was responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting for the Bay St. Louis Swing Bridge and Biloxi Bay Swing Bridge. The work included control systems replacement, power distribution system replacement, flux vector drive installation, remote control implementation, and other miscellaneous electrical system improvements.
12/18-Ongoing	**CSX Transportation - Movable Bridge On-call Engineering Services (Lift Bridges) Various Locations, AL, SC and TN** – *Electrical Designer.* Carlos is responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting for Mobile River (AL), Tailrace (SC), New Johnsonville (TN), and Joliet (IL) Vertical Lift Bridges. His work included control systems replacement, power distribution system replacement, flux vector drive installation, remote control implementation, and other miscellaneous electrical system improvements.
10/17-06/19	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Statewide AL** – *Electrical Designer.* Carlos was responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting for the Three Mile Swing Bridge and Chickasaw Swing Bridge. The work included control systems replacement, power distribution system replacement, flux vector drive installation, remote control implementation, and other miscellaneous electrical system improvements.
05/20-Ongoing	**Martin County – Hobe Sound Bascule Bridge Rehabilitation | Martin County, FL** – *Electrical Designer.* Carlos is responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting. The work includes total control system replacement, flux vector drive installation, submarine cable replacement, and electrical system rehabilitation.
06/20-Ongoing	**Alan Gerwig Associates – Donald Ross Bascule Bridge Rehabilitation | Palm Beach, FL** – *Electrical Designer.* Carlos is responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting for total control console replacement, flux vector drive installation and electrical system rehab.

06/19-03/21	**Pinellas County – Park Blvd Bascule Bridge Rehabilitation | Indian Shores, FL** – *Electrical Designer.* Carlos was responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting for total control system replacement, flux vector drive installation and electrical system rehab.
08/19-Ongoing	**Hillsborough County – Columbus Drive Swing Bridge Assessment and Rehabilitation Design | Hillsborough County, FL** – *Electrical Designer.* Carlos is responsible for design of the electrical systems and controls for the new auxiliary system and submarine cable terminal cabinet rehabilitation. The work involved the initial assessment report, auxiliary drive system design, submarine cable terminal cabinet improvements and other miscellaneous electrical system improvements.
04/20-Ongoing	**LIRC Railroad - LIRC Ohio River Vertical Lift Bridge 108.11 Rehabilitation | Louisville, KY** - *Electrical Designer.* Carlos is responsible for O&M manual review and improvements, creating sequences of operations, and troubleshooting guidelines.
05/20-Ongoing	**Martin County – Hobe Sound Bascule Bridge Rehabilitation | Martin County, FL** – *Electrical Designer.* Carlos is responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting. The work includes total control system replacement, flux vector drive installation, submarine cable replacement, and electrical system rehabilitation.
05/21-Ongoing	**FDOT – Sunrise Bascule Bridge Rehabilitation | Broward County, FL** – *Electrical Designer.* Carlos is responsible for scoping and assessment reports, electrical and control systems rehabilitation design plans, calculations, specifications, cost estimates, and construction inspection reporting. The work includes total control system replacement, flux vector drive installation, submarine cable replacement, and electrical system rehabilitation.

Firm employed by	HDR Engineering, Inc.		
Name	Matt McGuire, PE	Years of relevant experience with this employer	18
Title	Movable Bridge Program Manager	Years of relevant experience with other employer(s)	4
Degree(s) / Years / Specialization		MBA / 2007 / Business Administration | BS / 2000 / Mechanical Engineering	
Active registration number / state / expiration date		PE.0043785 Louisiana, **Exp. 03/31/2024**	
Year registered	2019	Discipline	Mechanical Engineering
Contract role(s) / brief description of responsibilities		Mechanical engineering lead. **Meets MPR 4**	

Matt has 22 years of experience in the design, inspection, emergency troubleshooting and construction of mechanical, electrical, and structural systems. This includes experience with highway, railway, and infrastructure systems in the forms of movable bridges, travelers, transfer bridges, and tunnels. Matt's experience also includes the inspection of over 100 movable bridges including experience in SPRAT rope access inspections (of which he is now retired), and he is a National Certified Tunnel Inspector (NCTI). He is an industry recognized leader and active in the Heavy Movable Structures organization and the Technical Committee Chairman for Machinery and Mechanisms. He has also authored the FHWA Specification for the National Tunnel Inventory (SNTI), classes for certifying tunnel inspectors (NHI 130110 and 130125) and is a certified NHI instructor.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
06/11-09/11	**Virginia Dept. of Transportation (VDOT) – VDOT Movable Bridge On-Call Contract | Norfolk, VA** – *Engineer*. Matt provided a quality check and quality assurance review of peer engineer's design in the Coleman Memorial Bridge Wind Analysis. Calculations were performed to determine wind speeds associated with particular wind loads on the swing span. The wind loads were then used to perform a machinery and wind analysis for the operating machinery of the swing span.
09/11-04/12	**Mississippi Export RR – Moss Point Swing Span Rehabilitation | Moss Point, MS** – *Project Manager.* The HDR team performed the mechanical and electrical inspection of the railroad swing span. An in-depth inspection of the movable span was performed including operational tests of mechanical components. Measurements were taken for the redesign of the mechanical and electrical systems for the bridge including new wedge and operating machinery. A report was presented to the client outlining the identified deficiencies and recommendations with estimated costs for repairs. Matt oversaw the entire project noted above and was also the senior mechanical engineer responsible for mechanical design of the wedge and operating machinery modifications.
12/19-11/20	**Louisiana Dept. of Transportation (LADOTD) – LADOTD Statewide Bridge Inspections | Alexandria, LA** – *Mechanical QC Reviewer*. HDR performed an in-depth inspection of the 300ft main tower driven vertical span features of the Jackson Street Vertical Lift Bridge over the Red River. Matt performed the initial scoping of the mechanical team inspection effort and performed a QC review of the draft and final inspection reports issued.
02/08-11/09	**Burlington County Bridge Commission – Burlington Bristol Bridge Rehabilitation | Burlington County, NJ** – *Mechanical Engineer.* Matt performed the initial site inspection of the span driven vertical lift bridge for the purpose of scoping the work to be performed in the replacement of the operating ropes, deflector sheaves, guide sheaves and operating drums. His design recommendations and initial construction cost estimated were provided to the client in the form of a report. Matt also performed the design of the sizing of the new ropes, sheaves, and drums. Final contract documents were provided for the rehabilitation design in the form of plans, specifications, and a construction cost estimate.

09/05-06/07	**NYSDOT – Replacement of the Ingersoll and Washington Street Lift Bridges Over the Erie Canal | Orleans County, NY** – *Engineer*. Matt was responsible for the rehabilitation design of the operating machinery and counterweight machinery for both tower-less vertical lift bridges. This work included complete replacement of machinery components, in addition to structural repairs to the span, counterweight, and operating machinery pits. Matt also performed construction support services, including shop and site inspections of the new machinery on both bridges as part of the scope of work.
09/15-Ongoing	**Multnomah County – Burnside Bridge Rehabilitation | Portland, OR** – *Movable Bridge Engineer.* The Burnside Bridge Rehabilitation project addresses repairs and rehabilitation to the double leaf Strauss bascule bridge for a 15 year lifespan. The design work included sorting and filtering down the rehabilitation work to $35M to address civil, structural, mechanical and electrical work needs for the bridge. Matt helped provide scoping and estimated rehabilitation work. He was responsible for the rehabilitation design development for the span lock rehabilitation, PLC and drive replacement and generator transfer switch replacement.
02/05-03/06	**Cape May County – Rehabilitation Townsends Inlet and Grassy Sound Bridges Bascule and Toll House Spans | Cape May County, NJ** – *Engineer.* Matt performed the mechanical inspection and counterweight pocket condition of two single leaf trunnion bascule bridges. The inspection was performed as part of an evaluation of the structures in anticipation of re-decking the movable and toll spans. He drafted a report outlining the identified deficiencies and recommendations with estimated costs for construction alternatives. Matt also performed the design to replace the span locks for both structures which were inoperable at the time of the inspection.
02/06-09/06	**Hillsborough County – Columbus Drive Swing Bridge Assessment and Rehabilitation Design | Hillsborough County, FL** – *Mechanical Engineer.* Matt was responsible for the rehabilitation design on the end lift machinery for this swing span. This work entailed the select replacement of machinery components, as well as refurbishing existing components. Work also included the redesign of the centering latch for the span, making it mechanically driven off of the end lift machinery.
08/03-06/11	**Westchester County DPW – Fulton Ave. Bridge Movable On-call | Pelham, NY** – *Project Manager*. Matt was responsible for the annual engineering on-call services contract for the double leaf bascule bridge for nine consecutive years. Matt performed services including facility inspections, construction management, and rehabilitation design. He also provided on-site engineering troubleshooting as needed to diagnose and correct problems with the operation of the bridge.
09/03-07/04	**Michigan Dept. of Transportation – US 31 Manistee Bascule Bridge Rehabilitation | Manistee County, MI** – *Mechanical Engineer*. This is a rehabilitation design project of a Scherzer twin leaf bascule bridge which involved various structural, mechanical and electrical repairs to the structure. Matt provided design solutions for the replacement of select machinery brake components and machinery supports. He also provided rehabilitation plans for the center lock assembly and hinged sidewalks to correct the affects span misalignment.
08/16-04/20	**Canadian Pacific RR (CPRR) – Multiple Swing Span Rehabilitations | Various Locations, Midwest US** – *Project Manager / Senior Mechanical Engineer.* HDR has been providing CPRR movable bridge field and design support for multiple master service agreement cycles for a variety of movable bridges in the mid-west. Matt has been involved in the design and construction of rehabilitation repairs for the following swing span projects: - La Crosse End Lift Limit Switch Rehabilitation, La Crosse, WI - La Crosse Operating Machinery Rehabilitation, La Crosse, WI - Kinnickinnic Operating Machinery Rehabilitation, Milwaukee, WI - Menomonee Center Bearing Inspection and Span Balance, Milwaukee, WI - Sabula Swing Span Operating Machinery Rehabilitation, Sabula, IA

Firm employed by	**HDR Engineering, Inc.**		
Name	**Gregory Mieczkowski**	Years of relevant experience with this employer	18
Title	Coatings Lead	Years of relevant experience with other employer(s)	18
Degree(s) / Years / Specialization		NACE Coating Inspector	
Active registration number / state / expiration date		# 9254 / International / 2023	
Year registered	2022	Discipline	NACE Level III Certified Coating Inspector
Contract role(s) / brief description of responsibilities		Protective Coatings Specialist – Evaluate the condition of the existing coating systems on bridge structures.	
Gregory has over 35 years of experience in the selection, specification, application, and inspection of industrial coatings. **Training Certs:** NACE Level III Certified Coating Inspector # 9254; SSPC C-1 and C2; SSPC C-3 Lead Abatement Inspector; "Lead" Competent Person Training (OSHA 1923.62)			

Experience dates (05/03–5/21)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
03/20-09/20	**Nebraska Department of Transportation (NDOT) – I-680 Westbound Mormon Bridge | Omaha, NE** – *Coatings Lead.* Gregory provided full-time on-site inspection services during surface preparation and coating application. His responsibilities included hosting progress meetings and verifying work performed by the contractor was in accordance with governing documents. Prior to the phase, Gregory evaluated existing coatings to provide information in generating appropriate specifications for the project.
03/19-10/19	**Nebraska Department of Transportation (NDOT) – I-680 Eastbound Mormon Bridge | Omaha, NE** – *Coatings Lead.* Gregory provided full-time on-site inspection services during surface preparation and coating application. His responsibilities included hosting progress meetings and verifying work performed by the contractor was in accordance with governing documents. Prior to the construction phase, Gregory evaluated existing coatings to provide information in generating appropriate specifications for the project.
06/18-08/18	**Texas Dept. of Transportation (TxDOT) – CE&I WA#1 Rio Hondo Lift Bridge | Rio Hondo, TX** – *Coatings Lead.* Gregory provided full-time on-site inspection services on the Rio Hondo Lift Bridge during surface preparation and coating application. His responsibilities included hosting progress meetings and verifying work performed by the contractor. Prior to the construction phase, Gregory evaluated existing coatings to provide information in generating appropriate specifications.
03/17-08/17	**Nebraska Department of Transportation (NDOT) – N 51 Decatur Bridge | Decatur, NE** – *Lead Abatement Project.* Gregory provided full- time on-site inspection services during surface preparation and coating application. His responsibilities included hosting progress meetings and verifying work performed by the contractor was in accordance with governing documents. Prior to the construction phase, Gregory evaluated existing coatings to provide information in generating appropriate specifications for the project.
04/17-06/17	**Nebraska Department of Transportation (NDOT) – Veterans Memorial Bridge | Omaha, NE** – *Lead Abatement Project.* Gregory provided part-time on-site inspection services during surface preparation and coating application. His responsibilities included participating in progress meetings and verifying work performed by the contractor was in accordance with governing documents.

Firm employed by	HDR Engineering, Inc.		
Name	Robert Moses, PE	Years of relevant experience with this employer	7
Title	Regional Business Group Director	Years of relevant experience with other employer(s)	23
Degree(s) / Years / Specialization		BS / 1991 / Electrical Engineering	
Active registration number / state / expiration date		PE. 27626 Louisiana, Exp. 3/31/2024	
Year registered	1998	Discipline	Electrical Engineering
Contract role(s) / brief description of responsibilities		Lead QA/QC.	

Robert has 30 years of global experience in the delivery of inspection, design and construction support projects involving structural, mechanical and electrical engineering services for movable bridges and other heavy civil facilities. He has been involved in the inspection, rehabilitation and/or design of over 200 movable bridge projects, including swing bridges, vertical lift bridges, bascule bridges, pontoon bridges, rolling lift bridges and other variations. Robert has served as Lead QA/QC Engineer, Project Manager, Project Engineer and/or Lead Electrical Engineer on numerous national and international movable bridge projects, including inspections, rehabilitation designs and designs for new construction. Over a 20-year span, he has served as Secretary, Vice President, President and Chairman of Heavy Movable Structures, Inc., the premier movable bridge professional organization.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
08/20–04/22	**Texas Dept. of Transportation (TxDOT) – TxDOT Movable Bridges Asset Maintenance | Orange, TX** – *Project Manager.* Robert led the in-depth inspection, development of the Operations & Maintenance Manual and oversight of the asset maintenance program for the Cow Bayou Swing Bridge. Performed electrical inspection Quality Control (QC) Reviews.
01/18–05/19	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Louisiana) | Statewide LA** – *Program Manager.* Robert provided project leadership, communicated with the client, and led the technical program for the Chef Menteur and Rigolets swing bridges. He led the design of the remote operating systems and mechanical/electrical upgrades for the two swing bridges. Coordinated communication with the US Coast Guard to secure approval of remote operation. Performed electrical design QC Reviews.
01/18–05/19	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Mississippi) | Statewide MS** – *Program Manager.* Robert provided project leadership, communicated with the client, and led the technical program for the Biloxi Bay, Bay St. Louis and Pearl River swing bridges. He led the design of the remote operating systems and mechanical/electrical upgrades for the three swing bridges. Coordinated communication with the US Coast Guard to secure approval of remote operation. Performed electrical design QC Reviews.
06/18–12/19	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Philadelphia) | Philadelphia, PA** – *Program Manager.* Robert provided project leadership, communicated with client, and led technical program for the design of electrical/mechanical/structural upgrade for the Schuylkill swing bridge. He also performed electrical design QC reviews.
01/16–12/18	**Florida Dept. of Transportation (FDOT) – Movable Bridge On-call Engineering Services (Bascule Bridges Assessments) | Ft. Lauderdale, FL** – *Quality Control Reviewer.* Robert performed field inspection and provided QC review of the analysis, recommendations report and cost estimates for 27 bascule bridges as part of the District 4 On-Call Movable Bridge Services for FDOT.

01/16–12/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Bascule Bridges – Florida)	Statewide FL** – *Program Manager.* Robert provided project leadership, communicated with the client, and led the technical program for the Big Manatee, Hillsborough River and Buffalo Bluff bascule bridges. Led the design of the remote operating systems and mechanical/electrical upgrades for the three bascule bridges. He coordinated communication with the US Coast Guard to secure approval of remote operation. Performed electrical design Quality Control Reviews.
01/16–12/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Lift Bridges)	Statewide AL, SC and TN** – *Program Manager.* Provided project leadership, communicated with the client, and led technical program for the Mobile River, Tailrace and New Johnsonville vertical lift bridges. Led the design of the remote operating systems and mechanical/electrical upgrades for the three vertical lift bridges. Coordinated communication with the US Coast Guard to secure approval of remote operation. Performed electrical design QC reviews.
01/16–12/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Florida)	Statewide FL** – *Program Manager.* Provided project leadership, communicated with client, and led technical program for the Little Manatee, Alafia, Trout River and Port Saint Lucie swing bridges. Led the design of the replacement of the Little Manatee swing bridge, and design of the remote operating system. Performed electrical design Quality Control Reviews.
08/19-Ongoing	**Michigan Dept. of Transportation - Rehabilitation of the Houghton Lift Bridge	Houghton, MI** – *Project Manager.* Managed the structural, mechanical and electrical engineering services to assess and design repairs to the 60-year old vertical lift bridge. Assessment and load rating of select structural components in need of repair was performed along with design for repair details for the superstructure. Performed electrical design Quality Control Reviews of the electrical system design including replacement of the lift span main and auxiliary motor drives.
01/16–12/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Alabama)	Statewide AL** – *Program Manager.* Provided project leadership, communicated with client, and led technical program for the Bayou Sara, Chickasaw and 3 Mile swing bridges. Led the design of the replacement of the Bayou Sara swing bridge (an ACEC National Award-winning project), and design of the remote operating systems and mechanical/electrical upgrades for the Chickasaw and 3 Mile swing bridges. Coordinated communication with the US Coast Guard. Performed electrical design quality control reviews.
07/15-07/18	**New Jersey Transit - Rehabilitation of the Morgan Draw	Morgan, NJ** - *Project Manager.* Robert managed the design rehabilitation and resiliency improvements for the two-track rolling bascule bridge. The project involved site assessment, USCG coordination, electrical and mechanical system rehabilitation design, bid analysis and construction support services. Performed electrical design Quality Control Reviews.
01/15–06/17	**Triborough Bridge and Tunnel Authority (TBTA) – MP-03 Electrical and Mechanical Rehabilitation at the Marine Parkway Bridge	Queens, NY** – *Quality Control Reviewer.* Provided quality control review for design of the rehabilitation of the mechanical and electrical systems for the tower drive vertical lift bridge. Rehabilitation design includes a major gear drive component replacement design and a new PLC-based control system and flux vector motor-drive system.
07/15-07/18	**New Jersey Transit - Rehabilitation of the Morgan Draw	Morgan, NJ** - *Project Manager.* Managed the design rehabilitation and resiliency improvements for the two-track rolling bascule bridge. The project involved site assessment, USCG coordination, electrical and mechanical system rehabilitation design, bid analysis and construction support services. Performed electrical design Quality Control Reviews.
07/00–11/00	**Washington State Dept. of Transportation (WSDOT) – SR 520 Floating Pontoon Bridge Rehabilitation	Seattle, WA** – *Project Manager.* Led the rehabilitation design of the mechanical and electrical systems for the floating pontoon retractile draw span. He designed the control system consisting of a programmable logic control system and skew control system.

Firm employed by	HDR Engineering, Inc.		
Name	Erin O'Malley, PE	Years of relevant experience with this employer	11
Title	Bridge Engineer	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		MS / 2010 / Structural Engineering | BS / 2008 / Architectural Engineering	
Active registration number / state / expiration date		PE.0043899 Louisiana, Exp. 03/31/2024	
Year registered	2019	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		Structural Inspection.	
Training: FHWA-NHI Course No. 130055, Safety Inspection of In-Service Bridges; FHWA-NHI Course No. 130053, Bridge Inspection Refresher Training; FHWA-NHI Course No. 130078, Fracture Critical Inspection Techniques for Steel Bridges; SPRAT Level 3 Rope Access Technician, No. 131089 Expires: 12/10/2024			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
02/20–01/21	**Louisiana Dept. of Transportation and Development (LADOTD) – Statewide Bridge Inspection | Statewide LA** – *Bridge Inspector/Rope Access Site Supervisor*. Erin performed rope access inspections of lifting towers and lift span floor systems where other methods of access were not practical for the Red River and Teche Bayou lift bridges. As the rope access site supervisor, Erin created the work plan and safety plan for the SPRAT-certified inspectors and rigged the rope access equipment on site. The structural inspections were coordinated with the mechanical and electrical inspection and accommodated lifts as needed for boat traffic. Erin wrote and reviewed structural sections of the report.
10/20–11/20	**Texas Dept. of Transportation (TxDOT) – Movable Bridges Asset Maintenance| Rio Hondo, TX** – *Bridge Inspector /Rope Access Site Supervisor.* Erin performed rope access inspection of the Rio Hondo lift bridge towers above deck that were beyond the reach of the bucket truck including the side faces over water and majority of the lift-span and approach-span faces. The scope included a general inspection to assess the condition of the bridge since its rehabilitation in 2017, and a detailed inspection of elements needing potential repairs and maintenance. As the rope access site supervisor, Erin created the work plan and safety plan for the two SPRAT Level 1 inspectors and rigged the rope access equipment on site. The structural inspection was performed separately from the mechanical and electrical inspection, but still required coordination with operations for boat traffic. She wrote the tower sections of the report.
05/12-09/21	**Texas Dept. of Transportation (TxDOT) – Fracture Critical Bridge Inspection | Statewide TX** – *Bridge Inspector/Team Leader.* Erin has worked on five cycles of this contract since 2012, working her way up from Assistant to Team Leader to Rope Access Leader for the state. Structure types include plate girders, plate caps, tub girders, box caps, floorbeams, trusses, rail car bridges, and signature tower and cable structures. Erin coordinates each aspect of inspection from planning to mobilization to reporting. Additionally, this contract includes load ratings. Erin has performed load ratings for small rural structures, through trusses, deck trusses, floorbeams, and gusset plates.
03/22 – Ongoing	**North Dakota Dept. of Transportation (NDDOT) – Routine and Fracture Critical Bridge Inspections | Southwest District** – *Team Leader/Rope Access Site Supervisor*. Erin performed rope access inspections on fracture critical elements of rural county road bridges. She performed routine inspection concurrently from ground or deck level. Erin plans and staffs the inspections, writes reports, and coordinates QC of the deliverables.

Firm employed by	HDR Engineering, Inc.		
Name	Andrew Orton, PE, LEED AP BD+C	Years of relevant experience with this employer	4.5
Title	Mechanical Project Engineer	Years of relevant experience with other employer(s)	6.5

Degree(s) / Years / Specialization			BS / 2010 / Mechanical Engineering
Active registration number / state / expiration date			PE.0042463 Louisiana, Exp. 09/30/2022
Year registered	2018	Discipline	Mechanical
Contract role(s) / brief description of responsibilities			Mechanical Engineering: Design of commercial plumbing, HVAC and wastewater systems. **Meets MPR 9**

Andrew's experience includes HVAC and plumbing design and construction in the commercial, healthcare, education, data center, laboratory, and federal sector projects throughout the country. He is knowledgeable about current mechanical, plumbing, and energy codes, as well as the federal Unified Facilities Criteria (UFC).

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
11/18-05/20	**AFCEC – Repair Firing Range B1024 | Tinker AFB, OK** – *Lead Mechanical Engineer.* The purpose of the project was to replace the ventilation system for a firing range. Andrew designed the new HVAC system including four gas-fired make up air units located outside the existing building that supplied tempered make-up air to the new supply plenums to provide laminar airflow at the required velocity from behind the shooters. The firing range was also equipped with gas-fired radiant heaters for shooter comfort. A new natural gas service line was brought to the building from a nearby main line with redundant primary gas pressure regulators and a gas meter compliant with the base metering requirements.
06/20-10/20	**AFCEC – Repair Restrooms B117 | Tinker AFB, OK** – *Lead Mechanical Engineer.* The purpose of this project was to renovate the existing men's and women's restrooms in the Tinker AFB fire station building. Andrew's role in the project was to design the new plumbing and wastewater systems and connect to the existing utilities. New plumbing systems included domestic hot and cold water distribution as well as the design and selection of plumbing fixtures such as water closets, urinals, lavatories, showers, and floor drains. This project has been designed but not constructed.
11/17-07/20	**AFCEC – Replace Breathing Air System B2122 | Tinker AFB, OK** – *Lead Mechanical Engineer.* The project replaced the compressed air breathing air system at a service hangar used for painting and depainting operations. Andrew's involvement included the design, analysis, and selection of associated compressed air breathing air equipment components as well as a water-cooled system to serve the breathing air system consisting of pumps, closed circuit cooling towers, control valves, controls, and other associated equipment to provide proper system operation.
03/18-04/22	**Town of Sullivan's Island – SIWWTP Improvements | Charleston, SC** – *Lead Mechanical Engineer.* Improvements to many areas of the existing wastewater treatment plant, including the addition of a new elevated treatment equipment building, and a multi-story headworks facility. Andrew designed the HVAC and plumbing for several areas of the new plant facilities and a renovated break room facility, as well as the potable water system including booster pumps to meet the process equipment requirements. The break room design included restroom and shower facilities, a break area, domestic hot water heating and recirculation pump.
01/18-04/22	**US Army Corps of Engineers – Renovation of B2064 | San Antonio, TX** – *Lead Mechanical Engineer.* Renovation of existing historic Building 2064. Andrew designed the HVAC and plumbing design for the entire facility. HVAC systems included water source heat pumps connecting to an existing plant. Plumbing design included domestic water, and sanitary service and distribution, as well as plumbing fixtures for restrooms and break rooms for the three-story building.

08/18–Ongoing	**US Army Corps of Engineers– UTTR D5 Missile Motor Transport & Receipt | Utah Training and Test Range, UT** – *Lead Mechanical Engineer.* Andrew designed mechanical and plumbing systems for the MTF to include general HVAC via single zone variable volume packaged unit with gas heat and associated ductwork and controls. The plumbing system design included floor drains and oil water separators for vehicle areas, drainage for restroom and condensate produced by other mechanical systems, water distribution to fixtures and equipment around the facility.
07/16-08/18	**Northeast Independent School District – Winston Churchill High School Expansion | San Antonio, TX** – *Mechanical Engineer.* This project added a new two story science lab building and addition to the orchestra building. Andrew designed the HVAC systems for both buildings, including the site chilled and hot water distribution. The science building HVAC systems included VAV air handlers with energy recovery ventilators, and terminal units with hot water reheat. The science building also featured lab hood exhaust systems. The orchestra building HVAC system consisted of a single multi-zone unit and was designed for sound attenuation.
03/15-08/18	**Option Care – Multiple Option Care Labs | Multiple US Locations** – *Mechanical Engineer*. The purpose of these multiple projects was to correct deficiencies of existing labs or design new lab HVAC systems for new locations. Andrew was responsible for designing the HVAC systems for the clean rooms to keep tight control on temperature and relative humidity. Typically, these included DX rooftop units with gas or electric heat and modulating hot gas reheat.
07/14-03/15	**Lucifer Lighting – Facility Assessment & Design Recommendations | San Antonio, TX** – *Mechanical Engineer.* Performed analysis and design to address HVAC issues in a largely unconditioned manufacturing plant. Analyzed existing HVAC deficiencies and systems and made design recommendations to resolve issues in the thermal testing laboratory. Provided advice and recommendations for new systems for planned expansions and existing facilities.
12/13–06/15	**Texas A&M University – West Campus Expansion Apartment Buildings | College Station, TX** – *Mechanical EIT.* This project consisted of the construction of three new 5-story apartment buildings and a visitor's center. Andrew designed the HVAC systems serving the new apartments and visitor's center. Apartment units were each provided with separate chilled water and hot water fan coil units. Corridors and common areas were designed to be pressurized by dedicated outdoor air systems. Chilled water and heating hot water was provided from the campus thermal loops and distributed through the new buildings with a new system of hydronic pumps. Single zone HVAC systems were provided to serve the visitor's center.
04/11–07/14	**General Services Administration – Laredo Convent Land Port of Entry | Laredo, TX** – *Mechanical EIT.* This project consisted of the complete renovation and modernization of a 28,000 sq ft Customs and Border Patrol land port of entry. Andrew analyzed and designed the entire HVAC system serving the building. Due to the historic nature of the facility, special care was taken to provide HVAC systems that provided proper thermal control while also accommodating the existing facility construction. Multi-zone air handlers and energy recovery units were utilized. The facility was served chilled water by water-cooled magnetic bearing chillers. A new heating hot water plant consisting of condensing boilers provides heating to the building.
04/11–09/12	**US Air Force – Complete Renovation of Wright Patterson AFB Hospital | Dayton, OH** – *Mechanical EIT.* This project renovates or replaces the HVAC, plumbing, and electrical systems of the existing military hospital at Wright Patterson AFB. Andrew aided in the design of HVAC air handling systems serving several wings of the hospital. Hospital rooms were design in strict accordance with UFC requirements to ensure the health and safety of occupants.

Firm employed by	HDR Engineering, Inc.		
Name	Herbert Protin, PE	Years of relevant experience with this employer	19
Title	Movable Bridge Structural Discipline Lead	Years of relevant experience with other employer(s)	21
Degree(s) / Years / Specialization		BE / 1980 / Civil Engineering	
Active registration number / state / expiration date		PE 24GE03973900 New Jersey, Exp. 4/30/2024	
Year registered	1996	Discipline	Civil
Contract role(s) / brief description of responsibilities		QA/QC - Structural.	

Herbert (Herb) has 40 years of experience with Complex and Movable Bridges and is a recognized leader in the field. He is a published author and a member of Heavy Movable Structures, Inc. (HMS) for 27 years, including a three-time member of the Board of Directors of HMS.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
06/17-12/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Louisiana) | Statewide LA** – *Structural QC Reviewer.* Herb was responsible for the QC review of structural design of access platforms on Chef Menteur and Riglots.
08/04-11/17	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges - Alabama) | Mobile, AL** – *Lead Movable Bridge Engineer and Quality Control Engineer.* Herb developed design concepts and construction staging for the replacement of the existing swing span Bayou Sara Bridge. Herbert served as Quality Control Engineer for the final design. During construction support services, Herbert was the lead Structural Designer for revised staging to accelerate the project construction. He also performed Structural QC for Chickasaw and 3 Mile Bridges. This project was an ACEC Award Recipient for Accelerated Bridge Construction.
03/20-01/21	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Florida) | Statewide FL** – *Structural QC Reviewer.* Herb was responsible for the QC review of structural design of access platforms on Manatee, Alafia, and Saint Lucie.
06/19-02/20	**CSX Transportation – Movable Bridge On-call Engineering Services (Swing Bridges – Philadelphia) | Philadelphia, PA** – *Structural QC Reviewer.* Herb was responsible for the structural QC review of the jacking and grillage design for end lifts on the Schuylkill Swing Bridge.
03/08-08/20	**Virginia Dept. of Transportation (VDOT) – VDOT Movable Bridge On-Call Contract | Norfolk, VA** – *Senior Movable Bridge Engineer. Herb* developed post tension repairs for the rack anchor bolts for the Coleman double leaf swing span.
09/13-Ongoing	**New Jersey Transit – Raritan River Draw Rehabilitation | Perth Amboy and South Amboy, NJ** – *QC Reviewer/Structural QC.* Herb reviewed the end wedge replacement and support of swing span end floor beam with temporary end wedges for this 331 ft long center bearing swing span that carries two tracks of the North Jersey coastline over the Raritan River. He also performed QC review of repairs to the machinery room floor.

12/13-Ongoing	**San Joaquin County Dept. of Public Works – Eight Mile Bridge Rehabilitation | San Joaquin County, CA** – *Structural QC Reviewer*. Herb is providing design review for deck replacement of the eight-mile road swing span over Honker Cut.
06/20-12/20	**Canadian National Railroad - Black Rock Swing Bridge Assessment and Rehabilitation | Buffalo, NY** – *QC Reviewer.* Herb performed a quality control review on the swing span ratings.
08/04-11/17	**Michigan Dept. of Transportation – Rehabilitation of the Houghton Lift Bridge | Houghton, MI** – *Structural QC Reviewer.* Herb provided QC review including lift span finger joint replacement for this double deck lift span, deck repairs, cleaning and repairs of the lift span expansion rockers, floor beam strengthening, gusset plate plug weld analysis and repairs, guide casting retrofit design, and later lift span adjustments.
03/08-08/20	**Sacramento County – Tower Bridge | Sacramento, CA** – *QC Reviewer.* Herb reviewed the span lock replacement on the tower drive lift span to accommodate new street cars traffic.
08/02-12/06	**City of Cleveland - Reconstruction of the West 3rd Street Vertical Lift Bridge | Cleveland, OH** – *QC Reviewer.* Herb reviewed the final design of the reconstruction of a 217 ft span drive vertical lift bridge over the Cuyahoga River. This included structural and mechanical interfaces. Herb also served as the Project Manager for the Construction Support Services for this project.
04/03-06/06	**New York State Dept. of Transportation - Rehabilitation of Washington Street and Ingersoll Road Lift Bridges over the Erie Canal | Rochester, NY**- *Senior Structural Engineer.* Herb was responsible for the QC on the rehabilitation of two historic towerless vertical lift bridges over the Erie Canal. The bridges were constructed circa 1912 and are eligible to be listed on the National Register of Historic Places. This project involved the rehabilitation or replacement of mechanical, electrical, and structural components of the bridges, architectural renovation of the control towers, and highway improvements. The architectural rehabilitation of bridge and control tower was performed to return or retain the original appearance of the structures, extend the life of the bridge, and accommodate the modern mechanical and electrical equipment.
6/04-10/09	**Rockland County - Bridge Street Bridge Rehabilitation | Rockland County, NY** – *Project Manager*. The project consisted of rehabilitation of an 1880 historic hand-cranked drawbridge built by the King Iron Bridge Company. The bridge was restored to maintain the historic integrity of the structure. The existing approach span and lift span through trusses and lifting towers were removed rehabilitated and reinstalled. New Alaskan Cedar Decking was installed, along with planters and benches so that the rehabilitated structure can be enjoyed by residents as a linear park area.

Firm employed by	HDR Engineering, Inc.		
Name	Amber Robinson, PWS, ENV Sp	Years of relevant experience with this employer	9
Title	Environmental Scientist	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		BS / 2012 / Environmental & Sustainable Resources | BS / 2008 / Business Management	
Active registration number / state / expiration date		Professional Wetland Scientist No. 3286, Exp. 10/22/2025 | Envision Sustainability Professional No. 43802, Exp. 2/20/2023	
Year registered	2020 / 2021	Discipline	Wetland Ecology, Advocacy and Regulatory Specialist / Sustainability for Infrastructure
Contract role(s) / brief description of responsibilities		Environmental/Permit Specialist Support – Provide technical expertise	

Amber has nine years of professional experience with an emphasis on wetland delineations and permit coordination. Technical areas of expertise include: delineation of waters of the U.S., US Corps of Engineers, Section 10/404 permits (Nationwide and Individual Permits); Coastal Use Permits, US Coast Guard bridge permits, advance approvals and exemptions; Water Quality Certifications; NEPA documents, T&E species habitat evaluations; wetland ecology assessments; stormwater permitting; levee board permitting, compliance monitoring and Phase I Environmental Site Assessments.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
02/22-Ongoing	**CSX Transportation – CSXT Bridge at Chef Menteur Pass M&E Rehabilitation | New Orleans, LA –** *Environmental Scientist.* Amber led the development, submission and coordination of a Request for Determination from the Louisiana Department of Natural Resources and USACE New Orleans District for the rehabilitation of a swing span operating system of a movable railroad bridge across Chef Menteur Pass, including placement of a new submarine cable on the water bottom.
03/21-Ongoing	**Illinois Central RR – Baton Rouge Subdivision MP 431 Reconstruction Permitting | Norco, LA** – *Project Manager/Permitting Technical Lead.* The project includes the replacement of a 7,977 feet long timber bridge that crosses the Bonnet Carré Spillway. Within a 14 month period, Amber and the HDR team led the development, submission and coordination of a USCG advance approval and lighting exemption, two Joint Permit Applications and one Joint Permit Application amendment, request for Section 408 review and a Section 106 investigation utilizing innovative techniques that did not require excavation. USCG advance approvals were granted in less than five days. The project was deemed exempt by the Parish Coastal Program within weeks, the USACE and the Louisiana Department of Archeology concurred with the Section 106 recommendation of no findings in less than 10 months, the USACE Operations will issue a letter of no objection for Section 408 and a Programmatic General Permit will be issued by the USACE Regulatory group within a 14- month period.
01/20-08/20	**Illinois Central RR – Bonnet Carré Spillway Bridge Replacement Permit Modification | La Place, LA** – *Environmental Scientist/Project Manager.* Amber led the development and submission of a modification to a Coastal Use Permit, USACE Programmatic General Permit, Real Estate Outgrant amendment and Section 408 authorization. Specific tasks performed included permit application development and coordination, applicant and contractor liaison, joint agency meeting moderator, and revision to permit applications. Each permit amendment was issued within six months of the application modification submittal.
07/18-Ongoing	**Illinois Central RR – Bonnet Carre Spillway Bridge Replacement Compliance Monitoring | La Place, LA** – *Technical Lead/Project Manager for the Construction Phase.* Amber conducts non-routine compliance monitoring of the construction

	site when requested by the client and quality control reviews of routine inspection reports.
07/20–11/20	**CSX Transportation – Movable Bridge On-Call Engineering Services (Swing Bridges – Alabama) | Statewide AL** – *Environmental Scientist.* Amber provided quality control reviews of permit application documents and design drawing exhibits for State and Federal permitting associated with Chickasaw swing bridge project. She also participated in weekly client meetings to provide permitting updates.
07/20–11/20	**CSX Transportation – Movable Bridge On-Call Engineering Services (Swing Bridges – Florida) | Statewide FL** – *Environmental Scientist.* Amber provided quality control reviews of permit application documents and design drawing exhibits for State and Federal permitting associated with Alafia, Little Manatee and Saint Lucie swing bridge projects. She also participated in weekly client meetings to provide permitting updates.
04/19-12/19	**Norfolk Southern Railroad – NS Bridge NO 84.50 Truss Span Replacement Project | Hattiesburg, MS** – *Technical Lead/Environmental Scientist.* During preliminary design and permitting, Amber conducted a waters of the US delineation and proposed jurisdictional determination in support of the preparation of a Nationwide Permit 14 pre-construction notification. She assisted with the preparation of the PCN. She also assisted with USCG coordination to request advance approval to conduct work within Leaf River, a Section 10 navigable water.

Firm employed by	HDR Engineering, Inc.		
Name	Ronald Sanchez, PE	Years of relevant experience with this employer	2
Title	SE Movable Bridge Program Lead	Years of relevant experience with other employer(s)	25
Degree(s) / Years / Specialization		BS / 1995 / Civil Engineering	
Active registration number / state / expiration date		PE.0036556 Louisiana, Exp. 03/31/2024	
Year registered	2011	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities		Deputy Project Manager/Structural Engineering Lead - Responsible for the structural design of rehabilitation and replacement of movable bridges. **Meets MPR 3**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
03/20-04/22	**Palm Beach County – Donald Ross Bascule Bridge over ICWW| Palm Beach County, FL** – *Project Manager.* Ronald oversaw the complete movable bridge rehabilitation and developed technical special provisions.
1/20 - 2/20	**LADOTD – Complex Bridge Inspection	Statewide, LA** – *Structural Engineering Reviewer*. Ronald performed quality control review of inspection reports for superstructure, substructure, deck and approaches.
03/20-04/22	**Martin County – Hobe Sound Bascule Bridge over the ICWW	Martin County, FL** – *Project Manager.* Ronald was the technical lead for movable bridge design. This emergency project developed the contract plans, performed utility coordination, and prepared permits within 140 days. The scope of work included complete electrical system and submarine cable replacement and replacement of the live load shoes and bumper blocks.
03/20-04/22	**Florida Dept. of Transportation (FDOT) – NE 79th Street Causeway Bascule Bridges Rehabilitation	Miami, FL** – *Project Manager.* Ronald designed mechanical and electrical rehabilitation of two movable bridges along the NE 79th Street Causeway.
03/21-04/22	**Florida Dept. of Transportation (FDOT) – Sunrise Blvd. Bascule Bridges Rehabilitation	Fort Lauderdale, FL** – *Project Manager.* Ronald designed mechanical and electrical rehabilitation, movable deck replacement with solid aluminum deck, fender replacement, scour mitigation, and access improvements.
08/21-04/22	**Florida Dept. of Transportation (FDOT) – Oakland Park Blvd, Commercial Blvd, and Hillsboro Blvd Sidewalk Feasibility Studies	Fort Lauderdale, FL** – *Structures Lead.* Ronald was the technical lead for the investigation of alternatives to provide enhanced multimodal facilities in three corridors which include three movable bridges. He designed alternatives include widening of the existing bridge, bridge replacement, and a separate pedestrian bridge
03/16-02/19	**FDOT – North Causeway Bridge over ICWW| Fort Pierce, FL** – *Project Manager.* Ronald was responsible for overseeing the engineering design services for the replacement of SR A1A North Causeway Bridge. The project includes the alignment, segmental bridge super and substructure design. Ronald designed the prestressed concrete beams superstructure (FIB-78). The substructure is reinforced concrete supported on prestressed concrete pile.
02/13-02/15	**FDOT – Sunny Isles Blvd Bascule Bridge over ICWW	Miami, FL** – *Project Engineer.* Ronald designed complete movable bridge rehabilitation which included Bridge Development Report (BDR) and comprehensive design services required for the rehabilitation of the twin four-lane Sunny Isles Bridges. Ron designed deck grating, steel cantilever deck support brackets, and span lock installation procedure.
02/13-02/15	**Mississippi Dept. of Transportation (MSDOT) – SR 609 Bascule Replacement	Jackson County, MS** – *Project Lead.* This project includes engineering assessment, structural and geotechnical design for bridges and retaining walls; hydraulic design for bridges; design for roadway, traffic signals plans, ITS, and roadway lighting; as well as design and

	constructability review services. Designs were completed in accordance with AASHTO, FHWA and MSDOT guidelines and specifications. Ronald led the structural, mechanical and electrical design teams for full rehabilitation of SR 609 bascule bridge as a task-order to the IDIQ Master Bridge Contract.
02/12-03/13	**Miami Dade County – Port Miami/FEC Railroad Rolling Lift Bridge over Biscayne Bay| Miami, FL** – *Project Engineer*. The scope for this fast-track $6 million design-build contract rehabilitated structural and mechanical systems and replaced the entire electrical system. This railroad bridge consists of a through girder Hopkins trunnion single-leaf/single-track 152 ft bascule span. Ronald was responsible for design, calculations, plan preparation, and post design of the bridge's structural systems.
08/10-12/12	**FDOT – CSX Railroad Rolling Lift Bridge over the New River| Broward, FL** – *Project Engineer.* Ronald designed the complete movable bridge rehabilitation which included preliminary PD&E study and final design for the off-line replacement of a single-leaf heavy rail bridge. Ronald designed bascule and approach piers. Design challenges included vessel impact, deep mudlines, and narrow construction site.
10/10 -12/12	**FDOT – Flagler Memorial Bascule Bridge over the ICWW| Palm Beach, FL** – *Senior Project Engineer.* Ronald oversaw complete movable bridge rehabilitation which 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. Ronald was responsible for design of the substructure, load rating, quality assurance reviews, and post-design services.
06/04-04/10	**FDOT – SR 7 NW 5th Street Bascule Bridge Replacement over the Miami River| Miami, FL**– *Project Engineer.* Ronald was the technical lead for the entire design of a new $50 million double-leaf bascule 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. Ronald designed the bascule pier and footing consisting of 30 ft deep cofferdam, 30" Sq. prestressed piles for AASHTO LRFD loads including vessel collision, steel trunnion towers and access platforms, stairs, door and hatches.
01/08-05/09	**Gasparilla Island Bridge Authority – Boca Grande Swing Bridge over the Gulf ICWW| Placida, FL** – *Project Engineer.* Design study for the replacement of a 248 ft swing span bridge. The project included inspection of the structural, mechanical and electrical systems and rehabilitation and replacement options (swing, and bascule span) with conceptual drawings, alignments, and cost estimates. Ronald was designed structural alternatives, their feasibility and cost estimates.
09/08-12/09	**SCDOT – Ben Sawyer Swing Bridge (SR 703) over the ICWW	Charleston, SC** – *Project Manager.* Ronald was the technical lead for the movable bridge design. The bridge consists of 12 steel plate girder non-redundant approach spans and a 245 ft through truss swing span. Ron designed the approach span steel girder system.
06/01-01/07	**FDOT – SR 786/ PGA Boulevard Bascule Bridge over ICWW| Palm Beach Gardens, FL – Structural Engineer.** Ronald was technical lead for this $15-million multi-phase construction project which included in-depth inspection, condition report with load ratings and recommendations, preparation of structural, mechanical and electrical rehabilitation, and bascule span replacement plans. Ronald was responsible for project coordination, plan development, and design of the rehabilitation/replacement of bascule pier, trunnion tower, deck over counterweight and flanking spans for a twin double-leaf Hopkins Trunnion-type bascule bridge with prestressed concrete AASHTO girder approach spans**.**

Firm employed by	HDR Engineering, Inc.		
Name	Megan Tatara, PE	Years of relevant experience with this employer	11
Title	Electrical Engineering	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		Bachelor of Engineering / 2010 / Electrical Engineering	
Active registration number / state / expiration date		PE 24GE05216700 New Jersey, Exp. 4/30/2024	
Year registered	2015	Discipline	Electrical Engineering
Contract role(s) / brief description of responsibilities		Electrical engineering support.	

Megan has 11 years of experience in the design, inspection, and construction of electrical systems. This experience includes highway and railway systems in the forms of movable bridges and transfer bridges. Megan's experience also includes work for hydropower and water management systems in the form of locks and spillway gates, airport lighting design for runways and taxiways, and highway tunnels.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
04/15-06/18	**Oregon Department of Transportation – Burnside Street Willamette River Bridge Paint and Rehab Project | Portland, OR** – *Electrical Engineer.* Megan designed the new backup power supply infrastructure, span motor drive equipment, and PLC control system for the bascule bridge. She also performed inspection during design and construction.
09/17-12/18	**Seattle Department of Transportation – Bridge System Enhancements Project | Seattle, WA** – *Electrical Engineer.* Megan performed site surveys of four bascule bridges and one swing bridge. She also wrote the inspection reports documenting findings, deficiencies, and recommendations, focusing on overall condition and operational reliability.
08/15-08/16	**Sonoma Marin Area Rail Transit (SMART) – Replacement of the Haystack Bridge | Petaluma, CA** – *Electrical Engineer.* Megan performed owner's representative services including review of submittals from the design-build team, site inspections, and witness of the commissioning of the rolling lift bascule bridge electrical and control systems.
05/11-08/14	**Connecticut Department of Transportation – Roadway Bridge Inspection | Various Locations, CT** – *Electrical EIT.* Megan performed the inspection, including recording current and insulation resistance measurements, executing visual inspection, and witnessing functional operation of the bridge electrical systems for bascule, swing, and vertical lift bridges. She also wrote the inspection reports documenting findings, deficiencies, and recommendations.
12/12-10/14	**Maryland Transportation Authority – I-695 Outer Loop Curtis Creek Bridge Inspection | Baltimore, MD** – *Electrical EIT.* Megan performed the inspection, including recording current and insulation resistance measurements, executing visual inspection, and witnessing functional operation of the bridge electrical systems of the bascule bridges. She also wrote the inspection reports documenting findings, deficiencies, and recommendations.
10/17-01/19	**Sacramento Regional Transit District – Downtown Riverfront Streetcar | Sacramento, CA** – *Electrical Engineer.* Megan performed a site survey to assess and document the existing conditions of the vertical lift bridge. She designed the power and control modifications to the existing electrical systems on the bridge to integrate operation of the span locks with the streetcar signal system.
06/15-12/17	**Union Pacific Railroad – Steel Bridge Electrical Rehabilitation | Portland, OR** – *Electrical Engineer.* Megan performed review of submittals and RFIs provided by the contractor during construction for the vertical lift bridge. She also performed site inspections and witnessed the commissioning of the electrical and control systems.
02/19-04/19	**Canadian National Railway – Mechanical and Electrical Inspection of Bridge 552 | Morris, IL –** *Electrical Engineer.* Megan performed the inspection, including power analysis motors at the bridge, visual inspection, and functional operation of the bridge electrical systems for the vertical lift bridge. She wrote the inspection report documenting findings, deficiencies, and

	recommendations.
04/12-01/13	**Ohio Department of Transportation – Movable Bridge Feasibility Study | Various Locations, OH** – *Electrical Engineering Coordinator.* Megan performed site surveys of four bascule bridges. She also wrote the inspection reports documenting findings, deficiencies, and recommendations, focusing on overall condition and operational reliability.
04/19-01/20	**BNSF Railway Company – Bridge 1136.3 Pier Protection Replacement | Orwood, CA –** *Electrical Engineer.* Megan designed marine navigation light system for the bascule bridge, including replacing hard-wired navigation lights with solar-powered light units.
08/21-10/21	**BNSF Railway Company – Movable Bridge Network Assessments | Various Locations, OR and WA –** *Electrical Engineer.* Megan performed site surveys of four vertical lift bridges, two swing bridges, and one bascule bridge. She also wrote the inspection reports documenting equipment models and manufacturers of the equipment that could be connected to the railroad network.

Firm employed by	HDR Engineering, Inc.		
Name	James Thomas, Senior PWS, CWB	Years of relevant experience with this employer	22
Title	Sr. Environmental Scientist, Permitting Lead	Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization		MS / 1994 / Wildlife & Fisheries – Wetland restoration | BS / 1991 / Wildlife & Fisheries	
Active registration number / state / expiration date		Professional Wetland Scientist No. 1279, Through 2026 / Certified Wildlife Biologist (no expiration)	
Year registered	2000	Discipline	Wetland Ecology and Regulatory Specialist / Wildlife Ecology
Contract role(s) / brief description of responsibilities		Environmental/Permit Task Lead providing task management and technical expertise.	

James has 28 years of professional experience with an emphasis on wetland delineations, permit coordination, and mitigation / restoration projects. Technical areas of expertise include delineation of waters of the U.S., wetland restoration; US Corps of Engineers, Section 10/404 permits; US Coast Guard bridge permits; NEPA documents, T&E species habitat evaluations; wetland ecology assessments; and wildlife habitat / plan community assessments.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/16-07/18	**Illinois Central RR – Bonnet Carré Spillway, McComb Subdivision Bridge Replacement Permitting | La Place, LA** – *Project Manager / Permitting Lead.* James led HDR's alternatives analysis, application development, and agency coordination for Section 408 and environmental permitting to replace the historic two-mile long wooden trestle bridge and concrete and steel spans. James had primary responsibility for the USACE – Section 10/404 application, USCG– Bridge Permit application, and Joint USACE and USCG Environmental Assessment (EA). Under his direction, HDR also managed Louisiana Coastal Use Permit; Louisiana SHPO/NPS - Section 106 Consultation; USFWS - Section 7 Consultation; and several additional agency coordination efforts.
07/18- 01/21	**Illinois Central RR – Bonnet Carré Spillway, Baton Rouge Subdivision Bridge Replacement Permitting | Norco, LA** – *QC Reviewer / Sr. Permitting Specialist.* James supported HDR's Project Manager and participated in regular consultations with Illinois Central, USACE, and state reviewers for Coastal Use Permitting and Federal approvals. James performed QC reviews for the Joint Permit application development, cultural resource reports, SWPPP, and Section 408 environmental documentations to replace the historic 1.5-mile long wooden trestle bridge and concrete and steel spans.
02/13-11/13	**BNSF Railway Company - Lacassine Support Yard Section 404 Permitting| Lake Charles, LA** – *Permitting Lead.* James led the delineation of waters of the U.S., including wetlands, for a 200-acre support yard near Lake Charles, LA. HDR environmental team coordinated closely with BNSF and the engineer to minimize impacts to wetlands, determine unavoidable impacts and submit a Section 404, Individual Permit application to the USACE, New Orleans District. The permit was issues within 120 days of submittal. James had primary responsibility for wetland impact assessment and the USACE Section 404, Individual Permit Application.
11/10-07/11	**Union Pacific Railroad - Plaquemine Mainline Re-alignment Permitting Services | Plaquemines, LA** – *Senior Wetland Scientist, QA/QC Reviewer.* HDR provided engineering and environmental services for this capacity improvement project. Environmental services included the delineation of waters of the U.S. impact assessment, and a Section 404 Individual permit with the USACE, New Orleans District. The Section 404 permit review included an evaluation of cultural resources in accordance with NHPA - Section 106 and endangered species for compliance with The Endangered Species Act. James had primary responsibility for agency coordination, task management, and completion of QA/QC reviews for permitting

	deliverables.
05/04-10/05	**Texas Turnpike Authority - SH 130 (Central Texas Turnpike Project) Section 404 Permitting | Georgetown to Seguin, TX** – *Permitting Task Lead.* James had primary responsibility to lead a multi-disciplinary team from two firms to conduct delineation of waters and USACE 404 permit coordination for a 90-mile SH 130 project. James managed the delineation of waters of the U.S., the 404/401 Joint Individual Permit application, and a USCG Section 9 Bridge permit application, with navigation assessment. James authored a draft USACE Decision Document (i.e., Regulatory NEPA Environmental Assessment). The project received a 404 Individual Permit from the USACE within 10 months of the public notice. James developed a strategy to use a Conceptual Wetland Mitigation Plan with an approximate 10% reserve of potential mitigation area that allowed flexibility required to procure as a Concession Developer Agreement (i.e., Design Build) project with only 30% design.
10/09-Ongoing	**Oklahoma Department of Transportation - Statewide On-Call Wetlands and Stream Mitigation and Biological Services | Statewide OK** – *Project Manager / Sr. Wetland / Regulatory Specialist.* HDR is currently working under our 6th consecutive award for wetland and stream evaluations under statewide on-call contracts in Oklahoma. Task assignments have included USACE Section 404 regulatory assessments of wetland, and streams, conceptual mitigation planning, threatened & endangered species surveys, Migratory Bird Treaty Act evaluations / surveys, and biological evaluation in advance of NEPA documentation. James primary responsibility was serving as the Project Manager and Senior Wetland / Regulatory Specialist for HDR's first 5 contracts (24 separate task orders), several covering multiple USACE permit actions in one or more counties. He is the QA/QC reviewer on our most recent contracts.
10/06-08/07	**Union Pacific Railroad - UPRR-Br 276.38 Lafayette Subdivision, Segments A, B, C | Calcasieu Parish, LA & Orange County, TX** – *Sr. Wetland Ecologist / QA/QC Reviewer.* As part of a nationwide bridge renewal program for UPRR, HDR assisted UPRR with the replacement and rehabilitation of this bridge over the Sabine River and tributary bayous. HDR's team conducted delineation of jurisdictional waters and wetlands, impact assessment, and permit acquisition identification, assistance, and coordination. The project required state and federal permits for bridge construction including a USACE Section 404 Nationwide Permit 14 and U.S. Coast Guard Bridge Permit. James had primary responsibility for leading pre-application field delineations and as the QA/QC reviewer for each deliverable. James also led agency coordination and assisted with design refinement during the application review.
04/10-06/12	**North Texas Tollway Authority - SH 360 Extension | Grand Prairie, TX** – *Sr. Environmental Scientist.* HDR prepared the preliminary design, NEPA and permitting for a 9.7-mile extension of SH 360 from IH 20 to US 287. Under James' direction, HDR was responsible for preparing a re-evaluation Environmental Assessment (EA) for NEPA clearance, delineation of waters of the U.S., impact assessment, and USACE Fort Worth District coordination for Section 404 NWP 14.

Firm employed by: **A P S Engineering and Testing, LLC**			
Name	**Sergio Aviles, P.E.**	Years of experience with this firm/employer	9
Title	PRESIDENT	Years of experience with other firm(s)/employer(s)	10
Degree(s) / Years / Specialization	BS Civil Engineering/2001/Geotechnical		
Active registration number / state / expiration date	0033571/ LA / 03-31-2024		
Year registered 2007 Discipline	Civil		
Contract role(s) / brief description of responsibilities	Geotechnical Project Manager/Design guidance/Field Crew and lab management		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
09/19-06/20	**Project No. H.004100: I-10 Widening LA 415 to Essen LN -** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of 52 deep borings starting at the Washington Exit and ending at the LSU lakes. Along with this drilling and sampling APS tested for strength and engineering characteristics of the soils with. A total of eight (8) over the water borings and 44 land borings with approximate 1000 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits. Mr. Aviles was the project manager to the Geotechnical Investigations. CMAR project
08/16-10/19	**Project No. H.012422: I-10/I-110 Interchange Modification at Terrace Ave -** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of six (6) deep borings for the design of the Terrace Ave exit. APS tested for strength and engineering characteristics of the soils with approximate 100 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits by A P S Laboratory. Mr. Aviles was the project manager to the Geotechnical Investigations.
11/17-2/18	**Project No. H.013193 US 61 Thompson Creek Bridge Replacement -** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of eight (8) deep borings for the replacement bridge at US 61 over Thompson Creek. APS tested for strength and engineering characteristics of the soils. Mr. Aviles was the project manager to the Geotechnical Investigations.
11/19-Present	**Project No. H.001352 and H.002273 Comite River Diversion Bridge at LA 67, LA 19 and LA 19 Railroad Bridge LA 67 and LA 19 -** A P S was selected with the winning team for the design of the diversion CMAR project. A P S provided all the geotechnical engineering required by the project. Mr. Aviles is the project manager for the project design team.
03/19-05/19	**Project No. H.001344 US 190 over Bogue Falaya River -** 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 the foundation recommendation. Mr. Aviles is the project manager for the project design team.
12/19-3/20	**Project No. H.010155 US 90 Railroad Overpass SE of LA 85 -** A P S was selected with the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of six (6) deep borings were drilled and tested for Geotechnical recommendation. Mr. Aviles is the project manager for the project design team.
02/17-10/17	**Project No. H.002861 Earhart Expressway/Causeway Boulevard -** APS was tasked with developing the LRFD factors for both existing structures and the new elevated sections to connect to Causeway Blvd. Per the task order APS drill and tested 85 borings to 120 feet near the proposed and existing structures. APS engineering staff provides designer with pile tip elevations for five elevated ramps to connect Earhart to Causeway Blvd. Provided boring logs, information on site conditions, site preparation recommendations, and load- length curves. Mr. Aviles is the project manager to the Geotechnical investigations and analysis assigned to help calculating the resistance factors.

07/14-08/14	**Project No. 700-51-0110: US 90 elevated portion for the future I-49 corridor.** APS performed all the preliminary drilling, testing, and CPT for US 90 and Highway 318 Intersection. A total of 46 boring and 11 CPT along with all the testing required by LADOTD. Mr. Aviles was the project manager to the Geotechnical investigations and analysis as assigned for roads and bridges design.
2001-2005	The following lists consist of projects that Mr. Aviles did the design or assisted on the design while at LADOTD. These projects include pile design, slope stability, settlement analysis, and construction services (PDA, CAPWAP, and WEAP). ONSYSTEM PROJECTS LIST: Mr. Aviles served as the staff geotechnical engineer while at the Pavement and Geotechnical Section for the following projects below: Below projects varies from Embank Design, Pile Design, Drilled Shaft design, MSE wall design, and construction supervision. Major projects cost estimated over one million dollars: 015-04-0037 LA524-LA123 Route US165, 015-05-0035 LaSalle, 015-07-0044 (Route 165 Cadwell, 276-03-0016 Tangipahoa River Bridge, 3132 Innerloop 427-01-0029, 362-01-0009 Rat Bois, 452-01-0039 I-55 CrossOvers, 742-07-0098 Susek Drive, Bayou Perrie and Sand Beach Bayou 103-01-0025, Broadway Ave.700-40-0127, Cameron Route La. 27 193-02-0042, Causeway Boulevard interchange Route I-10 450-15-0098,Clayton-Greenville 026-03-0025, Crescent City Connection 283-08-0143(46), Cross Bayou Bridge 090-01-0020, Flannery at Florida 742-17-0008.

Firm employed by: **A P S Engineering and Testing, LLC**					
Name	**Sairam Eddanapudi, P.E.**			Years of experience with this firm/employer	9
Title	Chief Engineer			Years of experience with other firm(s)/employer(s)	8
Degree(s) / Years / Specialization			ME, Civil Engineering, Lamar University, Dec. 2002 BE, Civil Engineering, Sri Venkateswara University, India Aug. 1999		
Active registration number / state / expiration date			0035129/ LA / 03-31-2024		
Year registered	2008	Discipline	Civil		
Contract role(s) / brief description of responsibilities			**Laboratory QA Manager- Will be in charge all daily operation of the project/QA/Design Engineer**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
09/19-Present	**Project No. H.004100: I-10 Widening LA 415 to Essen LN-** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of 52 deep borings starting at the Washington Exit and ending at the LSU lakes. Along with this drilling and sampling APS will also test for strength and engineering characteristics of the soils with. A total of eight (8) over the water borings and 44 land borings with approximate 1000 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits. Mr. Sai was the project QA to the Geotechnical Investigations. CMAR project
08/16-10/19	**Project No. H.012422: I-110 Interchange Modification at Terrace Ave-** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of six (6) deep borings for the design of the Terrace Ave exit. APS tested for strength and engineering characteristics of the soils with approximate 100 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits by A P S Laboratory. Mr. Sai was QA to the Geotechnical Investigations.
11/17-2/18	**Project No. H.013193: US 61 Thompson Creek Bridge Replacement-** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of eight (8) deep borings for the replacement bridge at US 61 over Thompson Creek. APS tested for strength and engineering characteristics of the soils. Mr. Sai was QA to the Geotechnical Investigations.
11/19-Present	**Project No. H.001352 and H.002273: Comite River Diversion Bridge at LA 67, LA 19 and LA 19 Railroad Bridge LA 67 and LA 19-** A P S was selected with the winning team for the design of the diversion CMAR project. A P S provided all the geotechnical engineering required by the project. Mr. Sai is the Senior Design Engineer for the project design team.
03/19-05/19	**Project No. H.001344: US 190 over Bogue Falaya River-** 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 the foundation recommendation. Mr. Sai is the Senior Design Engineer for the project design.
12/19-3/20	**Project No. H.010155: US 90 Railroad Overpass SE of LA 85 -** A P S was selected with the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of six (6) deep borings were drilled and tested for Geotechnical recommendation. Mr. Sai is the Senior Design Engineer for the project design team.

Firm employed by: **A P S Engineering and Testing, LLC**			
Name	**Mr. Surendra Raj Pathak, P.E.**	Years of experience with this firm/employer	5
Title	Chief Engineer	Years of experience with other firm(s)/employer(s)	10

Degree(s) / Years / Specialization	MSCE (Master of Science in Civil Engineering), Mississippi State University, Starkville, Mississippi, 2013 M. Sc. Master of Science in Civil Engineering, Norwegian University of Science and Technology, Trondheim, Norway, 2007 B.E. (Civil Engineering), Madan Mohan Malaviya University of Technology, India, 1998
Active registration number / state / expiration date	0043487/ LA / 09-31-2023
Year registered 2019 Discipline	Civil
Contract role(s) / brief description of responsibilities	**Geotechnical Staff Engineer-Review field logs, lab data, and Design Engineer**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
09/19-Present	**Project No. H.004100: I-10 Widening LA 415 to Essen LN-** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of 52 deep borings starting at the Washington Exit and ending at the LSU lakes. Along with this drilling and sampling APS will also test for strength and engineering characteristics of the soils with. A total of eight (8) over the water borings and 44 land borings with approximate 1000 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits. Mr. Surendra was the project QC to the Geotechnical Investigations.
08/16-10/19	**Project No. H.012422: I-110 Interchange Modification at Terrace Ave -** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of six (6) deep borings for the design of the Terrace Ave exit. APS tested for strength and engineering characteristics of the soils with approximate 100 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits by A P S Laboratory. Mr. Surendra was QC to the Geotechnical Investigations.
11/17-2/18	**Project No. H.013193: US 61 Thompson Creek Bridge Replacement-** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of eight (8) deep borings for the replacement bridge at US 61 over Thompson Creek. APS tested for strength and engineering characteristics of the soils. Mr. Surendra was QC to the Geotechnical Investigations.
11/17-2/18	**Project No. H.002273, H.000710, and H.001352 Comite River Diversion Bridge at LA 67, LA 19 and LA 19 Railroad Bridge LA 67 and LA 19 -** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of 12 deep borings for the new and replacement bridges at Highway 19, 67, and 964. APS tested for strength and engineering characteristics of the soils. Mr. Surendra was QC to the Geotechnical Investigations.
11/19-Present	**Project No. H.001352 and H.002273: Comite River Diversion Bridge at LA 67, LA 19 and LA 19 Railroad Bridge LA 67 and LA 19 -** A P S was selected with the winning team for the design of the diversion CMAR project. A P S provided all the geotechnical engineering required by the project. Mr. Surendra is a design Engineer for the project design team.
03/19-05/19	**Project No. H.001344: US 190 over Bogue Falaya River-** 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 the foundation recommendation. Mr. Surendra is a design Engineer for the project design team.
12/19-3/20	**Project No. H.010155: US 90 Railroad Overpass SE of LA 85 -** A P S was selected for the GeotechnicalInvestigation and Design for the proposed new overpass. A total of six (6) deep borings were drilled and tested for Geotechnical recommendation. Mr. Surendra is a design Engineer for the project design team.

Firm employed by **Bridge Diagnostics, Inc. (BDI)**			
Name	**Shane Boone, PHD**	Years of relevant experience with this employer	7
Title	Vice President – Nondestructive Evaluation	Years of relevant experience with other employer(s)	13

Degree(s) / Years / Specialization			PHD / 2008 / Civil Engineering / Utah State University MS / 2005 / Structural Engineering / University of Tennessee BS / 2002 / Civil Engineering / University of Tennessee
Active registration number / state / expiration date			N/A
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities			Nondestructive Evaluation, QA/QC and Subject Matter Expert

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
07/16-Present	Dr. Boone has spent more than 20 years in the government, academic, and private sectors of specialized infrastructure inspection and monitoring. He specializes in the research, development and application of nondestructive testing & evaluation technologies and monitoring for civil infrastructure. Previously, Dr. Boone managed NDE programs at the Federal Highway Administration (FHWA) and Oak Ridge National Laboratory. He serves as the chair of the American Society for Nondestructive Testing's Structural Materials Technology Conference, chair of the ASNT Infrastructure Committee, and sits on TRB's Field Testing and NDE of Transportation Structures committee. He is a certified ASNT Level II inspector.
01/17 - Present	**Retainer Contract for Testing of Unknown Foundations Statewide (DOTD Contract No. 4400009224)** – Dr. Boone is the Subject Matter Expert (SME) for the NDE to determine the unknown foundations of up to 1,900 bridges in Louisiana. The project utilizes multiple methods of NDE including ultraseismic testing, parallel seismic survey, sonic echo/impulse response, and guided wave. To date, thousands of piles have been tested to determine the embedded depth for subsequent NBIS 113 scour evaluation and reporting. BDI has assisted DOTD in FHWA reporting of these items by uploading all reports into AssetWise.
01/19 - Present	**IDIQ Contract for Nondestructive Evaluation of Structures Statewide (DOTD Contract No. 4400015262) –** Dr. Boone is the SME 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. Dr. Boone assists DOTD with identifying proper technologies for application and best methods for analysis and reporting of findings into DOTD's AssetWise.
11/19 – Present	**NDE and Remote Inspection of I-10 over the Bonnet Carre Spillway, LA –** BDI is performing NDE of the bridge deck utilizing ground penetrating radar (GPR), deck acoustic response (SounDAR), infrared thermography (IR), and high-resolution imaging (HRI) to determine the deck integrity and NBIS/NBE reporting quantities. In addition, BDI is performing the NBIS inspection of the substructure utilizing remote inspection techniques with drones and other technology to report to FHWA. Dr. Boone is the SME for this inspection.

08/19 – 07/20	**NDE of City Park Lake Bridge LA –** Dr. Boone was the principal investigator for NDE of the City Park Lake Bridge in Baton Rouge, LA. NDE technologies included ground penetrating radar (GPR), deck acoustic response (DAR), infrared thermography (IR), high-resolution video (HRV). Remote inspection was performed on the substructure utilizing visual inspection and IR.
08/19 – 12/19	**NDE of Vicksburg Bridge, LA –** Dr. Boone was the principal investigator for NDE of the Vicksburg Bridge carrying I-20 over the Mississippi River near Vicksburg, MS. NDE technologies included ground penetrating radar (GPR), deck acoustic response (DAR), infrared thermography (IR), high-resolution video (HRV).
11/19 – 02/20	**Ultrasonic Testing of the US1 Simmesport Bridge, LA –** BDI performed inspection of 4 pins of the US1 bridge that carries US1 over the Atchafalaya River near Simmesport, LA. BDI utilized ASNT certified inspectors to perform ultrasonic testing (UT) and magnetic particle testing (MT) to determine their integrity. Dr. Boone was the SME for this inspection**.**
08/19 – 12/21	**US Army Corps Evaluation of Advanced Weld Inspection Methods –** As USACE's ongoing want to improve inspection techniques, BDI was awarded a Task Order under its IDIQ to identify and determine best practices for steel weld inspection utilizing advanced ultrasonic testing (UT) methods such as phased array ultrasonic testing (PAUT) and total focus method / full matrix capture (TFM/FMC). These advanced methods improve the reliability and repeatability of weld inspection and flaw sizing for fitness for service level analysis. Dr. Boone was the subject matter expert for this project and helped develop the testing means and methods that were performed on eight lab samples and four comprehensive in-field bridge weld inspections. Based on these findings, USACE expanded the scope to scan further areas of concern on one of the bridges.

Firm employed by Bridge Diagnostics, Inc. (BDI)					
Name	**Brice Carpenter, PE**			Years of relevant experience with this employer	13
Title	Senior Engineer / Engineering Department Lead			Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			MS / 2009 / Civil Engineering / New Mexico State University BS / 2007 / Structural Engineering / New Mexico State University		
Active registration number / state / expiration date			Professional Engineer: 39341 / LA / 3/31/2023		
Year registered	2014	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Structural engineering support.		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
07/09-Present	During his tenure and more than 250 bridges tested and load rated using advanced techniques, Mr. Carpenter has become BDI's Engineering Lead responsible for testing plan oversight, data processing and investigation, structural analysis, load rating, and reporting. Mr. Carpenter has been involved with the testing, monitoring, and evaluation of hundreds of structures of various types (steel, reinforced concrete, prestressed concrete, in simple to complex geometry and configurations) using a variety of design codes such as AASHTO, AREMA, and many state-specific codes including Louisiana specifications. Mr. Carpenter also has years of experience in capacity testing of concrete and steel structures using various NDE techniques.
10/21-Present	**IDIQ Contract for Complex Bridge Load Rating Services -Task 5 – Off-System Bridge Ratings and Evaluation Statewide LA –** Performed live-load testing and field-verified load ratings on ten (10) off-system structures selected from a list determined to require load posting based on load ratings previously performed in this contract. Bridge types included three (3) reinforced concrete slab bridges and seven (7) metal culverts of various types/configurations. Live load tests were performed to aid in evaluating the structures in their current condition. The collected structural responses were used to generate a field-verified finite-element model (FEM) of the structure. Mr. Carpenter was lead analysis/rating engineer on this project.
11/12-Present	**US-90 Bayou Ramos Bridge Load Testing & Monitoring, LA –** Due to unexpected cracking in PS concrete beams, BDI performed load tests and load ratings to determine cause and effect of cracks in continuous PS/C girders. After the initial evaluation, monitoring systems were installed on the structure to monitor two sections of structure. Health Monitoring is still ongoing. As lead analysis engineer, Mr. Carpenter performed field-verified load ratings and acts as the project engineer for monitoring system maintenance and troubleshooting.
11/11-Present	**Bonnet Carre Spillway Load Testing and Monitoring, LA –** In 2004, BDI used its Integrated Approach to determine if a 500-ton load could cross the bridge safely. Based on provided configurations, BDI determined the "superload" could cross with stresses below its serviceability limit. In 2011, BDI installed an event-based monitoring system that helps DOTD capture weigh-in-motion data, strains induced by heavy loads, and photos of heavy load. Mr. Carpenter performed

	superload load ratings and reporting for DOTD and currently acts as the project engineer for monitoring support to DOTD.
07/19–12/19	**St. Claude Lift Bridge Balance and Operation Testing, LA –** Project engineer and field/analysis engineer responsible for counterweight/span balance and friction calculations, and structural performance evaluation on a double heal trunnion Strauss Bascule Bridge. Strain gauge testing and various instrumentation tasks were performed during investigation of a bearing failure on the span to counterweight link.
08/16-05/17	**Live Load Testing of Eight Culverts and Testing, LA –** BDI worked in coordination with LSU, LTRC, and DOTD to perform comprehensive diagnostic live-load tests that allowed these structures to be better evaluated based on induced live-load effects, observed distribution, and general fixity at the culvert walls. BDI manufactured the structural testing system used for this testing based on LSU's specifications and needs. Mr. Carpenter acted as a project and testing engineer on this project.
07/09-11/12	**Load Testing and Rating of 35 Rhode Island Bridges, RI –** BDI performed field testing on 35 bridges located throughout the state of Rhode Island. For all of the structures, BDI collected and reviewed the strain, displacement, and NDE (GPR) data and provided it directly to AECOM for evaluation. For select bridges, BDI also used the field data to calibrate finite element models and develop accurate load ratings using the AASHTO Manual of Bridge Evaluation. Mr. Carpenter acted as analysis and rating engineer responsible for data processing and review, structural analysis, load rating, and reporting.
05/15 – 10/15 02/18 – 08/18	**Truss Monitoring on US 84 Over the Mississippi River, MS –** During the pin replacements on the Natchez cantilever truss over the Mississippi River, BDI performed Structural Health Monitoring (SHM) on the critical truss members and temporary load path systems during pre, during, and post construction. Mr. Carpenter acted as project field and analysis engineer in charge field prep, field installation, data analysis and reporting.

Firm employed by **Bridge Diagnostics, Inc. (BDI)**					
Name	**Brett Commander, PE**			Years of relevant experience with this employer	32
Title	Vice President / Principal Engineer			Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization			MS / 1989 / Structural Engineering / University of Colorado BS / 1986 / Civil Engineering / University of Colorado		
Active registration number / state / expiration date			Professional Engineer: 35864 / LA / 3/31/2023		
Year registered	2010	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Structural Engineering Support		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
10/89-Present	Mr. Commander has more than 30 years of experience with testing, monitoring, and evaluating measured structural responses on over 1,000 structures. He has performed/oversaw complete structural analyses and load ratings on over 500 highway and railway bridges using a variety of design codes such as AASHTO and AREMA, and many state-specific codes including Louisiana specifications. Mr. Commander also has designed/oversaw capacity testing projects of concrete and steel structures using various NDE techniques as well as implemented hundreds of structural monitoring systems.
10/21-Present	**IDIQ Contract for Complex Bridge Load Rating Services -Task 5 – Off-System Bridge Ratings and Evaluation Statewide LA –** Performed live-load testing and field-verified load ratings on ten (10) off-system structures selected from a list determined to require load posting based on load ratings previously performed in this contract. Bridge types included three (3) reinforced concrete slab bridges and seven (7) metal culverts of various types/configurations. Live load tests were performed to aid in evaluating the structures in their current condition. The collected structural responses were used to generate a field-verified finite-element model (FEM) of the structure. Mr. Commander was principal engineer for this project.
10/17 – Present	**Norris Bridge Pin and Hanger NDT, Emergency & Ongoing Monitoring, VA** – Principal-in-Charge for an ongoing project that included the inspection of one hundred forty-six pin and hanger assemblies utilizing visual and ultrasonic testing methods including straight beam ultrasonic testing (UT) and phased array ultrasonic testing (PAUT) that resulted in irregular results on two of the pins. BDI then designed, built, and installed a wireless strain gage monitoring system on the catch system at these areas and subsequently expanded the monitoring system to all catch systems on the structure and performed load testing for several deficient truss bays. The ongoing monitoring program is set to alert the DOT of any change in stress state.
11/12 – Present	**US-90 Bayou Ramos Bridge Load Testing and Monitoring, LA** – Due to unexpected cracking in PS concrete AASHTO beams, BDI performed load tests and load ratings to determine cause and effect of cracks in continuous multi-span PS/C girders. Load ratings were completed according to DOTD specifications. After the completion of the initial evaluation, monitoring systems were installed on the structure to monitor the state of two sections of structure. Structural Health

	Monitoring is still ongoing. As 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 retrofit.
11/04 – 12/04 11/11 – Present	**Bonnet Carre Spillway Load Testing, Rating, and Monitoring, LA** – BDI used its Integrated Approach to determine if a 500-ton load could cross the bridge safely. BDI then installed an event-based monitoring system that helps DOTD capture weigh-in-motion data, strains induced by heavy loads, and photos of heavy load. Health Monitoring is still ongoing. Over multiple contracts, Mr. Commander was the principal-in-charge on this project in its many phases which included responsibilities such as testing program oversight, structural analysis, load rating of structure for atypical load configurations, on-site data interpretation, report creation and submittal, and providing recommendations for future crossings.
07/21 – Present	**NDE of the Whiskey Bay and Piot Channel Bridge Decks, LA** – NDE of 3.5M sf of bridge deck on the structure carrying I-10 over the Atchafalaya Basin between Baton Rouge and Lafayette, LA. Testing included IR/HRI, CWSF GPR and SounDAR from BDI's mobile NDE testing van. IR/HRI bridge deck data was also collected via drone. BDI also performed substructure inspection to satisfy LADOTD's NBI requirements of the structure with IR/HRI via drone. The data will be used to quantify and locate areas for repair and preservation, and to report NBE and NBI data to FHWA. Mr. Commander is providing QA/QC and PE Review.
07/19 – 01/20	**St. Claude Lift Bridge Balance and Operation Testing, LA –** Mr. Commander was project principal engineer responsible for counterweight/span balance and friction calculations as well as structural performance evaluation on a double heal trunnion Strauss Bascule Bridge. Strain gauge testing and various instrumentation tasks were performed during investigation of a bearing failure on the span to counterweight link including strain gage testing on the link frame as well as on counterweight balance procedures.

Firm employed by **Bridge Diagnostics, Inc. (BDI)**			
Name	**Jesse Sipple, PHD, PE**	Years of relevant experience with this employer	8
Title	Testing, Monitoring, and Engineering Program Manager	Years of relevant experience with other employer(s)	9

Degree(s) / Years / Specialization			PHD, Civil Engineering, Tufts University, 2013 MS, Civil Engineering, University of New Hampshire, 2008 BS, Civil Engineering, University of New Hampshire, 2007
Active registration number / state / expiration date			#41028 / Louisiana / 03/31/2023
Year registered	2016	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities			Testing, Monitoring, and Engineering Manager

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/14-Present	Dr. Sipple oversees the testing, monitoring, engineering, and on-going monitoring groups of BDI's Services. The projects performed by these groups range from large SHM systems on signature structures, complex testing and analysis of constructed systems, and maintenance and support of in-service systems. In addition to managerial oversight, Dr. Sipple also oversees the quality control aspects of these projects.
11/21-Present	**Off-System Bridge Ratings and Evaluation, LA (Contract 4400010099) –** BDI is preforming live-load testing of ten bridges throughout the state of Louisiana, including seven culvert and three reinforced concrete bridges of varying types to provide realistic load rating results for those structures. The process includes developing instrumentation plans, instrumenting, load testing, and load rating each bridge. Load rating reports will be provided for each of the load tested structures. Dr. Sipple is an analysis engineer and reviewer for this project.
07/18–09/18	**Collier County Bridge Load Testing, FL –** BDI performed diagnostic load tests on the FDOT Bridge 034190 which spans over a small drainage ditch in a residential area in Immokalee, Florida. The overall goal of these tests was to better understand the structure's transverse distribution, provide refined load ratings, and reevaluate the current posting levels. Load tests were performed, and the collected structural responses were used to generate a field-verified finite-element model (FEM). This field-verified FEM was then used to compute refined load ratings. Dr. Sipple acted as project manager for this project.
06/18–03/19	**Phinney Avenue Bridge Load Rating and NDE, WA –** BDI was contracted by SDOT to perform diagnostic load tests and structural reinforcement investigation on the Phinney Ave bridge that spans over North 57th St in Seattle, WA. Instrumentation, load tests, and reinforcement investigation were performed with the overall goal of these tests was to better understand the structures' load distribution, reinforcement details, and in turn provide refined load ratings. Dr. Sipple acted as the project manager for this project.
07/19–12/19	**St. Claude Lift Bridge Balance and Operation Testing, LA** – Dr. Sipple was the quality control manager for counterweight/span balance and friction calculations as well as structural performance evaluation on a double heal trunnion Strauss Bascule Bridge. Strain gauge testing and various instrumentation tasks were performed during investigation of a bearing failure on the span to counterweight link.
08/18–12/20	**Live Load Testing and Field-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 field work 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 quality control manager for this project.
04/18-10/19	**Sunshine Truss Emergency Monitoring, LA -** In 2018, the Sunshine Truss Bridge was struck by a crane barge, significantly damaging a bottom chord member. As part of the response team, BDI installed a laser displacement sensor within 48 hours of the event to monitor the behavior of the damage member. Once a monitoring plan was developed and approved by the team, BDI installed strain gages along nearby chord members that were used to evaluate the state of the structure before, during and after the replacement of the damaged bottom chord member. Dr. Sipple acted as project manager responsible for monitoring plan development and project oversight.
02/20-12/20	**LA507 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.
01/22-Present	**Varina-Enon Bridge Structural Health Monitoring, VA –** Virginia Department of Transportation contracted BDI to provide a comprehensive structural health monitoring (SHM) system on the Varina-Enon bridge. The project includes the design, installation, and operation of the SHM system. Dr. Sipple is a senior engineer contributing to system design, architecture, and installation support in his current capacity on this project.

Firm employed by **Bridge Diagnostics, Inc. (BDI)**			
Name	**Charles Young, PE**	Years of relevant experience with this employer	4
Title	Nondestructive Evaluation Program Manager	Years of relevant experience with other employer(s)	7

Degree(s) / Years / Specialization	MS / 2017 / Structural Engineering / Drexel University BS / 2012 / Architectural Engineering / Drexel University
Active registration number / state / expiration date	Professional Engineer: 42773 / LA / 3/31/2023
Year registered: 2018 / Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities	Nondestructive Evaluation Project Manager and Engineer

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
05/18-Present	Mr. Young has 11 years of experience in nondestructive evaluation and testing (NDE/NDT), and structural monitoring and testing. BDI, Mr. Young is responsible for project management, analysis, and field services related to NDT of civil infrastructure. He works closely with a multifaceted group of engineers and technicians to perform NDE on bridges, dams, culverts, pavements, and other civil infrastructures. Mr. Young is heavily involved in testing and instrumentation of existing structures using NDE methods (acoustic, ultrasonic, electromagnetic, and electrochemical), performing dynamic and digital signal processing and analysis, and numerical and finite element modelling of complex structures.
05/18 – 12/21	**Nondestructive Evaluation of Unknown Bridge Foundations, LA –** This project aims at performing NDE of more than 500 bridges in the state of Louisiana to determine the unknown or undocumented depths of bridge foundation piles. A proofing step was performed on six bridges to estimate the depth of timber, concrete, and steel piles. Multiple BDI testing and analysis methods including Sonic Echo/Impulse Response (SE/IR), Ultraseismic (US), and Parallel Seismic Survey (PSS) were utilized. Mr. Young was the project manager.
10/18 – 08/19	**Sunshine Truss Emergency Monitoring, LA –** In 2018, the Sunshine Truss Bridge was struck by a crane barge, significantly damaging a bottom chord member. As part of the response team, BDI quickly deployed a laser displacement sensor to monitor the behavior of the damage member. Once a monitoring plan was developed and approved by the team, BDI installed strain gages on nearby chord members that were used to evaluate the state of the structure before, during and after the replacement of the damaged bottom chord member. Mr. Young acted as an installation technician, and site supervisor for this project.
01/19 - Present	**Bonnet Carre Spillway Inspection and Nondestructive Evaluation, LA –** This project involves an NHI routine inspection of the Bonnet Carre Spillway Bridge and targeted nondestructive evaluation techniques at various critical portions of the 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 is the project engineer and lead bridge inspector for this project.

08/19 – 07/20	**City Park Lake Bridge Inspection and Nondestructive Evaluation, LA –**NHI routine inspection of the City Park Lake Bridge and targeted nondestructive evaluation. This work was performed under an IDIQ Contract for Non-destructive Evaluation of Structures for DOTD. Nondestructive evaluation included a multi-technology bridge deck assessment including Deck Acoustic Response, Ground Penetrating Radar, Infrared Thermography, and High-Resolution Imagery. Also included in the nondestructive evaluation is Infrared Thermography of the superstructure and substructure of the bridge. Mr. Young was the project manager.
08/19-12-21	**US Army Corps Evaluation of Advanced Weld Inspection Methods –** As USACE's ongoing want to improve inspection techniques, BDI was awarded a Task Order under its IDIQ to identify and determine best practices for steel weld inspection utilizing advanced ultrasonic testing (UT) methods such as phased array ultrasonic testing (PAUT) and total focus method / full matrix capture (TFM/FMC). These advanced methods improve the reliability and repeatability of weld inspection and flaw sizing for fitness for service level analysis. Mr. Young helped develop the testing means and methods that were performed on eight lab samples and four comprehensive in-field bridge weld inspections. Based on these findings, USACE expanded the scope to scan further areas of concern on one of the bridges.
06/20-09/20	**West Seattle High Bridge, WA –** BDI was contracted by Seattle DOT to provide a nondestructive testing and structural health monitoring program to help evaluate performance of the structure during first phase of retrofitted internal post-tensioning. The monitoring program helped the Seattle DOT make decisions and resulted in the next phase of strengthening to open the bridge by 2022. Mr. Young acted as the Task Order Manager and Lead Field Engineer for this project.

Firm employed by **C. H. Fenstermaker & Associates, L.L.C.**			
Name	**Justin Bordelon, PLS**	Years of relevant experience with this employer	16
Title	Manager, Surveyor	Years of relevant experience with other employer(s)	0

Degree(s) / Years / Specialization			B.S. / 2009 / Business Administration
Active registration number / state / expiration date			PLS 5271 / LA / 12.31.2022
Year registered	2021	Discipline	Professional Land Surveyor
Contract role(s) / brief description of responsibilities			Surveyor

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
Mr. Bordelon is the Survey Manger of Fenstermaker's Advanced Technology Group. He started performing underwater acoustic investigations and hydrographic surveys at Fenstermaker in 2006. As the Advanced Technology Group grew, Mr. Bordelon became the underwater acoustic investigation manager and worked on many projects including an inspection of over 100 bridges for the Louisiana Department of Transportation and Development. In 2015, he became a Survey Crew Manager and managed crews in Lafayette, Shreveport, and Midland, TX.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
03/15-05/15	**LADOTD–Harrisonburg Bridge Laser Scanning Survey:** Fenstermaker provided 3D laser scanning and high precision measurement of the in-water and land-based bridge pier supports and superstructure for LADOTD for providing critical measurements used to determine if any misalignment issues exist with the center swing span structure and the land-based approach spans. Fenstermaker also used a high accuracy 1" total station to collect positional data on monitoring targets strategically placed during a previous survey performed five years prior for comparing this data to the positional data collected on these targets during the previous survey. The dataset was critical in illustrating any movement the bridge may have encountered or misalignment issues that have occurred over the 5-year timeframe because of vessel impacts. Mr. Bordelon served as the field technician for data collection and assisted in creating deliverables for this project.
11/11-11/14	**DOTD P.O. No. 005365.5: Underwater Acoustic Imaging for Bridge Inspection Statewide:** Fenstermaker was contracted to provide and is currently providing Underwater Acoustic Imaging services for the underwater bridge inspection of pier systems for 72 state-maintained bridges. The project scope consists of an underwater acoustic inspection and evaluation of the submerged components of the piers utilizing a multi-axis, steered beam imaging and profiling remote sensing system with all acoustic data correlated to a Real Time Kinematic (RTK) GPS positioning system. The purpose of the inspection and evaluation is to identify and locate any major damage or deterioration of the pier structures along with a detailed localized inspection of any observed anomalies using both the acoustic imaging system and dive inspection; and to identify any localized scour impact or erosion of the surrounding water bottom. The data is then processed, and mosaics of the acoustic imagery are generated and included in a report that also documents the findings and recommendations resulting from the UAI and dive inspections. Mr. Bordelon was responsible for the management of all field resources and the quality and accuracy of all field data collection activities. Mr. Bordelon also processed the acoustic, hydrographic and topographic data and generated deliverables for this project.
03/10-04/10	**Almonaster Street Bridge Damage Inspection, New Orleans, LA:** Fenstermaker was contracted to perform and Underwater Acoustic Imaging investigation of the Almonaster Avenue Bridge and the fendering system for the bridge. This entailed scanning the bridge abutments as well as the fendering system and Dolphin Cells as well as documenting the disposition of debris on the water bottom. Mr. Bordelon served as survey technician, collecting

	images of the fender system with MS 1000 in the field and creating the Autocad mosaics.
06/13-07/13	**DOTD SP No. 700-29-0112: Leeville Pier #1, Acoustic Imaging, Lafourche Parish, LA:** Fenstermaker performed a topographic and high definition (laser scan) survey of the West Larose Vertical Lift Bridge on LA 1 in Larose, Louisiana as a subconsultant to support the bridge renovation for LADOTD. As a result of the survey, Fenstermaker established low steel vertical clearances in the bridge up and down positions, bridge pier elevations, and roadway clearances at the approaches, temporary benchmarks as a baseline for future surveys, and shoreline topographic surveys on both sides of the channel within the limits of the existing fenders and 50 feet in each direction. Mr. Bordelon served as Project Manager and provided field coordination and review of data collection.
03/20-01/21	**Calcasieu Parish (HUC 8) Watershed Modeling & Planning, Calcasieu Parish, LA:** Fenstermaker provided surveying services within the project area in support of the modeling efforts for the project. The survey task consisted of the collection of roadside ditch inverts, cross drains, high and low cords on existing bridge decks, and documentation of the existing conditions of the crossings. Mr. Bordelon oversaw field coordination, project management, and data processing for all the bathymetric surveys required for the Calcasieu Parish (HUC) 8 Watershed Modeling & Planning Project.
12/12-07/13	**Horace Wilkenson Bridge Mississippi River Bridge Inspection, West Baton Rouge Parish, LA:** Fenstermaker provided an Underwater Acoustic Imaging inspection of a damaged bridge pier fender system, for LADOTD after a ship collided with the bridge, to assist in damage assessment and debris disposition mapping. Mr. Bordelon served as the Field Team Crew Leader and lead acoustic technician on this project, managing the field crew, conducting site visits, processed data, provided QA/QC of data, and prepared the report on findings.
05/19-03/21	**S.P. H.005967 Port of Lake Charles Rail at W. Sallier St. (Calcasieu Parish, LA):** Fenstermaker completed the topographic and boundary field surveys, established control, post-processed data, reviewed title reports, established property boundaries and mapped encumbrances for the approximately 0.75-mile Railroad Relocation for the Port of Lake Charles in Lake Charles, Louisiana. LA DOTD survey feature codes were utilized for this project, and LA DOTD Right of Way maps along with COGOWIN legal descriptions were created. The maps followed the specifications set forth in the LA DOTD Location & Survey manual in conjunction with direction from LA DOTD agents. Maps went through LA DOTD's internal review process and have been accepted for final recordation. Mr. Bordelon was responsible for field coordination for this project.

Firm employed by **C. H. Fenstermaker & Associates, L.L.C.**					
Name	**Dax Douet, P.E.**		Years of relevant experience with this employer	25	
Title	Director, Engineer		Years of relevant experience with other employer(s)	1	
Degree(s) / Years / Specialization			B.S. / 1997 / Civil Engineering		
Active registration number / state / expiration date			PE.0030170 / LA / 9.30.2022		
Year registered	2002	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities			Roadway.		

Dax Douet is an Engineering Director with over 26 years of professional experience in design, planning, and project management. He has designed highways, roadways, drainage systems (open channel, sub-surface, and large scale 1- and 2-dimensional numerical models for coastal environments), interchanges, roundabouts, standard intersections, and various site developments. Additionally, Mr. Douet managed the preparation of over thirteen Stage 0 feasibility studies for the Louisiana Department of Transportation & Development (LADOTD). These feasibility studies were conducted for a wide range of transportation projects throughout the State of Louisiana to include roadway improvements, interstate highway interchanges, and grade-separated bridge structures. Mr. Douet has also led the preparation of geometric line and grade studies to support more than five Environmental Assessment documents in accordance with the National Environmental Policy Act (NEPA) guidelines. He has managed various multi-disciplinary projects and performed roadway corridor studies, traffic safety analyses, and feasibility studies, which encompass design, right-of-way, environmental, and utility work. He has attended the ATSSA Traffic Control Supervisor and Technician courses, the NHI Course No. 142005, "NEPA & the Transportation Decision Making Process" and the LADOTD Highway Safety Manual Workshop.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
05/13-09/19	**S.P. No. H.010620: US 90 (I-49 South) Albertson Parkway to Ambassador Caffery Design-Build (Lafayette Parish, LA):** Under the Design-Build Contractor, James Construction Group, Mr. Douet was the Lead Design Manager for the preparation of all engineering design components of the proposed upgrading of a portion of US 90 to a 6-lane controlled access facility to also include improvements to the existing east and westbound frontage road system, construction of a new 6-lane US 90 overpass structure over both Albertson Parkway and the existing BNSF railroad facility, and construction of all associated US 90 mainline ramps needed to connect these overpass structures and frontage roads. In this role, Mr. Douet was involved directly in every aspect of the design to include roadway, drainage, traffic, and bridge design as well as the design of Mechanically Stabilized Earth Walls (MSEW) needed to construct the US 90 mainline improvements within existing right of way. In this capacity, he was required to also review all construction related Request for Information to ensure that all responses meet the expectations of LADOTD. Mr. Douet was the Engineer of Record for the final design and construction plans for Phase III of the project's roadway and drainage improvements to include developing calculations, meeting design code, development of design exceptions, and coordination of all QA reviews. Mr. Douet was also directly responsible for the management of four engineering sub-consultants on the design-build team to ensure that all design components met the overall goals and expectations of the project.

01/17-Present	H.011235.5 I-49 South @ Verot School Road (LA339) (Lafayette, LA): Fenstermaker, as a sub-consultant, was selected to perform engineering design services for improvements to the existing intersection of U.S. Highway 90 (US 90) (Future I-49 South) and Verot School Road. Mr. Douet is one of the senior design engineers responsible for the widening of existing Verot School Road and improving existing U.S. Hwy. 90 to interstate standards. Mr. Douet aided in the development of a project line and grade study to help facility decision making on the future design for moving the project to preliminary plan development. Mr. Douet led the design of a multi-lane roundabout at the new Verot School Road intersection with South College Road. Mr. Douet also led the public outreach scope of the project by coordinating and hosting a public meeting which followed the procedures set forth by the Louisiana Department of Transportation and Development. primarily responsible for the preparation and hosting of the project's public meeting as part of the updating of the existing NEPA Environmental Impact Statement previously prepared in 2005, all roadway and drainage design, and temporary traffic control and sequence of construction for the project. Mr. Douet is also assisting with the temporary traffic control and sequence of construction for this project.
11/08-Present	LADOTD Permit No. 03030387: Kaliste Saloom Rd Widening, Intersection Improvements, Bridge and CE&I (LA3073 to LA733) (Lafayette Parish, LA): Mr. Douet is managing this $34 million project, which includes fast-tracking all real estate appraisals, plats, and construction plans. Mr. Douet is also the Lead Design Engineer for the widening of approximately 1.7 miles. The roadway is an over-capacity major arterial roadway located in the center of Lafayette. Mr. Douet was directly responsible for the development of a line and grade study that allowed the LCG to choose between alternatives and determine the optimal locations for widening based upon impacts to businesses, and cost of ROW.
01/10 - 12/14	I-12 to Bush Environmental Impact Study (EIS) (St. Tammany Parish, LA): Mr. Douet was Lead Design Engineer for this LADOTD project. He was responsible for all line and grade tasks associated with this EIS, which were prepared in accordance with NEPA. The goal of the line and grade study was to review previously determined alternatives, identify the least damaging and most practical alternatives for further analysis, and provide revised alternatives that met current LADOTD design guidelines. Mr. Douet managed the study, which resulted in a Record of Decision by the U.S. Army Corps of Engineers (USACE) recommending a preferred alternative. Additional tasks involved construction cost estimating that encompasses the construction cost, right-of-way acquisitions, utility relocations, and mitigation requirements.
04/17-11/20	Cane River Bridge Church Street Route LA 1-X (Natchitoches Parish, LA): LADOTD in conjunction with the FHWA prepared a NEPA environmental assessment for the proposed replacement of Cane River Bridge on Church Street Route LA 1-X. Mr. Douet served as the project manager and lead engineer for preparation of the environmental document. He was responsible for all public outreach, agency coordination, preparation of the project line and grade study, coordination of the project's traffic study, development of project alternatives, development of cost estimates, coordination of the noise and air analysis, coordination of historical and archeological investigations, and coordination of various other environmental analysis.

Firm employed by **C. H. Fenstermaker & Associates, L.L.C.**			
Name	**Lance Fontenot**	Years of relevant experience with this employer	16
Title	Survey 360 Technician II	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization		A.S. / 2006 / Survey & Drafting	
Active registration number / state / expiration date		2016, Remote pilot certification, Small Unmanned Aircraft System #3934546	
Year registered		Discipline	
Contract role(s) / brief description of responsibilities		Survey 360 Technician	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
	Mr. Fontenot is a Senior Survey 360 Technician in the Advanced Technologies Division. Mr. Fontenot serves as the lead Unmanned Aerial Vehicle (UAV) and High-Definition Scanning (HDS) / Dimensional Control survey technician and oversees all field HDS/DC operations for the project to ensure corporate QA/QC guidelines and procedures are being utilized on projects. He also provides the day-to-day technical guidance and has final say in submission of all data to project managers. Mr. Fontenot has performed UAV Surveys, HDS Scanning, Dimensional Control support, Boundary/Right-of-Way, Pipeline, Topographic, Roadway, Construction, Oil & Gas, Geodetic, Hazard, and Accident Surveys primarily across the Gulf Coast Area.
03/15-04/15	**LADOTD–Harrisonburg Bridge Laser Scanning Survey:** Fenstermaker provided 3D laser scanning and high precision measurement of the in-water and land-based bridge pier supports and superstructure for LA DOTD for providing critical measurements used to determine if any misalignment issues exist with the center swing span structure and the land-based approach spans. Fenstermaker also used a high accuracy 1" total station to collect positional data on monitoring targets strategically placed during a previous survey performed five years prior for comparing this data to the positional data collected on these targets during the previous survey. The dataset was critical in illustrating any movement the bridge may have encountered or misalignment issues that have occurred over the 5-year timeframe because of vessel impacts. Mr. Fontenot served as lead technician in processing the laser scan data and generating the deliverables for this project.
11/13-12/13	**DOTD P.O. No. 005365.5: Underwater Acoustic Imaging for Bridge Inspection, Louisiana Statewide:** Fenstermaker was contracted to provide Underwater Acoustic Imaging (UAI) services for the underwater bridge inspection of pier systems for 72 state-maintained bridges. The project scope consists of an Underwater Acoustic Inspection and evaluation of the submerged components of the piers utilizing a multi-axis, steered beam imaging and profiling remote sensing system with all acoustic data correlated to a Real Time Kinematic (RTK) GPS positioning system. Mr. Fontenot served as Lead Survey Technician.
06/13-07/13	**DOTD SP No. 700-29-0112: Leeville Pier #1, Acoustic Imaging, Lafourche Parish, LA:** Fenstermaker performed a Topographic and High Definition (Laser Scan) Survey of the West Larose Vertical Lift Bridge on LA 1 in Larose, Louisiana for the bridge renovation effort for LADOTD. As a result of the survey, Fenstermaker established low steel vertical clearances in the bridge up and down positions, bridge pier elevations, and roadway clearances at the approaches, temporary benchmarks as a baseline for future surveys, and shoreline topographic surveys on both sides of the channel within the limits of the existing fenders and 50 feet in each direction. Mr. Fontenot served as the Lead Field Survey Technician on this project and lead the data processing effort.

05/18-01/19	**Driftwood LNG Master ALTA Survey, Calcasieu Parish, LA:** Fenstermaker was contracted by Driftwood LNG to generate an overall ALTA survey for the proposed site. Mr. Fontenot was responsible for flying the UAV for the project, data processing, quality control and assisting with producing deliverables.
04/17-02/20	**Lafayette Consolidated Government–Kaliste Saloom Widening, Lafayette, LA:** Fenstermaker's Engineering Division was contracted to provide engineering services in design of the Kaliste Saloom widening between LA 733 and Ambassador Caffery. In support of this effort, Fenstermaker provided aerial mapping services of the alignment using UAV technology. Mr. Fontenot served as the lead UAV field technician responsible for operation of the drone system, and production of the topographic plats generated from the photogrammetric data.
07/13-12/13	**West Larose Bridge Survey, Larose, LA:** Fenstermaker provided 3D laser scanning of the West Larose Bridge carrying LA1 over Bayou Lafourche. Using our laser scanning technology, Fenstermaker was tasked to provide critical measurements of specific structural elements for the purposes of engineering design in the renovation of the bridge. Mr. Fontenot served as our lead laser scanning technician responsible for all aspects of data collection in the field and was instrumental in processing the laser scan data in the office.
06/10-10/12	**Inner Harbor Navigation Canal, GIWW Barge, and Bayou Bienvenue Lift Gate Projects, Orleans Parish, LA:** Fenstermaker was contracted to provide a rapid response on call survey service for performing high order surveys along with high speed laser scanners to report deviation in alignment and location of the interfaces between constructed features, design documents and components being fabricated offsite in support of the construction of the Inner Harbor Navigation Canal Sector Gates, the GIWW Barge Gate, and the Bayou Bienvenue Lift Gate Monolith. Fenstermaker linked the survey data and laser scanner data to allow the generation of a visual representation of the areas being surveyed. Mr. Fontenot served as our lead field survey technician on this project.

Firm employed by **C. H. Fenstermaker & Associates, L.L.C.**			
Name	**Nicholas Gaspard, M.S., PMP**	Years of relevant experience with this employer	9
Title	Manager, Environmental Specialist	Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization		B.S. / 2006 / Marine Biology M.S. / 2008 / Marine & Environmental Biology	
Active registration number / state / expiration date			
Year registered		Discipline	
Contract role(s) / brief description of responsibilities		Environmental and Permitting Services	

Mr. Gaspard's experience primarily consists of regulatory and environmental compliance. He has performed Phase I Environmental Site Assessments, Wetland Delineations, Threatened and Endangered Species Surveys, Biological Oyster Assessment, and has applied for and obtained numerous permits for Oil/Gas, commercial, and private development clients. Mr. Gaspard completed the PADI Open Water Diver certification in 1999, the U. S. Army Corps of Engineers Wetland Delineation Training Course in 2009 and the Hydric Soils Workshop in 2011.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
07/16-03/18	**Fluor/Lyondell Basell – CVO/BLO Pipeline Matrix (Harris and Chambers Counties, TX):** Mr. Gaspard is currently provided environmental consulting services for both field work and regulatory compliance for a pipeline client. These projects involve Wetland Delineations and regulatory compliance for numerous pipelines and facilities near Harris and Chambers Counties. The regulatory compliance tasks Mr. Gaspard completed ranged from utility crossings to local governing bodies such as drainage districts and municipalities, all the way up to the federal Army Corps of Engineers permitting.
04/19-06/21	**Cameron Parish Shoreline Stabilization (Cameron Parish, LA):** As Project Manager, Mr. Gaspard was responsible for providing overall project management including, developing, and maintaining a budget and schedule; maintaining work logs of all sub-consultants and administration of their tasks; maintaining accurate project data; maintaining and providing project records in a record management system; providing itemized task schedules; and conducting and documenting project meetings. This project is designed to protect approximately 1.25 miles of Cameron Parish Shoreline. Mr. Gaspard was responsible for management the preparation of the permit for Louisiana Department of Wildlife and Fisheries.
02/17-ongonig	**Driftwood Liquefied Natural Gas (LNG) Facility (Calcasieu Parish, LA):** Fenstermaker prepared a mitigation prospectus for the Beneficial Use of Dredge Material (BUDM) areas for a proposed LNG site. Fenstermaker has prepared the written BUDM Plan, secured options for land rights, reviewed and analyzed existing geotechnical sample results, conducted topographic, boundary, and wetland permitting. Also, future biological and survey monitoring was conducted by Fenstermaker of the mitigation area. Mr. Gaspard prepared wetland permit application and plats, the Office Coastal Management permit application, prepared LADOTD permit applications, and U.S. Army Corps of Engineers permit application.
04/20-present	**Lake Boudreaux Living Mitigation (Terrebonne Parish, LA):** Mr. Gaspard serves as Project Manager and is responsible for developing and maintaining a budget and schedule; maintaining work logs of all sub-consultants and administration of their tasks; maintaining accurate project data; maintaining and providing project records in a record management system; providing itemized task schedules; and conducting and documenting project meetings. Mr. Gaspard is responsible for managing the preparation of the Office of Coastal Management permit including drawings and application, geotechnical boring permits, conducting site visits, reviewing data, coordinating with stakeholders, field crews and the geotechnical subcontractor, providing updates to the client, coordinating with pipeline owners, and preparing pipeline crossing agreements.

Firm employed by	**C. H. Fenstermaker & Associates, L.L.C.**		
Name	**Christopher Guidry**	Years of relevant experience with this employer	24
Title	Manager, Environmental Specialist	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		B.S. / 1996 / Environmental and Sustainable Resources	
Active registration number / state / expiration date			
Year registered		Discipline	
Contract role(s) / brief description of responsibilities		Environmental and Permitting Services	

Mr. Guidry's experience primarily consists of environmental compliance and securing federal, state, and local permits. A member of Fenstermaker's Due Diligence Team, Mr. Guidry's duties include overall project manager and field investigation support for Environmental Due Diligence projects. He also manages Phase I Environmental Site Assessment projects for commercial and private development clients. Mr. Guidry has prepared Storm Water Pollution Prevention Plan manuals and conducted inspections for construction activities associated with pipeline projects as required by the Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit. Mr. Guidry also has experience in Wetland Delineations, Wetland Characterization, Wetland Damage Assessment, Wetland Permitting, and Environmental Project Management. He has secured mitigation contracts from approved Wetland Mitigation Banks, which offset wetland impacts because of wetland permits that are issued by the U.S. Army Corps of Engineers and the Department of Natural Resources Coastal Management Division. Software & Training: Mr. Guidry completed the ASTM Phase I Environmental Site Assessment Certification Program in 1997 and a refresher course in 2008. Mr. Guidry completed the USACE Wetland Delineation Certification Program in 1996. He has also taken the FHWA-NHI Course No. 142005- "NEPA and Transportation Decision Making."

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
04/15-04/18	**Coach Williams Boulevard Extension (Calcasieu Parish, LA):** Mr. Guidry's responsibilities included overall environmental project management, QA/QC of collected wetland delineation data, report preparation, and permit agent. Permits acquired include securing USACE Jurisdictional Determination and USACE Permits for jurisdictional wetland and water impacts.
02/15-05/17	**LADOTD Permit No. 153198, 153357, 153587: Sasol LCCP-Heavy Haul Road Engineering and Construction (LA378 & LA379) (Calcasieu Parish, LA):** Mr. Guidry's responsibilities included overall environmental project management and Permit Agent for Fenstermaker's $11.4 million engineering and consulting contract with Fluor. Permits acquired include securing railroad, State Highway, and Parish Road Crossing Permits.
04/12-10/12	**S.P. No. H.000758.2 US 84 from LA 772 to East of Hair Creek Bridge EA (LaSalle Parish, LA)** Mr. Guidry directed the field wetland delineation, report production, data organization and processing, and wetland boundary map development for this environmental assessment under NEPA standards.
01/09-09/09	**S.P. No. 700-55-0122: LADOTD LA 311 Environmental Assessment & Line & Grade Study (Terrebonne, LA):** Mr. Guidry's responsibilities included field wetland delineation, project management and wetland report production, data organization and processing, and wetland boundary map development.
06/14-11/15	**Lake Charles LNG Traffic Impact Analysis and Road Improvements (LA384 & LA385): LADOTD Permit No. 153351, 153352, 153353 (Calcasieu Parish, LA):** Mr. Guidry was the environmental project manager for this proposed road improvement project (Calcasieu Point Development) for W Lincoln RD and LA385 located in the Coastal Zone of Louisiana, south of Lake Charles. Mr. Guidry's responsibilities included overall environmental project management, QA/QC of collected wetland delineation data, report preparation, and permit agent. Permits acquired include securing a US Army Corps of Engineers (USACE) Jurisdictional Determination, USACE Permit, and LDNR Office of Coastal Management (OCM) permit for

	jurisdictional wetland and water impacts.
07/18-03/20	**S.P. No. H.009932 US 80 Widening: Vancil Rd to Well Rd EA (Ouachita Parish, LA):** Mr. Guidry served as the Wetland Analysis Lead for this Environmental Assessment to improve the corridor by widening the existing roadway and implementing intersection improvement principles along a 1.4-mile portion of US 80. He has coordinated wetland and threatened and endangered species field delineations and analyzed impacts associated with the project. He developed a report for approval to LADOTD, in accordance with National Environmental Policy Act (NEPA), summarizing the findings of the analyses.
3/18-01/19	**S.P. No. H.001271 Cane River Bridge Church Street EA (Natchitoches Parish, LA):** Mr. Guidry served as the Wetland Analysis Lead for this Environmental Assessment for the replacement of the Cane River Bridge. He was responsible for all aspects of the wetland and threatened and endangered species analyses. He coordinated all field activities and developed a report summarizing the impacts of the project to wetlands and threatened and endangered species. Mr. Guidry also assisted with the preparation of the Phase I Environmental Site Assessment and USACE permits.
08/10-05/15	**Kaliste Saloom Road Widening, Intersection Improvements, Bridge and CE&I (LA3073 to LA733) (Amb. Caffery to E. Broussard Rd) (Lafayette Parish, LA):** Fenstermaker was selected to perform engineering design services for the roadway construction of approximately 2 miles of a 5-lane concrete roadway, a 5-lane bridge over the Isaac Verot Coulee, and a multilane modern roundabout at the intersection of E. Broussard Road and Kaliste Saloom Road. Fenstermaker provided construction administration, including contractor payments and necessary change orders, and inspection services were provided daily. Additionally, Fenstermaker performed engineering design services for the relocation of all water and sewer utilities within a 2-mile section of Kaliste Saloom Road. This section of roadway was considered a densely populated, high traffic project site. Fenstermaker prepared construction drawings for three phases which consisted of widening the road to a multi-lane roadway section, utility relocation, and drainage outfalls. Mr. Guidry reviewed the wetland delineation report, permitting maps, and permit applications.

Firm employed by **C. H. Fenstermaker & Associates, L.L.C.**			
Name	**Diane Hammonds, P.E., PTOE, RSP$_1$**	Years of relevant experience with this employer	3
Title	Senior Engineer	Years of relevant experience with other employer(s)	17

Degree(s) / Years / Specialization			B.S. / 2002 / Civil Engineering
Active registration number / state / expiration date			PE.0040749 / LA / 9.30.2022; PTOE No. 4113/ 12.19.2022; RSP$_1$ #789 / 03.14.2025
Year registered	2016	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities			Roadway/Traffic Engineering

Ms. Hammonds is a Professional Engineer and Professional Traffic Operations Engineer (PTOE) with 20 years of experience specializing in Traffic/Transportation Engineering and Transportation Planning projects including traffic impact assessments, traffic signal design systems, traffic simulation modeling, access management reviews, safety studies, roundabout analysis, and design as well as permit reviews and coordination. Diane has successfully completed hundreds of successful traffic & transportation projects. Her unique skills bring both the client and reviewing agency to agreement on the final product is an asset to the projects she is involved in. Software & Training: She has successfully completed the LADOTD Traffic Engineering Process and Report Training as well as numerous others in her career including, but not limited to HCS, Synchro, Roundabouts and the HSM. She is proficient in Synchro, SimTraffic, HCS, VISTRO, SIDRA, CRASH 1, CRASH 3 and Microstation.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
02/19-Present	**Farm Road Multi-Bridge Replacement Project (Calcasieu Parish, LA):** Fenstermaker was contracted by Calcasieu Parish Police Jury to provide professional engineering services related to the replacement of two (2) bridges located on Farm Road. Ms. Hammonds is providing traffic engineering services, including the preparation of temporary traffic control plans.
11/19-04/20	**2019 Asphalt Overlay Project (Carencro, LA):** Fenstermaker was contracted to provide surveying, design, utility coordination and construction administration and inspection. The project was located along several different roadways within the City. Ms. Hammonds provided coordination with LADOTD and reviewed plans and documentation for approximately 12.9 miles of roadway in the City of Carencro.
08/19-Present	**S.P. No. H.002297 LA 37 (Sullivan Road to Liberty Road) (East Baton Rouge Parish):** Ms. Hammonds is currently serving as the Lead Traffic Engineer and is responsible for managing and reviewing all submittals by the traffic sub- consultant. Fenstermaker is serving as the prime consultant for this Stage 0 feasibility study and environmental inventory. Ms. Hammonds ensures quality control and is assisting in the development of the Stage 0 Feasibility Study, Environmental Inventory, and conceptual plans.
08/19-Present	**S.P. No. H.009932 US 80 Widening: Vancil Rd to Well Rd EA (Ouachita Parish):** Ms. Hammonds is serving as a traffic engineer for this Environmental Assessment to improve the corridor by widening the existing roadway and implementing intersection improvement principles along a 1.4-mile portion of US 80. She has assisted in the existing/no-build, safety, and alternatives capacity analysis reports, which have been approved by LADOTD. She analyzed project impacts by coordinating and assisting in developing the line and grade study, cost estimates, and conceptual plans.
08/19-Present	**Stage 0 Feasibility Study of Modern Roundabouts (Lafayette, LA):** Fenstermaker is responsible for the Stage 0 Feasibility Studies being performed on many conceptual roundabout locations throughout Lafayette Parish for the Acadiana Metropolitan Planning Organization. Ms. Hammonds is serving as the Transportation Engineer, and she is responsible for developing the roundabout reports and analyses.
	Lakeshore Drive Mixed Use Development Traffic Impact Study (Slidell, LA): Ms. Hammonds served as the Project Manager, Engineer of Record, and Analyst for a ± 1,083-acre mixed use development which at full buildout will contain

05/18-8/19	residential houses, a school, and small commercial retail. The study included 2 interstate interchanges with state highways as well as a 1.7-mile segment of Parish owned roadway including 4 roundabout evaluations and a J-turn corridor. She performed approval coordination with both the LADOTD and St. Tammany Parish.
01/18-08/19	**Hayden Roundabout Interchange Modification Report (Hayden, AL):** As a result of the statewide Wrong Way Ramp Study, the Interchange of I-65 and Al-160 was further evaluated for improvements. Ms. Hammonds served as the Technical Director and Lead Analyst in the analysis and report documentation to modify the interchange ramps to roundabouts as well as 2 adjacent intersections. In addition, Ms. Hammonds provided Design Assistance for the plans to modify the interchange and adjacent intersections.
08/19-Present	**LA-93 (Westgate Road) at Eraste Landry Road (Scott, LA):** Ms. Hammonds served as the Technical Lead, Analyst and Design Engineer for the modification of the intersection to add a traffic signal. The temporary traffic signal at the intersection was needed to accommodate traffic during construction which resulted in an adjacent roadway closure. Ms. Hammonds prepared the volume forecasting and capacity analysis as well as report documentation, and signal design. The approval coordination included the LADOTD District 03 staff as well as Headquarters and the Lafayette Consolidated Government.
05/20-Present	**Perrin Ferry Road Improvements (Livingston Parish):** Ms. Hammonds is serving as the Project Manager and Technical Lead for the design of approximately 850-ft. of roadway. The project will raise the elevation to provide ingress and egress for the residents along the roadway during large rain events. Ms. Hammonds is coordinating the survey, environmental study and permitting, as well as the Hydraulics & Hydrology Study for this project and associated roadway design.
05/05-06/19	**River Chase/Nor Du Lac (Covington, LA):** Ms. Hammonds served as the Project Manager, Technical Director and Analyst for the traffic impact study of the 2 million square feet of retail/residential/office space located in Covington, Louisiana. Her detailed analysis included conversion of an existing rest area into an interstate interchange with I-12 as well as the LA-21 at I-12 interchange, the LA-21 corridor and other surrounding roadways. Ms. Hammonds created a regional Synchro analysis for the Tchefuncte River Region which included over 30 intersections, both proposed and existing. In addition to the study she designed 9 traffic signals for both the upgrading of existing locations and new installations
03/20-02/22	**Apollo Rd (LA 93) Extension to Dulles Drive (Lafayette Parish, LA):** Fenstermaker was selected to provide engineering services to the City of Scott to extend Apollo Road to Dulles Drive. This $14 million dollar construction project included two miles of four-lane boulevard and eight-foot sidewalks to accommodate both bicyclists and pedestrians. The new roadway intersected LA 90 and LA 93, which were designed for a bow-tie intersection and a roundabout, respectively. Ms. Hammonds assisted with the development of the roundabout design, median opening review, signage and striping plans.

Firm employed by	C. H. Fenstermaker & Associates, L.L.C.		
Name	Luke Hebert, P.E., CFM	Years of relevant experience with this employer	18
Title	Director, Engineer	Years of relevant experience with other employer(s)	1

Degree(s) / Years / Specialization			B.S. / 2003 / Civil Engineering
Active registration number / state / expiration date			PE.0034715 / LA / 9.30.2023
Year registered	2009	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities			Roadway Design

Luke Hebert is a Professional Engineer with over 19 years of experience in engineering design, planning, and project management. During his career, Mr. Hebert has been part of many different types of designs ranging from various roadway types (i.e., local, collector, arterial and freeway), surface and sub-surface drainage systems, water and sewer distribution system and water and sewer treatment. In 2013 Mr. Hebert was appointed by the Mayor of Carencro as the engineer for the City. One of his main focuses is working with developers on new commercial and residential developments. Since 2013 Mr. Hebert has been involved with over 20 new developments located within the City of Carencro and has managed them through planning, construction, and final acceptance. He has also provided Application Preparation, Program Management and Design Services to the City for Community Development Block Grants (CDBG), Facility Planning & Control (FP&C)–Capital Outlay, FEMA, USACE/DOTD, U.S. Dept. of Agriculture (USDA) Loan, Office of Community Development–Community Water Enrichment Fund, and Louisiana Dept. of Health. In total, Mr. Hebert has assisted the City with the acquisition and management of nearly $18 Million in Federal and State project funding and lead the City to a FEMA Community Rating System Class 7.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
05/13-08/16	**SP No. H.010620: US 90 (I-49 South) Albertson Pkwy to Ambassador Caffery Design-Build (Lafayette Parish, LA):** Lead Roadway Design Engineer: Under the Design-Build Contractor, James Construction Group, Mr. Hebert was the Lead Roadway Design Engineer directly responsible for the design of all roadway improvements associated with the upgrading of a portion of US 90 to a six-lane controlled access facility to also include improvements to the existing east and westbound frontage road system, construction of a new six-lane US 90 overpass structure over both Albertson Parkway and the existing BNSF railroad facility, and construction of all associated US 90 mainline ramps needed to connect these overpass structures and frontage roads. In this role, he directly designed all horizontal and vertical roadway alignments, typical sections, sequencing of construction, geometric detailing, cross sections, erosion control, and tabulation of quantities for the contractor. Mr. Hebert was also responsible for the layout of Mechanically Stabilized Earth Walls (MSEW), concrete panels used to keep all US 90 mainline improvements within existing ROW.
03/11-10/16	**LADOTD Permit No. 03030387: Kaliste Saloom Road Widening, Intersection Improvements, Bridge and CE&I (LA3073 to LA733) (Amb. Caffery to E. Broussard Rd) (Lafayette Parish, LA):** The project commences approximately 1,500-ft. southwest of E. Broussard Rd (LA Hwy 733) and terminates near Ambassador Caffery Pkwy (LA 3073) and includes a multi-lane modern roundabout. Mr. Hebert served as an engineer on this project and assisted with the roundabout design, including geometrics and other roadway related design and waterline layout and design.
03/15-11/16	**Coach Williams Blvd. Extension (Calcasieu Parish, LA):** Mr. Hebert assisted with quality control of the preliminary and final design plans prior to moving forward with advertisement. This project consists of the design of a $18.4 million – 3-mile roadway extension of Coach Williams Blvd to connect to Houston River Rd (LA 379). The new roadway includes a two-lane open ditch typical section with a roundabout, railroad crossing, Sabine River Authority Canal crossing, and will traverse

	through multiple wetland areas and will likely traverse over abandoned borrow pits. Fenstermaker is the Prime on this project and is responsible for the environmental assessments prior to design, drainage design, pavement design, and the geometrics of the road.
03/13 – 05/19	**Acadiana Regional Airport Access Road (Iberia Parish, LA):** Mr. Hebert is currently serving as the Project Manager overseeing roadway and drainage design. Fenstermaker was responsible for designing a 2-lane roadway that will connect the LA 3212 and LA 675 with room for a future 4-lane roadway. Fenstermaker is also responsible for bid and contract administration, construction engineering and inspection services. Additionally, Fenstermaker assisted the city in obtaining capital outlay funding for this project.
01/05-Present	**East Pont des Mouton, Phase II Roadway Widening (Lafayette Parish, LA):** Mr. Hebert was the Lead Design Engineer for roadway widening improvements of East Pont des Mouton, Phase II commencing at the Interstate 49 for Lafayette Consolidated Government. This project entailed the widening of a 2-lane asphalt road into a 5-lane, concrete urban arterial road. Mr. Hebert was responsible for all horizontal and vertical alignments, typical sections, utility relocation, geometric detailing, intersection design, drainage design, sequencing of construction, quantity calculations, and the production of plans and specifications. Mr. Hebert also acted as the Lead Construction Engineer.
02/10-04/14	**South Dearborne Rd Bridge Replacement over Indian Bayou (Lafayette Parish, LA):** Fenstermaker, under contract with LCG, provided all engineering and land surveying required to perform topographic surveys, hydraulic studies, drainage improvements, wetland delineation, and prepared the preliminary and final roadway and bridge plans. This project included the replacement of an 18-ft wide x 100-ft long timber bridge over Indian Bayou. Mr. Hebert provided bridge design services.
06/13 – 10/16	**Nelson Road and Ham Reid Road Roundabout & Design (Calcasieu Parish, LA):** Calcasieu Parish Police Jury selected Fenstermaker to perform engineering design services for the construction of a roundabout at the intersection of Nelson Road and Ham Reid Road. Mr. Hebert was responsible for QA/QC of preliminary plans and the waterline layout.
03/16-09/17	**Apollo Rd (LA 93) Extension to Dulles Drive (Lafayette Parish, LA):** Fenstermaker was selected to provide engineering services to the City of Scott to extend Apollo Rd to Dulles. This $15 million construction project includes 2.2 miles of a four-lane boulevard and 6-ft. sidewalks to accommodate both bicyclist and pedestrians. The new roadway intersects LA 90 and LA 93, which were designed for a bow-tie intersection and roundabout, respectively. Mr. Hebert was responsible for quality control of the final design plans prior to advertisement
12/15 – 01/17	**LADOTD Permit No. 153198, 153357, 153587: Sasol LCCP-Heavy Haul Road Engineering and Construction (LA378 & LA379) (Calcasieu Parish, LA):** Mr. Hebert served as a Project Engineer for Fenstermaker's $11.4 million engineering and consulting contract with Fluor. Fenstermaker was responsible for the engineering design of the 2.4-mile heavy haul route that was utilized to transport the oversized modules from the Calcasieu River to the proposed plant site in Westlake, Louisiana. Mr. Hebert was directly responsible for design of intersection improvements.

Firm employed by	**C. H. Fenstermaker & Associates, L.L.C.**		
Name	**Jeanne Hornsby, M.S., P.E., CFM**	Years of relevant experience with this employer	16
Title	Director, Engineer	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		B.S. / 2005 / Civil Engineering M.S. / 2007 / Hydraulics and Environmental Engineering	
Active registration number / state / expiration date		PE.0036717 / LA / 3.31.2024	
Year registered	2011	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		Hydraulic Analysis and Design	

Ms. Hornsby is an Engineering Director at Fenstermaker with 18 years of engineering, project management, and quality control experience. Her main responsibilities include managing, designing, and completing quality control on multi-million-dollar projects that range from roadway design and construction to coastal and storm water management for both the public and private sectors. Ms. Hornsby currently leads Fenstermaker's Water Resources Team and her expertise has developed through the successful completion of numerous numerical modeling analyses, roadway drainage designs, and stormwater master plans Software & Training: Ms. Hornsby is well versed in a variety of hydrologic and hydraulic software and applications including the USACE HEC suite (HEC-HMS, HEC-RAS, HEC-DSS, HEC-METVUE, HEC-FIA), LADOTD HYDRWIN Software, Danish Hydraulic Institute (DHI) MIKE Suite, and accompanying GIS applications. Ms. Hornsby is a certified floodplain manager.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
05/13 - 08/16	**S.P. No. H.010620: US 90 (I-49 South) Albertson Parkway to Ambassador Caffery Design-Build (Lafayette Parish, LA):** Ms. Hornsby was the lead quality controller for the hydrologic and hydraulic portion of this project. Ms. Hornsby ensured that drainage design elements of this project were in conformance with the LADOTD Hydraulics Manual. She reviewed model setup and assumptions, as well as other design elements for both the final construction and sequence of construction. This review included the use of LADOTD HYDRWIN software as well as the USACE HEC Suite.
01/10 - 12/14	**SP. No. 700-52-0198: I-12 to Bush Environmental Impact Statement (EIS) (St. Tammany Parish, LA):** As a sub-consultant, Fenstermaker was responsible for the completion of a 3rd party Environmental Impact Study (EIS) for a proposed 4-lane highway that runs from Bush, Louisiana, to Interstate 12. Initiated by the LADOTD, this corridor improvement project is part of the Louisiana Transportation Infrastructure Model for Economic Development (TIMED) Program. Ms. Hornsby led the project's hydrologic and hydraulic study. She completed the H&H modeling, which was used to size the channel crossings along the four alternative alignments. Ms. Hornsby also analyzed the wetland impacts from each alternative using the 2D H&H software MIKE Flood.
03/19-05/19	**Farm Road Bridge Replacements (Calcasieu Parish, LA):** Fenstermaker is providing professional engineering services related to the replacement of two (2) timber bridges located on Farm Rd. between LA 397 and Manchester Road. Farm Road traverses a rural undeveloped area and is currently a narrow gravel street with open ditches on both sides. The bridges cross Calcasieu Parish drainage laterals (LATL5A and LATL5) and are spaced approximately a quarter mile apart. Both existing bridges have a maximum weight limit of 15 tons and are in Flood Zone A. Ms. Hornsby performed the hydrologic and hydraulic analysis, including scour analysis.

03/18-07/19	**Rossignol Road Bridge Replacement (Calcasieu Parish, LA):** Calcasieu Parish tasked Fenstermaker with providing professional engineering services to replace the bridge located on Rossignol Road. Fenstermaker utilized LaDOTD drainage design standards for bridge structures, as well as their familiarity with HEC-RAS and HEC-HMS software to analyze the effect of the proposed bridge structure, including any backwater effects. For this project, Fenstermaker analyzed drainage requirements by modeling the effect of the design storm on the surrounding topography, assessed any effects from the proposed bridge design on the water surface profile, provided recommendations on bridge deck height and scour potential, and designed drainage improvements and ditch stabilization required for related roadway work. Ms. Hornsby provided drainage design, H&H modeling, and scour analysis.
09/13 - 01/19	**LADOTD Permit No. 153198, 153357, 153587: Sasol LCCP-Heavy Haul Road Engineering and Construction (LA378 & LA379) (Calcasieu Parish, LA):** Ms. Hornsby was the Deputy Project Manager and Design Engineer on the Sasol Heavy Haul Route. She was responsible for the management of various aspects of the project including the environmental permits, right-of-way, utility relocation, design, contracting, construction administration, and inspection services. In addition, she was responsible for various design elements along the project including intersection improvements and side street design. Ms. Hornsby also performed quality reviews on the hydraulic design of the project ensuring that it followed LADOTD Hydraulics Manual.
04/15-Present	**Coach Williams Drive Extension & Roundabout (Calcasieu Parish, LA):** Ms. Hornsby was the lead quality control reviewer on this $18.4 million roadway project. She followed all project quality assurance procedures in this review process. As part of the project, she reviewed the 2D Hydraulic Model (MIKE Flood) that was setup to determine wetland impacts, the hydraulic design (HRYDWIN) of all cross drains, inlet spacing, ditches, subsurface drainage, and outfall channels. She ensured all design elements followed Calcasieu Parish, Sabine River Authority, and LADOTD hydraulic guidelines. Ensuring the design elements at the SRA canal met the standards of the permit including considerations for seepage and turbidity, Ms. Hornsby worked with the lead designer and modeler to ensure a quality design was developed that met the requirements of the permit. This included multiple iterations of review, document tracking, and compliance verification.
10/18 - 09/19	**Ham Reid Road Extension (Calcasieu Parish, LA):** As drainage quality control manager, Ms. Hornsby performed an independent technical review on the inlet spacing and ditch design completed in LADOTD HYDRWIN software, and the impact analysis and outfall channel design completed in HEC-HMS and HEC-RAS. She also was a contributor in the overall layout, design, and implementation of the low impact development elements that included bioswales and detention areas. She ensured all drainage design elements were in accordance with Calcasieu Parish, LADOTD, and the gravity drainage district.

Firm employed by ***Meyer Engineers, Ltd.***			
Name	***Elena Anderson, IIDA, NCIDQ***	Years of relevant experience with this employer	***18***
Title	***Interior Designer/Project Manager***	Years of relevant experience with other employer(s)	***0***
Degree(s) / Years / Specialization		***B.S. Interior Design, 2003***	
Active registration number / state / expiration date		***Interior Design License No. 1353 / Louisiana / 12-31-2022***	
Year registered	***2009*** Discipline	***Interior Design / ADA Compliance***	
Contract role(s) / brief description of responsibilities		***ADA Inspection & Compliance***	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
07/05 – 07/07	***Westbank Recreation Complex – Phase I*** | ***St. John the Baptist Parish: Draftsman*** and assisted Designers for this project. Drafting included marking redline corrections and plotting plans for review. During construction she made proposed material and color selections to present to the Owner; making a materials and color board for them to review and approve. ***Construction Cost: $1.3M***
01/05 -10/07	***Pelican Park Expansion*** | ***Jefferson Parish:*** Assisted with the ***Project Management*** reviewing and revising the Probable Construction Costs as well as calculating and determining project additive Alternates. During the construction document phase, she assisted the project architect by drafting and making redline corrections and performing quality control tasks. Mr. Anderson also conducted ***Construction Administration*** tasks including the review of door frame, hardware, and steel frame submittals. ***Construction Cost: $216K***
04/02 – 11/07	***Northshore Toll Plaza Renovation*** | ***St. Tammany Parish:*** Assisted with the design and drafting for the miscellaneous renovations to the toll plaza facility. She conducted ***Construction Administration*** services during the construction phase by reviewing submittals, made color and material finishes sections and prepared a material selections color board and presented it to the Owner. ***Construction Cost: $4.5M***
08/17 – 10/20	***McCormick-Zatarain's Gretna Facilities Upgrade*** |***Jefferson Parish: Project Manager, Interior Designer,*** and performed ***Construction Administration Services*** for this project. Mrs. Anderson designed the aesthetic concept and coordinated with the Owner and consultants to provide a new office space and upgraded facility amenities for employees that included open, clean, and accessible modern spaces. The design included facility signage and large format wall graphics. During construction Mrs. Anderson performed the review of submittals, coordinated with the site superintendent and the construction project manager. Additionally, she was responsible for material and color selections to coordinate with the McCormick and Zatarain's brands. ***Construction Cost:*** **$2.2M (EST)**
07/16 – Present	***Port of South Louisiana Administration Building*** | ***St. John the Baptist Parish: Interior Designer*** for a new 20,000 square feet three level administration building. She assisted with the architectural design and drafting for the project. Mrs. Anderson performed the Interior Design services by selecting and writing specifications for interior materials and finishes. ***Construction Cost: $9M***
07/16 – Present	***Children's Hospital of New Orleans Expansion*** |***Orleans Parish):*** Assisting the Project Engineer by providing ADA consulting and reviewing for general accessibility in compliance with the ADA Guidelines for the expansion of Children's Hospital (Henry Clay Ave. & State Street) Campus for the new hospital, and behavioral health hospital site roadwork, pedestrian access walkways and parking. ***Estimated Construction Cost:*** **$255M**

Firm employed by: ***Meyer Engineers, Ltd.***			
Name	***Adrianna Gernon Eschete, LEED AP, RA***	Years of relevant experience with this firm/employer	***10***
Title	***Architect***	Years of relevant experience with other firm(s)/employer(s)	***10***
Degree(s) / Years / Specialization		***B.S. Architecture, 2000***	
Active registration number / state / expiration date		***RA No.6719 / Louisiana / 12-31-2022***	
Year registered	***2007*** Discipline	***Architecture***	
Contract role(s) / brief description of responsibilities		***Design & Inspection of Operating & Machine Houses***	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
10/16 - Present	***St. John Sheriff's Office Indoor Range & Training Facility*** |***St. John the Baptist Parish: Project Architect*** and ***Construction Services*** for the demolition of the existing structure and foundation and the construction of new facility. Adrianna prepared the drawings and specifications and is currently handling the processing of shop drawings and conducts site visits. She also handles all coordination with Owner, Contractor and subconsultants. ***Construction Cost:*** **$7M**
07/16 - Present	***Port of South Louisiana Administration Building*** | ***St. John the Baptist Parish: Project Architect*** and ***Construction Administration*** for a new 20,000 square feet facility three level administration buildings. Adrianna prepared the drawings and specifications and is currently handling the processing of shop drawings and conducts site visits. She also handles all coordination with Owner, Contractor and subconsultants. ***Construction Cost: $9M***
08/12 – 10/16	***Lusher Elementary School*** | ***Orleans Parish: Project Architect*** for the ***Architectural Design and Construction Services*** of the renovations to the historic elementary school Lusher Elementary located in New Orleans, Louisiana. Adrianna prepared the drawings and specifications and completed the processing of shop drawings and conducted site visits. She also handled all coordination with the Owner, Contractor and subconsultants. ***Construction Cost: $4.7M***

Firm employed by ***Meyer Engineers, Ltd.***				
Name	***Don Mauras, RA***		Years of relevant experience with this firm/employer	***6***
Title	***Architect***		Years of relevant experience with other firm(s)/employer(s)	***32***
Degree(s) / Years / Specialization			***B.S. Architecture, 1981***	
Active registration number / state / expiration date			***RA 3759 / Louisiana / 12-31-2022***	
Year registered	***1986***	Discipline	***Architecture***	
Contract role(s) / brief description of responsibilities			***Design & Inspection of Operating & Machine Houses. Meets MPR 7***	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
06/18 - Present	***Louisiana National Guard Armories Renovation of Indoor Firing Ranges*** |***Statewide: Project Manager*** for the ***Architectural Design and Construction Services*** for the renovation of firing ranges at 32 National Guard Armories Facilities throughout 24 parishes in Louisiana. Don is responsible for the preparation of the construction documents, scope of work, probable construction cost estimate and writing the specifications. Don is responsible for meeting the strict deadline imposed by the Owner therefore he was responsible for coordinating with the Owner and subconsultants. ***Construction Cost:*** **$2.5M**
10/17 – 10/20	***Repair Balconies and Stairs at Historic Garrison Residences – Jackson Barracks*** | ***Orleans Parish: Project Manager*** for the ***Architectural Design Services and Construction Services*** for the replacement of damaged structural framing, decking and stairs on the balconies at fifteen (15) ***historic residences*** at Jackson Barracks in New Orleans. Don was responsible for preparation of the scope of work, probable construction cost estimate, construction documents and writing the specifications. Don was responsible for meeting the strict deadline imposed by the Owner therefore he was responsible for coordination with the Owner and subconsultants. Don also performed the Construction Administration services by making site visits, taking progress photos, coordination with Contractor, Subconsultants and Owner during the duration of the project. He also processed change orders and pay application and review and approval of shop drawings. ***Construction Cost: $685K***
03/15 – 05/17	***Lamar Dixon Expo Center Gymnasium Renovations*** | ***Ascension Parish: Project Manager*** for the ***Architectural Design and Construction Services*** for the upgrade and expansion to the gymnasium at Lamar Dixon Expo Center in Gonzales, Louisiana. He was responsible for the preparation of the construction documents, scope of work, probable construction cost estimate and writing specifications. He was responsible for site visits, processing change orders, pay applications, review and approval of shop drawings and resolving any construction issues. He coordinated with the Contractor, Subconsultants, and Owner during the duration of the project. ***Construction Cost: $339K***
09/12 – 02/16	***Cleary, Bright and Lakeshore Gymnasium HVAC*** | ***Jefferson Parish: Construction Administrator*** for the ***Construction Services*** for the replacement and updating of the HVAC systems in three (3) east bank existing Jefferson Parish gymnasiums. He was responsible for site visits, processing change orders, pay applications, review and approval of shop drawings and resolving any construction issues. He coordinated with the Contractor, Subconsultants, and Owner. ***Construction Cost: $1.7M.***

Firm employed by: ***Meyer Engineers, Ltd.***				
Name	***James Papia, AIA, NCARB, CSI***		Years of relevant experience with this firm/employer	***11***
Title	***Director of Architecture***		Years of relevant experience with other firm(s)/employer(s)	***28***
Degree(s) / Years / Specialization			***B.S. Architecture, 1981***	
Active registration number / state / expiration date			***RA No. 3423 / Louisiana / 12-31-2022***	
Year registered	***1984***	Discipline	***Architecture***	
Contract role(s) / brief description of responsibilities			***Design & Inspection of Operating & Machine Houses***	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
06/07 – 12/09	***Lafitte Multipurpose Facility*** | ***Jefferson Parish: Lead Architect*** for the ***Architectural Design Services*** a multipurpose facility that incorporated a library, auditorium, civic center, and museum. Mr. Papia was the lead architect on the project which included preparation of the design schedule and cost estimates. Mr. Papia also directed the Meyer architecture staff and the engineering consultants during the schematic design, design development and construction document phases. Throughout the course of the project Mr. Papia provided quality control services to ensure that the project was delivered on time and under budget. After publicly advertised bids were opened, Mr. Papia assisted The Town of Jean Lafitte in negotiating with the apparent low bidder to a more reasonable price. Mr. Papia assisted the Contract Administration Department during the construction period by reviewing shop drawings and product data. ***Construction Cost: $4.8M***
09/11 - 07/13	***Port of South Louisiana Guard/Scale House*** | ***St. John the Baptist Parish: Project Manager*** for the ***Architectural Design and Construction Services*** for the design of the new Guard and Scale House for the Port of South Louisiana. Mr. Papia was the primary designer for the building, prepared all construction details and specifications for the construction documents. Mr. Papia also prepared the project schedule and cost estimates. Mr. Papia also prepared all contracts for the project including the Owner/Architect Agreement, Agreements between Architect and Consultants and Owner / Contractor agreement. Mr. Papia reviewed all shop drawings and submittal data, assisted in Construction Administration and Construction Closeout. Mr. Papia also helped cut the ribbon at the grand opening of the Scale House. ***Construction Cost: $159K***
10/12 – 07/15	***Regional Transit Authority Carrollton Streetcar Facility Renovation and Upgrade*** | ***Orleans Parish: Lead Architect*** for the ***Architectural Design Services*** for the historic building that was built in the late 1800's to serve as a streetcar maintenance and storage facility. Meyer Engineers was the consulting Architect and structural engineer for this project. Mr. Papia managed the project for Meyer for the architectural and structural engineering department. Mr. Papia directed the research necessary to preserve this historic structure. Mr. Papia delegated the restoration work to several architectural staff members and supervised development of the construction documents. Mr. Papia coordinated the work between Meyer and the MEP and structural consultants for the projects including preparation of contracts and preparation of the project schedule. ***Construction Cost: $3M***
01/16- 09/15	***Slidell I-59 DOTD Rest Area*** | ***St. Tammany Parish: Lead Architect*** for the ***Architectural Design and Construction Services*** for the renovations and upgrades to the DOTD Rest Area in Slidell, Louisiana. Mr. Papia directed the schematic design, design development, and construction document phases of the project, including project scheduling and cost estimating. Since the rest areas are widely used by the public, accessibility was of paramount concern. Mr. Papia, ***a certified ADA expert***, conducted extensive research regarding ADA accessibility to the facility to ensure that all parts of the entire rest area was accessible. Mr. Papia was the Quality Control manager for the project and reviewed all drawing and specifications prior to public bidding. During construction, Mr. Papia made several visits to the site to ensure that the project was being constructed in accordance with the construction documents. ***Construction Cost: $2.1M***

07/16 - Present	***Port of South Louisiana Administration Building |St. John the Baptist Parish: Lead Architect*** for the ***Architectural Design and Construction Services*** for the new ***30,000 square feet facility located*** on the Mississippi River in Reserve, Louisiana. For the Port, Mr. Papia developed the project and established the budget for the project. Mr. Papia directed the programming team in the development of a good, solid, working program describing in detail the spatial and functional needs of the Port Authority. After programming, Mr. Papia supervised the design team in creating an exciting building image that the Port Authority desired. In addition to managing the overall preparation of the construction documents, Mr. Papia assisted in developing extensive details of the building in the construction documents phase. Mr. Papia was the Quality Control manager for the project and reviewed all drawing and specifications prior to public bidding. Mr. Papia is also assisting the Port Authority with the selection of Furniture, Fixtures and Equipment (FF&E). Now that construction is in progress, Mr. Papia is assisting in reviewing shop drawings, product data and material and color selections. Throughout the entire project process, Mr. Papia regularly attended Port Authority Board Meetings to report on the status of the project. ***Estimated Construction Cost:*** **$9M**

Firm employed by: ***Meyer Engineers, Ltd.***				
Name	***Alfonso Romero, NCARB, RA***		Years of relevant experience with this firm/employer	***1***
Title	***Architect***		Years of relevant experience with other firm(s)/employer(s)	***34***
Degree(s) / Years / Specialization			***B.S. Architecture, 1985***	
Active registration number / state / expiration date			***RA 9367 / Louisiana / 12/31/2022***	
Year registered	***2020***	Discipline	***Architecture***	
Contract role(s) / brief description of responsibilities			***Project Architect***	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).			
01/22 - Present	***Causeway Bridge Bascule Bridge Tender's House*** |***Jefferson Parish: Project Manager*** for the rehabilitation of the upper two levels of the Bridge Tender's House. The work consists of removing and replacing all existing windows at the operator's level with new impact resistant glazing, reconfiguring one of the windows into an impact resistant, operable door to allow direct access to the catwalk outside, painting all interior surfaces, removing and replacing existing flooring, removing and replacing all furniture/millwork with new construction, providing better lighting, upgrading the air conditioning, recovering the existing roof surface, repairing the access ladder to the roof and installing new safety railings, and patching and repairing any structural damage. ***Construction Cost: $226K***			
02/21 – Present	***Skelly Rupp Stadium Repairs*** | ***Orleans Parish: Project Manager*** responsible for review of the conditions of the facility and investigated the required scope of work to make the entire stadium and sports facility to be operational, compliant with building codes, and LSHAA standards due to damage from Hurricane Katrina. The work included parking lot resurfacing, striping, stormwater drainage, signage, repair and prevent soil subsidence, compliance with ADA, lighting, and perimeter fencing with entry gates. The stadium improvements consist of repair and replacement of the aluminum bleacher/stand, press box, handicap ramps, bleacher entry steps, roof, structural repairs, improved lighting and sound system, electrical controls to the sports facility and restoring connections and operations of the score board, air conditioning in the press box. Also renovate and refurbish all restrooms, concession stand, ticket booth, offices, including repairs to roof and roofing, masonry repairs and cleaning, interior refinishing, replacing code compliant drinking water fountains, exterior grounds and facilities. The project is FEMA funded. ***Construction Cost: $1.7M***			
02/21 – Present	***Frederick Sigur Civic Center Roof Replacement – Ballroom*** | ***Orleans Parish: Project Manager*** for completion of the Roof Site Observation Report on the current conditions of the existing roof on the building that was caused by Hurricane Zeta in October 2020. The project consists of removing the 22,900 SF existing modified bitumen roofing assembly over the ballroom at the Frederick Sigur Civic Center. The work includes the installation of modified bitumen roof assembly over lightweight insulating concrete metal deck. In addition to addressing the roof leaks, the project includes various work that is or may be required to correct damage to the existing structure due to the long-term effects of the roof leaks. The project is FEMA funded. ***Construction Cost: $403K***			
07/21 – Present	***Jackson Barracks 141st Roof Replacement*** | ***Jefferson Parish: Project Manager*** responsible for preparing a site assessment of the facility to propose what direction is required for the existing roof. The project consists of 3,500 SF of retrofit roof to repair water leakage into the building. ***Construction Cost: $276K***			

17. Firm Experience:

Firm name	**HDR Engineering, Inc.**		Past Performance Evaluation Discipline(s)*	Bridge, Other, Environmental, CE&I/OV	
Project name	**CSX Transportation On-Call Engineering**		Firm responsibility (prime or sub?)	Prime	
Project number	Multiple	Owner's name	CSX Transportation		
Project location	Various Locations, US		Owner's Project Manager	Matthew Crawford	
Owner's address, phone, email	500 Water Street – J350, Jacksonville, FL 32202 | 904.359.1519 | matthew_crawford@csx.com				
Services commenced by this firm	04/15	Total consultant contract cost ($1,000's)		$11,200	
Services completed by this firm	on-going	Cost of consultant services provided by this firm ($1,000's)		$10,350	

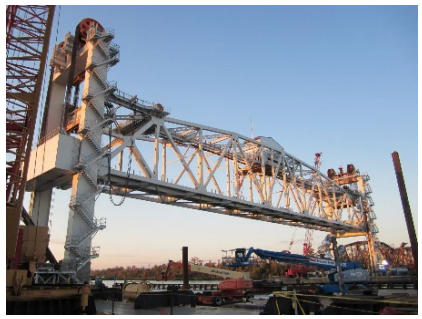
As part of the CSX Transportation On-Call Engineering Services contract, HDR has been tasked with improving the reliability and serviceability of over 40 movable bridges nationwide, and converting several of these bridges for remote control operation. The program included detailed and assessment inspections, rehabilitation design and construction support for swing, bascule and lift bridges in various locations around the nation. HDR evaluated overall bridge condition and identified repairs necessary to achieve 'State of Good Repair' and to facilitate remote operation. HDR produced inspection reports including findings, recommendations, life-cycle costs, cost/benefit analyses and construction scheduling. Once the bridges' repair and rehabilitation scopes were confirmed, HDR conducted in-depth inspections including non-destructive testing (NDT), and acquired additional field information and measurements needed, yet unclear from the available 'as-built' documentation. Several innovative approaches were used in this contract including, but not limited to, accelerated bridge construction based design, HDPE submarine ducts, monitoring and data logging systems, wedge based span locks for bascule bridges, and roller-based end lift for swing bridges.

The following is a partial list of bridges HDR has performed the key project elements during the past 7 years:

- Joliet Vertical Lift Bridge – Chicago, IL
- Marley Neck Swing Bridge – Baltimore, MD
- Schuylkill River Swing Bridge – Philadelphia, PA
- Hopewell/Appomattox River Swing Bridge – Hopewell, VA
- New Johnsonville Vertical Lift Bridge – New Johnsonville, TN
- Tailrace Canal Vertical Lift Bridge – Moncks Corner, SC
- CR Draw Swing Bridge – Nashville, TN
- Trout River Swing Bridge – Jacksonville, FL
- Buffalo Bluff Bascule Bridge – Palatka, FL
- Apalachicola River Swing Bridge – Apalachicola, FL
- Saint Lucie Canal Swing Bridge – Indiantown, FL
- Little Manatee River Swing Bridge – Ruskin, FL
- Mobile River Vertical Lift Bridge – Saraland, AL
- Three Mile Creek Swing Bridge – Mobile, AL
- Bayou Sara Swing Bridge – Saraland, AL
- Chickasaw Swing Bridge – Mobile, AL
- Bay Saint Louis Swing Bridge – Bay St. Louis, MS
- Pascagoula Bascule Bridge – Pascagoula, MS
- Biloxi Bay Swing Bridge – Ocean Springs, MS
- Pearl River Swing Bridge – Pearl River, LA
- Chef Menteur Swing Bridge – Chef Menteur, LA
- Rigolets Swing Bridge – Rigolets, LA
- Industrial Canal Bascule Bridge – New Orleans, LA

Key Project Elements:

- Preliminary Scoping Inspections
- In-depth Inspections.
- Rehabilitation detailed design.
- Systemwide standardization.
- Permitting and agency coordination.
- Construction inspection, management, support



HDR Members Involved: Robert Moses, Raphael Costa, Peter Davis, Herbert Protin, David Knickerbocker, Greg Harrell, Mike Carlton, Matt McGuire, Farid Amador, Carlos Larco, Jose Gonzalez, Joseph Jacobus, Diane Jandreski, Amber Robinson.

Firm name	**HDR Engineering, Inc.**	Past Performance Evaluation Discipline(s)*	Bridge, CE&I/OV
Project name	**FDOT Districtwide Movable Bridges On-Call Engineering**	Firm responsibility (prime or sub?)	Prime
Project number	NA	Owner's name	Florida Department of Transportation, District 4
Project location	Florida	Owner's Project Manager	Thomas Reynolds
Owner's address, phone, email	3400 W Commercial Blvd, Ft Lauderdale 33309 | 954-777-4202 | thomas.reynolds@dot.state.fl.us		
Services commenced by this firm	10/15	Total consultant contract cost ($1,000's)	$6,000
Services completed by this firm	ongoing	Cost of consultant services provided by this firm ($1,000's)	$4,950

In our fourth consecutive term as Prime consultant, HDR services FDOT District-4's 37 bascule bridges. HDR has been responsible for the emergency response, field inspections and assessments, scoping, feasibility studies, preparation of plans and specifications for repairs and rehabilitations, peer reviews, construction document reviews, construction estimates, and construction oversight. The following is a small sample list of related tasks performed under this contract.

Inventory Assessment - HDR was tasked with system-focused inspections and assessments of all its bascule bridges**. The final recommendations prioritized repairs, rehabilitations, and improvement projects, serving as the basis for the District's movable bridge capital program for the next 20 years.** Beyond typical routine, this effort resulted in assessments with concluding recommendations classified as follows:

- Inspection and maintenance – items not clearly investigated in previous inspections that may have operation or durability implication, and possible improvements in inspection and maintenance practices and equipment preservation.
- Operation – Mechanical and electrical items that in the future may impact the reliable operation of the bridge.
- Durability – Electrical, mechanical, and structural items that may decrease the bridge's major systems' durability or may be reaching the end of their life cycles.
- Betterment Opportunities – Maintenance access and safety improvements, user (vehicle, pedestrian, and bicyclists) improvements, tender house expansions and visibility improvements, etc.

HDR Members Involved: Raphael Costa, Ronald Sanchez, Greg Harrell, Mike Carlton, Farid Amador, Diana Jandreski, Carlos Larco, Jose Gonzalez, Robert Moses

In-depth Inspections - HDR performed several in-depth inspections, most notably the Sheridan St. Bascule Bridge. This task included an in-depth trunnion inspection including cap removal and digital stylus profilometer surface wear measurements, and trunnion alignment measurements via piano wire testing and 3D Lidar scanning.

Rehabilitation Design - Rehab and repair designs included submarine cable replacements, bicycle riding surface plate installation, span lock system replacements, scour mitigation measurements, fender system replacements, movable span recoating, etc.

Studies - HDR performed several high-level studies including innovative ideas such as implementation of a districtwide bridge health monitoring program, a new submarine duct standard design, lightweight solid-surface deck systems, and movable span widenings and retrofits.

Key Project Elements:

- USCG and Utilities Coordination
- Routine and In-depth Bridge Inspections.
- Inventory assessment and repair prioritization.
- Lifecycle cost analysis.
- Emergency Response.
- Rehabilitation detailed design.
- Repairs construction inspection and support.
- Maintenance and Operation staff training

Firm name	**HDR Engineering, Inc.**	Past Performance Evaluation Discipline(s)*	Bridge, Other
Project name	**LADOTD Statewide Bridge Inspections (Task Orders 1 & 3)**	Firm responsibility (prime or sub?)	Sub
Project number	4400013322	Owner's name	Louisiana Department of Transportation and Development
Project location	Statewide – Alexandria and Teche Bayou, LA	Owner's Project Manager	Hayle Brown, PE
Owner's address, phone, email	1201 Capitol Access Rd, Baton Rouge, LA 70802, 225-379-1500, hayle.brown@la.gov		
Services commenced by this firm	11/19	Total consultant contract cost ($1,000's)	N/A
Services completed by this firm	On going	Cost of consultant services provided by this firm ($1,000's)	$275

HDR performed in-depth inspections of the main span features of the following bridges:

• Jackson Street Vertical Lift Bridge over the Red River in Alexandria, LA. The Red River main span is a 300 ft vertical lift span supported by two steel truss towers over 100 feet in height. The main truss span accommodates two lanes of traffic with shoulders.

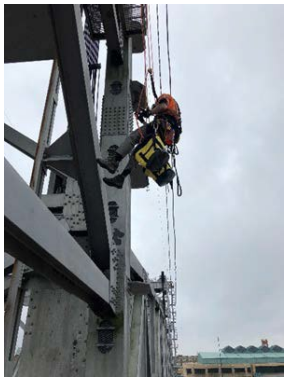
• Teche Bayou Vertical Lift Bridge. The two-lane Vertical Lift is a 65 ft long deck girder span with two – 60-ft-plus – steel braced column towers framed together.

• Vertical Lift Bridge over Bayou La Carpe in Houma, LA. It's a two-lane vertical lift bridge with an 81 ft long span and steel braced column towers framed together.

• Vertical Lift Bridge over Petit Caillou in Houma, LA. It's a two-lane vertical lift bridge with a 65 ft long span steel braced column towers framed together.

HDR performed the mechanical and electrical systems in depth inspections including: machinery, open gearing, speed reducers, shafts/bearings, brakes, emergency drives, live load shoes, strike plates, counterweights, lift cables, sheaves, span locks, transformers, thyristors, conduit, junction boxes, programmable logic controllers (PLC), control console, warning lights/gates, traffic signals, and navigation lights. The bridge control system is comprised of drum controlled switch motor controls, relays and motor starters. The lift span is operated by one 40hp wound rotor main span motorper tower, and the lift span skew control system relies on a synchro-tie motor system with motors similar to the main span motors. HDR prepared reports outlining the inspection findings and remediation/improvement recommendations.

The typically two-lane roadways were reduced to single-lane operation when required, using traffic control devices and flagmen to allow for use of hydraulic lifts and snooper trucks for inspection of the underside and substructure of the bridge. Rope access techniques were employed for inspection of towers, and portions of the (Jackson Street Bridge) main span truss.



HDR Members Involved: Wesley Jacobs, Ronald Sanchez, Raphael Costa, Mike Carlton, Matt McGuire, Erin O'Malley, Farid Amador, Jason Abendroth, Diana Jandreski

Firm name	**HDR Engineering, Inc.**	Past Performance Evaluation Discipline(s)*	Bridge, Other
Project name	**TxDOT Movable Bridge Asset Maintenance**	Firm responsibility (prime or sub?)	Prime
Project number	10249684	Owner's name	Texas Department of Transportation
Project location	Rio Hondo, TX	Owner's Project Manager	Courtney Holle
Owner's address, phone, email	125 East 11th Street, Austin, TX 78701 | O: (512) 416-2717, M: (512) 720-1875 | Courtney.Holle@txdot.gov		
Services commenced by this firm (mm/yy)	06/20	Total consultant contract cost ($1,000's)	$3,057
Services completed by this firm (mm/yy)	ongoing	Cost of consultant services provided by this firm ($1,000's)	$2,690

HDR was selected to provide Asset Maintenance Development and Oversight Services for the five span deck girder bridge featuring a 145-foot tower drive vertical lift span over the Arroyo Colorado. The primary goal of the project is to preserve the integrity and serviceability of the recently rehabilitated movable bridge and provide reliable operation for years to come. HDR developed the routine and periodic bridge maintenance program for the structural, mechanical, and electrical systems and is currently preparing a maintenance contract to be let for open bidding. Upon award of a routine maintenance contract, HDR will perform oversight of the maintenance contractor and conduct routine inspections to assess the effectiveness of the maintenance program and adjust where required.

The approach span superstructure consists of cast-in-place concrete deck on a steel floor system, and the lift span is comprised of a typical steel floor system on through plate girders, all supporting a newly installed open welded steel grid deck. The recently painted steelwork was blasted to bare metal with a full negative pressure containment system deployed to retain lead-based paint particulate and protect the environment. The bridge operating machinery comprises a tower drive enclosed gear system featuring rehabilitated sheaves, floating shafts, primary gearboxes, span lock machinery and barrier gate machinery. The counterweight ropes were recently replaced, and tension and lubrication will be monitored throughout the contract to confirm long term service of the primary span operating system.

The bridge electrical system consists of a redundant programmable logic controller (PLC) based control system featuring flux vector drives and an encoder based skew control system to provide reliable operation of the lift span and its auxiliaries. HDR is monitoring system performance through measurements, data logging and trend analysis of key electrical parameters as part of the asset maintenance program.

HDR Members Involved:

Robert Moses, David Knickerbocker, Mike Carlton, Erin O'Malley, Matthew Cassera, Jonathan Kohler, Peter Harrison, Carlos Larco

Firm name	**HDR Engineering, Inc.**		Past Performance Evaluation Discipline(s)*		Bridge, Other, CE&I/OV
Project name	**Virginia DOT Movable Bridges On-call Contract**		Firm responsibility (prime or sub?)		Prime
Project number	Multiple	Owner's name	Virginia Department of Transportation (VDOT)		
Project location	Statewide Virginia		Owner's Project Manager	Bob Jacobus	
Owner's address, phone, email	1700 North Main St., Suffolk, VA 23434 | 757.925.2434 | Robert.Jacobus@VDOT.Virginia.gov				
Services commenced by this firm	02/03	Total consultant contract cost ($1,000's)		$15,420	
Services completed by this firm	On going	Cost of consultant services provided by this firm ($1,000's)		$12,310	

We have been serving VDOT on this contract since 2003. **During this period, we have completed more than 200 task order assignments for VDOT's movable bridges and ferries.** Our responsibilities include emergency response, conducting field inspections, NBIS/AASHTO evaluation inspections, condition assessment and report, health indices, preparing scoping and inspection reports, reviewing construction documents, preparing rehabilitation plans, specifications, construction estimates, CTDR's, and construction oversight. In addition, our team has prepared environmental permit sketches and maintained continuous coordination with VDOT through the course of the contract.

HDR Members Involved: Peter Davis, Herbert Protin, Raphael Costa, Mike Carlton, Joseph Jacobus, Matt McGuire, Jonathan Kohler.

We have responded to and resolved emergency calls for various VDOT's movable bridges such as Benjamin Harrison (skew control failure), High Rise Bridge (primary drive motor support failure), James River Bridge (control system failure), etc. In addition to emergency response, our team follows up with rehabilitation plans for repair and design modifications to correct the root cause of the failure. We have also **helped proactively correct issues before they became bigger problems** such as on High Rise Bridge (cracked span lock motor mounts), Berkley Bridge (spans misaligned at toe), and Gwynn's Island Bridge (oil selection for pivot bearing). Bridge components that were rehabbed/replaced have included limit switches, conduits, submarine cables, warning gates, generator, drive systems, drive shafts, span locks, HPU, mechanical drive system, aerial cables installation, deck replacements, fenders, live load bearings, access systems, and foundations. An overview of our work on these movable bridge tasks is summarized in the chart below.

Key Project Elements:

- USCG and Utilities Coordination
- Routine and In-depth Bridge Inspections
- Emergency response
- Repair and rehabilitation design
- Construction Services
- Multi-facility program management

Bridge Facility:	Benjamin Harrison	Berkley	James River	High Rise	Coleman	Chinco-teague	Eltham	Gwynn's Island	Ferry Ramps
Span Type: / Tasks	Vertical Lift	Dbl-Leaf Bascule	Vertical Lift	Dbl-Leaf Bascule	Double Swing	1-Leaf Bascule	Dbl-Leaf Bascule	Swing	Transfer Bridges
Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓
Emergency Response	✓	✓	✓	✓	✓	✓	✓	✓	
Maintenance Engineering	✓	✓	✓	✓	✓	✓	✓	✓	✓
Structural Rehab	✓	✓	✓	✓	✓	✓	✓	✓	✓
M&E* Rehab	✓	✓	✓	✓	✓	✓	✓	✓	✓
Condition Assessment	✓	✓	✓	✓	✓	✓	✓	✓	
Health Index/ Prioritization	✓	✓	✓	✓	✓	✓	✓	✓	

Firm name	A P S Engineering and Testing, LLC			Past Performance Evaluation Discipline(s)*	Geotech
Project name	I-10 Widening LA 415 to Essen LN			Firm responsibility (prime or sub?)	Sub
Project number	H.004100	Owner's name	Louisiana Department of Transportation and Development		
Project location	Baton Rouge		Owner's Project Manager	N/A	
Owner's address, phone, email	N/A				
Services commenced by this firm (mm/yy)	09/19	Total consultant contract cost ($1,000's)		N/A	
Services completed by this firm (mm/yy)	On-going	Cost of consultant services provided by this firm ($1,000's)		$400	

Geotechnical investigation to provide client with the necessary information for planning and design I-10 widening. A P S was tasked through our DOTD geotechnical retainer to drill and sample a total of 52 deep borings starting at the Washington exit and ending at the lsu lakes . along with this drilling and sampling. A P S will also test for strength and engineering characteristics of the soils, a total of eight over the water borings and 44 l and borings with approximate 1000 triaxial compression, unconsolidated drained or undrained (uu) and atterberg limit

Members Involved:

- Sergio Aviles, P. E .
- Sai Eddanapudi, , P. E
- Surendra Raj Pathak, P. E.

Similarities to DOTD IDIQ Contract for Movable Bridge Preservation:

X	Geotechnical Explorations (GE)
X	Geotechnical Design (GD)
X	Geotechnical Construction (GC)
X	Topographic Survey (LC)
X	Contract Management (CM)

Firm name	A P S Engineering and Testing, LLC	Past Performance Evaluation Discipline(s)*	GEOTECH
Project name	Comite River Diversion Bridge at LA 67, LA 19 and LA 19 Railroad Bridge	Firm responsibility (prime or sub?)	Sub
Project number	H.001352 and H.002273	Owner's name	Louisiana Department of Transportation and Development
Project location	East Baton Rouge Parish	Owner's Project Manager	N/A
Owner's address, phone, email	N/A		
Services commenced by this firm (mm/yy)	05/20	Total consultant contract cost ($1,000's)	N/A
Services completed by this firm (mm/yy)	On-going	Cost of consultant services provided by this firm ($1,000's)	$115k

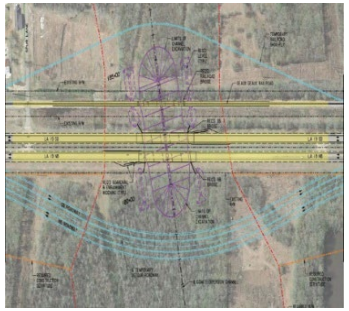
A P S provided geotechnical engineering services and the necessary information for the planning and build of LA 19 RR bridge. Services included slope stability (embankment), LA 19 RR bridge - embankment/mse wall settlement/retaining wall, LA 19 twin bridge s - ppc piles, LA 67 bridge - drilled shafts. The necessary design was be done by A P S. A P S also drilled and sampled all the borings for DOTD through the geotechnical retainer and tested in house by A P S laboratory.

Members Involved:

- Sergio Aviles, P. E .
- Sai Eddanapudi, , P. E
- Surendra Raj Pathak, P. E.

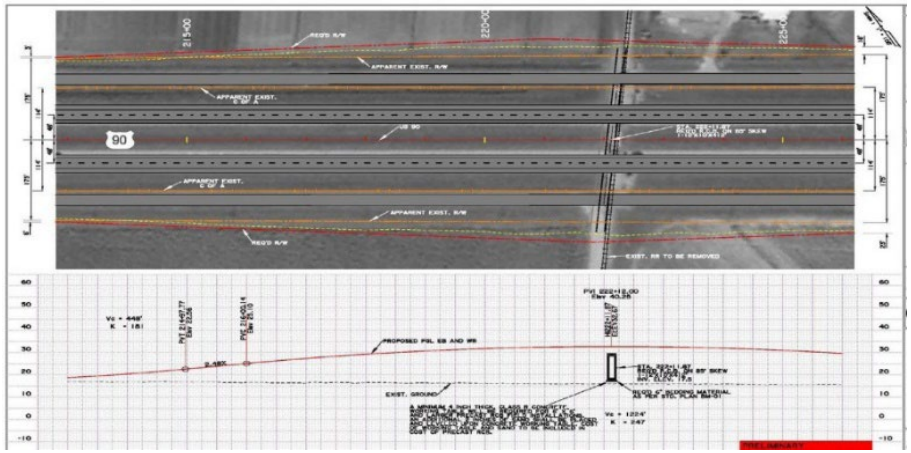
Similarities to Contract for Movable Bridge Preservation:

X	Geotechnical Explorations (GE)
X	Geotechnical Design (GD)
X	Geotechnical Construction (GC)
X	Topographic Survey (LC)
X	Contract Management (CM)



Firm name	A P S Engineering and Testing, LLC			Past Performance Evaluation Discipline(s)*	GEOTECH
Project name	US-90 Railroad Overpass (S. East of LA-85)			Firm responsibility (prime or sub?)	Sub
Project number	H.010155	Owner's name	Louisiana Department of Transportation and Development		
Project location	Iberia Parish		Owner's Project Manager	N/A	
Owner's address, phone, email	N/A				
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)	03/20	Cost of consultant services provided by this firm ($1,000's)		$105k	

Geotechnical investigation to provide client with the necessary information for planning and design of a 12 ft . x 10 ft. rcb, 412 ft. in length a total of six (6) deep borings were completed by A P S. Over 60 atterbergs and uu were tested by A P S with 18 consolidation tests. All the necessary testing done in-house by A P S laboratory.



Members Involved:

- Sergio Aviles, P. E .
- Sai Eddanapudi, P. E
- Surendra Raj Pathak, P. E

Similarities to Contract for Movable Bridge Preservation:

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

Firm name	**Bridge Diagnostics, Inc. (BDI)**	Past Performance Evaluation Discipline(s)*	Bridge
Project name	Advanced Inspection of City Park Lake Bridges	Firm responsibility (prime or sub?)	Prime
Project number	H.009730.5	Owner's name	Louisiana Department of Transportation and Development
Project location	Baton Rouge, Louisiana	Owner's Project Manager	Wei Peng
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802, (225) 379-1486, wei.peng@la.gov		
Services commenced by this firm (mm/yy)	08/19	Total consultant contract cost ($1,000's)	$86
Services completed by this firm (mm/yy)	07/20	Cost of consultant services provided by this firm ($1,000's)	$61

BDI performed a NHI visual inspection of bridges 052690 and 052680 carrying I-10 over City Park Lake, which was supplemented by a comprehensive multi-technology nondestructive evaluation (NDE). 052690 and 052680 are a set of sister bridges that each carry 7 spans of I-10. The superstructure is a continuous steel multi-girder design with pin and hanger details and built-up members. Both the EB and WB structures consists of three built-up continuous girders spaced at 20' with WF diaphragms and ST Lateral Wind Bracing. The substructure of the bridge consists of cast in place reinforced concrete bents on round cast-in-place concrete piles and precast concrete piles. NHI visual inspection encompassed the entirety of the structure, while NDE was focused on the reinforced concrete bridge deck and substructure units. The NDE of the substructure included infrared thermography to locate and quantify square footages of delaminations of the piers and pier caps. The NDE of the bridge deck included Infrared Thermography (IR), High-Resolution Imagery (HRI), Deck Acoustic Response (DAR), and GRP, all at highway speeds, to locate and quantify square footages of shallow delaminations and rebar cover of the bridge deck. The visual inspection was conducted using a 360 camera and remote imaging techniques. Footage was collected of the entirety of the substructure and superstructure and reviewed per NHI procedures for any notable deficiencies or maintenance items. The final deliverables of the NDE and visual inspection included the following:

- Stitched High-Resolution images of the entirety of the bridge decks, with overlaid IR, GPR, DAR, and GPR results
- Total quantities of patching, spalling, and delaminations of the bridge decks
- Findings of the visual inspection with all photos, descriptions, and locations of any notable deficiencies and/or maintenance items.
- Synthesis of the visual inspection and NDE to obtain AASHTO Element Level Condition states quantities for the deck and superstructure, which were then uploaded into the owner's asset management program.

Scopes of Work Relevant to the contract:

1. LADOTD PROJECT
2. INSTRUMENTATION
3. NONDESTRUCTIVE TESTING

Key Members: Shane Boone, Charlie Young

Firm name	**Bridge Diagnostics, Inc. (BDI)**	Past Performance Evaluation Discipline(s)*	Bridge
Project name	Norris Bridge Pin and Hanger NDT, Emergency & Ongoing Monitoring	Firm responsibility (prime or sub?)	Prime
Project number		Owner's name	Virginia Department of Transportation (VDOT)
Project location	Whitestone, Virginia	Owner's Project Manager	Annette Adams
Owner's address, phone, email	1401 East Broad Street, Richmond, VA 23219, 540-273-1008, annette.adams@vdot.virginia.gov		
Services commenced by this firm (mm/yy)	10/17	Total consultant contract cost ($1,000's)	Unknown
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm ($1,000's)	$445.8

In 2017 BDI performed an inspection of one hundred forty-six (146) pin and hanger assemblies. The inspection utilized visual and ultrasonic testing methods including straight beam ultrasonic testing (UT) and phased array ultrasonic testing (PAUT) in accordance with the American Society of Nondestructive Testing (ASNT) and Federal Highway Administration (FHWA) Guidelines for Ultrasonic Inspection of Hanger Pins. During this NDT inspection, BDI obtained irregular results on two of the pins. It was not immediately known what the defect was within the pin so the structure was load posted for 15 tons until a load test and monitoring could be added to the catch system. Within 48 hours of discovering the abnormality, BDI designed, built, and installed a wireless strain gage monitoring system on the catch system at these areas. All of the data was transmitted to BDI's monitoring website and displayed on a web-based platform. The system is also providing alerts via SMS, email, and telephone call if/when thresholds are exceeded. Once the construction was complete, BDI removed all instrumentation.

As a risk mitigation step, VDOT decided to expand the monitoring system to all catch systems on the structuutre as well as perform load tasting for several deficient truss bays. This ongoing monitoring program is set to alert the DOT of any change in stress state the catch system experiences, indicating an in-depth inspection of these areas is required. In 2020, BDI was again tasked to perform NDT on all of the pins, similar to the 2017 inspection. No change in condition were found this time, but the catch system monitoring will be left in place indefinitely.

Scopes of Work Relevant to the contract:

- Assessment of Instrumentation Needs and Instrumentation Plan
- Field Instrumentation Installation
- Instrumentation and Nondestructive Testing
- Data Acquisition and Communication
- Instrumentation Maintenance and Problem Resolution
- Load Testing, Data Analysis

Key Members: Brett Commander, Shane Boone

Firm name	**Bridge Diagnostics, Inc. (BDI)**	Past Performance Evaluation Discipline(s)*	Bridge
Project name	IDIQ Contract for Complex Bridge Load Rating Services Task 5 – Off-System Bridge Ratings and Evaluation Statewide	Firm responsibility (prime or sub?)	Sub
Project number	4400010099	Owner's name	Louisiana Department of Transportation and Development
Project location	Various, Louisiana	Owner's Project Manager	Wei Peng
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802, (225) 379-1486, wei.peng@la.gov		
Services commenced by this firm (mm/yy)	10/21	Total consultant contract cost ($1,000's)	Unknown
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm ($1,000's)	$456

As part of the scope of Task Order 5 of this contract, BDI performed live-load testing and field-verified load ratings on ten (10) off-system structures. These structures were selected from a list of structures that were determined to require load posting based on load ratings previously performed in this contract and included three (3) reinforced concrete slab bridges and seven (7) metal culverts of various types/configurations. These selected structures are intended to be representative of a larger sample set of similar structures that the results are intended to make broader assumptions about the group of bridges as a whole.

Live load tests were performed to aid in evaluating the structures in their current condition. The overall goal of these tests was to better understand the structure's behavior and in turn provide field-verified load ratings for each structure. To achieve this goal, the collected structural responses were used to generate a field-verified finite-element model (FEM) of the structure.

This field-verified FEM was then used to compute field-verifed load ratings according to the AASHTO Manual for Bridge Evaluation (MBE) and the LADOTD Bridge Design and Evaluation Manual (BDEM).

Key Members: Brett Commander, Brice Carpenter, Jesse Sipple

Scopes of Work Relevant to the contract:

- LADOTD Project
- Assessment of Instrumentation Needs
- Instrumentation Plan Preparation
- Field Instrumentation Installation
- Data Acquisition and Communication
- Instrumentation maintenance and Problem Resolution
- Load Testing, Data Analysis, and Load Rating

Firm name	**C. H. Fenstermaker & Associates, L.L.C.**	Past Performance Evaluation Discipline(s)*	Road
Project name	US 90 (I-49 South) Albertson Parkway to Ambassador Caffery – Design Build	Firm responsibility (prime or sub?)	Prime
Project number	H.010620	Owner's name	Louisiana Department of Transportation and Development
Project location	Lafayette Parish, LA	Owner's Project Manager	Peggy Jo Paine, P.E.
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802-4438, (337) 475-4287, Peggy.Paine@la.gov		
Services commenced by this firm (mm/yy)	02/13	Total consultant contract cost ($1,000's)	$4,939
Services completed by this firm (mm/yy)	01/20	Cost of consultant services provided by this firm ($1,000's)	$3,082

US 90 (I-49 SOUTH) was a $69.4 million award-winning construction project to widen U.S. Highway 90 from four lanes to a six-lane, control-of-access facility designed to interstate standards. **Fenstermaker was the lead design firm** with James Construction Group (Primoris) for this high-profile **design-build project**. The design included geometric improvements to several miles of frontage roads; construction of a grade separated, six-lane overpass structure over the existing BNSF railroad facility; a grade separated, six-lane overpass interchange over Albertson Parkway; associated mainline entry/exit ramps to connect overpass structures and frontage roads; new signalized intersections; intersection design; Mechanically Stabilized Earth Retaining Walls (MSEW); and drainage structures.

STAFF TO BE USED IN THIS PROPOSAL

Travis Bodin, PLS, PMP
Dax Douet, P.E.
Luke Hebert, P.E.
Bradford Millett, PLS, EI
Jeanne Hornsby, M.S., P.E., CFM

Firm name	**C. H. Fenstermaker & Associates, L.L.C.**	Past Performance Evaluation Discipline(s)*	Environmental
Project name	Retainer Contract for Environmental Permitting Services: Services: Task Order #1 I-10 E JCT I-49 to Atchafalaya Floodway	Firm responsibility (prime or sub?)	Prime
Project number	SP No. 000758.2	Owner's name	Louisiana Department of Transportation and Development
Project location	Grant Parish, LA	Owner's Project Manager	Maria Reid
Owner's address, phone, email	1201 Capitol Access Rd, Baton Rouge, LA 70802, (225) 242-4511, maria.reid@la.gov		
Services commenced by this firm (mm/yy)	01/15	Total consultant contract cost ($1,000's)	$30.75
Services completed by this firm (mm/yy)	03/16	Cost of consultant services provided by this firm ($1,000's)	$30.75

Task Order #1 of this contract required Fenstermaker to conduct a routine wetland delineation. The proposed project will require pavement rehabilitations and additional travel lanes along I-10, from the east junction of LA HWY 328 continuing eastward to the Atchafalaya Floodway Bridge. The delineation was limited to the existing road ROW. The approximate point-of-beginning was in Breaux Bridge, Louisiana (I-10: E and LA HWY 328 junction) and traversed approximately 6.5 miles eastward to the point-of-ending. Fenstermaker conducted the delineation in accordance with the 1987 U.S. Army Corps of Engineers (COE) Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. The purpose of the wetland delineation was to determine the presence/absence of wetlands using the three technical criteria: vegetation, hydrology, and soils.

STAFF TO BE USE IN THIS PROPOSAL

Christopher Guidry

Firm name	**C. H. Fenstermaker & Associates, L.L.C.**	Past Performance Evaluation Discipline(s)*	Survey
Project name	Underwater Acoustic Imaging for Bridge Inspection Statewide	Firm responsibility (prime or sub?)	Prime
Project number	S.P. No. 700-52-0198	Owner's name	Louisiana Department of Transportation and Development
Project location	Washington Parish, LA	Owner's Project Manager	Haylye G. Brown, P.E.
Owner's address, phone, email	1201 Capitol Access Rd, Baton Rouge, LA 70802, (225) 379-1500, Haylye.Brown@LA.GOV		
Services commenced by this firm (mm/yy)	11/11	Total consultant contract cost ($1,000's)	$114
Services completed by this firm (mm/yy)	11/13	Cost of consultant services provided by this firm ($1,000's)	$114

Fenstermaker was contracted to provide Underwater Acoustic Imaging (UAI) services for the underwater bridge inspection of pier systems for 72 state-maintained bridges. The project scope consisted of an underwater acoustic inspection and evaluation of the submerged components of the piers utilizing a multi-axis, steered beam imaging and profiling remote sensing system with all acoustic data correlated to a Real Time Kinematic (RTK) GPS positioning system. The purpose of the inspection and evaluation was to identify and locate any major damage or deterioration of the pier structures along with a detailed localized inspection of any observed anomalies using both the acoustic imaging system and dive inspection; and identify any localized scour impact or erosion of the surrounding water bottom. The data was processed, and mosaics of the acoustic imagery were generated and included in a report that also documents the findings and recommendations resulting from the UAI and dive inspections.

Firm name	***Meyer Engineers, Ltd.***	Past Performance Evaluation Discipline(s)*	***Other***
Project name	***Causeway Bridge Bascule Bridge Tender's House***	Firm responsibility (prime or sub?)	***Sub***
Project number		Owner's name	***Greater New Orleans Expressway Commission***
Project location	***Jefferson Parish***	Owner's Project Manager	***N/A***
Owner's address, phone, email	***N/A***		
Services commenced by this firm (mm/yy)	***01/22***	Total consultant contract cost ($1,000's)	***$25***
Services completed by this firm (mm/yy)	***On-Going***	Cost of consultant services provided by this firm ($1,000's)	***$25***

The project includes the rehabilitation of the upper two levels of the Bridge Tender's House located on the Causeway Bridge, Lake Pontchartrain, Louisiana. ***Meyer Engineers, Ltd. (Meyer)*** reviewed the existing conditions of the structure, and in conjunction with Gulf South Engineers & Consultants have determined that the Scope of Work is as follows:

- Removing and replacing all existing windows at the operator's level with new, impact resistant glazing. All new glazing will be tinted or have interior shading devices installed to minimize heat gain into the tender's work environment.
- Reconfigure one of the tender's windows into an impact resistant, operable door to allow direct access to the catwalk outside.
- Paint all interior surfaces.
- Remove and replace all finish flooring with new material.
- Remove and replace all furniture/millwork with new construction to facilitate a more efficient layout for tenders.
- Provide better lighting for nighttime operations.
- Reduce ambient noise by installing acoustical absorbent materials.
- Upgrade existing air conditioning units and ventilation.
- Remove and replace stair tread anti-slip strips.
- Recover existing roof surface with new seamless waterproofing membrane.
- Repair access ladder to roof and install new roof safety railings.
- Patch and repair any structural damage within the scope of work.

The lower level holds the critical electronic equipment vital to the operation of the bridge. Even though the room is provided with adequate air conditioning, the dispersal of tempered air from this room percolates into the upper two floors. This adds to the imbalance in the ambient air temperature making it uncomfortable for the tenders. This imbalance will be investigated and will be rectified as part of this project.

Team Members: James Papia, Alfonso Romero

100% of the work for this project was performed in Louisiana. ***Construction Cost: $226K***

Firm name	***Meyer Engineers, Ltd.***	Past Performance Evaluation Discipline(s)*	***Other***
Project name	***Northshore Toll Plaza Renovation***	Firm responsibility (prime or sub?)	***Prime***
Project number	***N/A***	Owner's name	***Greater New Orleans Expressway Commission (GNOEC)***
Project location	***Mandeville, LA (St. Tammany Parish)***	Owner's Project Manager	***Robert Lambert***
Owner's address, phone, email	***3939 Causeway Blvd., Suite 201, Metairie, LA 70002 | P: (504) 835-3118 | E: rlambert@gnoec.org***		
Services commenced by this firm (mm/yy)	***04/02***	Total consultant contract cost ($1,000's)	***$136***
Services completed by this firm (mm/yy)	***11/07***	Cost of consultant services provided by this firm ($1,000's)	***$136***

Meyer Engineers, Ltd. (Meyer) provided new exterior beautification scheme for the entire complex along with renovations to two existing buildings: main office and the garage and landscaping the buildings and toll plaza. The project consisted of miscellaneous modifications to the North Shore Toll Plaza.

The main office renovations consisted of interior and exterior work; computer room, interior and accessible restroom, an exterior accessible public restroom, and provide for accessibility to the building entrance, restrooms, and common areas.

The garage building renovations consisted of interior and exterior work; DWI interview room, employee locker/work room, multi-purpose break room, unisex restroom, tool maintenance office, mechanical/storage room, and electrical/technical room and provide for accessibility to the building entrance, restrooms, and common areas.

Also assisted in the renovation of the Police Auxiliary Building.

Team Members: Elena Anderson

100% of the work for this project was performed in Louisiana. ***Construction Cost: $4.5M***

Firm name	***Meyer Engineers, Ltd.***	Past Performance Evaluation Discipline(s)*	**Other**
Project name	***Retainer Contract for DOTD Rest Area Design, Renovation & Upgrade***	Firm responsibility (prime or sub?)	***Prime***
Project number	***H.003678, H.003729, H.003641, H.003729.5***	Owner's name	***LADOTD***
Project location	***Statewide (Calcasieu, Lincoln, St. Landy & St. Tammany Parishes)***	Owner's Project Manager	***Scott Guinn***
Owner's address, phone, email	***1212 E. Highway Drive, Baton Rouge, LA 70804 | P: (225) 379-1739 | E: scott.guinn@la.gov***		
Services commenced by this firm (mm/yy)	***2011***	Total consultant contract cost ($1,000's)	***$2,800***
Services completed by this firm (mm/yy)	***10/16***	Cost of consultant services provided by this firm ($1,000's)	***$2,500***

Meyer Engineers, Ltd. (Meyer) completed the design of DOTD Rest Area Improvements throughout the State. Rest areas included Slidell I-59 (H.003641, $6 Million), Toomey (I-10 at Texas State Line, H.003729, $8 Million), Grand Prairie (I-49 near Opelousas, H.003691, $2.4 Million) and Butte Larose (I-10, H.003678, $3.8 Million).


Grand Prairie Rest Area


Butte LaRose Rest Area

The improvements included lengthening the entrance ramp and exit ramps from the interstate(s), reconfiguring ramps, car and truck parking lots, restrooms buildings, storage buildings, guard shacks and picnic pavilions. Other site work included concrete curbs, sidewalks, drainage, site grading, exterior lighting, security surveillance, underground electrical service, on-site sewerage treatment plants, modifications to water wells, retaining walls, boat pier, landscaping and irrigation.

Tasks for Meyer included:

- Conceptual layout of sites.
- Preparation of plans and specifications and complete design services for the Rest Area Improvements, all in accordance with DOTD and Facility Planning and Control requirements.
- Developed plan/profile sheets and typical sections of on and off ramps.
- Geometric calculations in accordance with the Green Book.
- Coordination with DOTD, Consultants, Facility Planning and Control, State Fire Marshal and USACE


Slidell I-59 Rest Area


Tremont East Rest Area

Team Members: James Papia

100% of the work for this project was performed in Louisiana.

Construction Cost: $12M

18. Approach and Methodology:

The HDR Team fully understands the Scope of Services and the quality engineering services sought by LADOTD for the IDIQ Contract for Movable Bridge Preservation Statewide listed in the advertisement for Contract No. 4400023909. The HDR team brings over 50 dedicated movable bridge engineers with direct experience in rehabilitation design, support services during construction and emergency response for bascule (single, double leaf, rolling lift), vertical lift, swing, and pontoon bridges. Supporting the Movable Bridge team are over 600 bridge engineers across HDR. **Over the past 5 years, the HDR team has completed over 120 movable bridge repair and rehabilitation projects across the nation including 4 design projects and 3 emergency repairs in Louisiana within the last 3 years.** We have assisted owners including VDOT, VTrans, FDOT, ALDOT, WisDOT, MDOT, and TxDOT in extending the life of their movable bridges, improving load capacity, upgrading to current codes and improving reliability, maintainability and flood resiliency under both federal and state funding requirements utilizing life cycle and cost risk analysis. We are recognized industry wide for movable bridge rehabilitation and maintenance program development, training and troubleshooting as evidenced by our decades-long support of such programs as the VDOT (Maintenance). For example, HDR has provided rehabilitation of over 40 CSXT movable bridges including 12 bascule, 7 Lift, and 22 swing bridges, with control and mechanical systems design standardization. We will use such knowledge and experience to assist LADOTD with its program by bringing many 'lessons learned' toward avoiding risks to scope, schedule, and/or budget. Standardization and criteria establishment, contractor and vendor selection, scheduling of the consultants', contractors', and Department's workloads, are all critical items where we can share insights and assist as requested.

THE HDR TEAM.

Our team is built to deliver with a valuable teaming partner that has longstanding a relationship and a wealth of experience with LADOTD. C.H. Fenstermaker and Associates (CHF) will provide roadway design, environmental permitting, and maintenance of traffic engineering. We have close working relationship with CHF and have several projects in the past across south Louisiana. They will assist with bridge inspections, and underwater divers (as needed). Bridge Diagnostics, Inc. (BDI) , is a well-known company focused on Structural Nondestructive Testing/Evaluation, Load Testing, Monitoring, and Evaluation services. BDI has successfully worked with HDR for more than a decade. APS Engineering and Testing (DBE), has been performing drilling/testing and geotechnical engineering for LADOTD for the past several years and is fully apprised of the process, protocols and procedures that are required by the Department. Meyer Engineering, Ltd will assist with any architecture requirements.

GENERAL BRIDGE ENGINEERING SERVICES.

Bridge/structural inspection and evaluation of existing bridges or other structures (sign trusses, fender systems, etc.).

Many task orders will begin with a site inspection and evaluation which will assist the LADOTD/HDR team to determine what level of repairs and rehabilitation is required. We will provide a site inspection plan and a staffing plan including our Project Manager, movable bridge structural, mechanical, electrical, geotechnical, and architectural subject matter experts, paint specialist and a roadway engineer to identify any right-of-way issues, traffic concerns, and roadway, pavement, sidewalk or curb deficiencies. The engineers assigned to the field work will be those responsible for the design efforts thus improving overall project efficiency. This plan will include an Inspection Access Plan, Temporary Traffic Control Plan, and a Health and Safety Plan to provide for the safety of the public and all personnel involved. Safety is paramount. HDR's Job Hazard Analysis procedure will be followed, supplementing our adherence to LADOTD's Bridge Inspection Manual "Safety Practices".

To reach difficult-to-access features, HDR has Unmanned Aerial Survey (UAS/drone) technology available to capture data from safe and unique vantage points. We also employ snooper truck and Barge Mounted Man-lifts, in coordination with local marine operators and USCG. Lane closures will be required for snooper and man-lift inspections, and various mechanism access. We will coordinate with LADOTD and equipment providers to arrange for the required protection in accordance with MUTCD standards and will work to limit traffic impacts. Site inspections will be followed with documentation of the findings including the Department's needs and preferences based on consultation with Department maintenance staff.

AS-DESIGNED, AS-BUILT, AND CONDITION BRIDGE RATINGS.

HDR's bridge staff performs hundreds of highway bridge load ratings each year, and its broader expertise and resources will be at this project's disposal to help identify critical repairs needed to eliminate load postings where practical. We'll work in accordance with LADOTD's Bridge Design and Evaluation Manual, particularly Section 6A. HDR understands that LADOTD prefers the use of AASHTOWare Bridge Rating (BrR) software package. Our BrR-expert staff are experienced in applying the software to movable bridges as well. This expertise – knowing what component types can be analyzed using BrR, and how to model them – is critical to developing the appropriate analysis approach. For members determined to be infeasible using BrR, HDR will adhere to LADOTD's approved software list.

STRUCTURAL, MECHANICAL, ELECTRICAL, AND ARCHITECTURAL FEASIBILITY, DESIGN, AND PLAN DEVELOPMENT.

Our team will develop **efficient, innovative movable bridge designs which result in construction cost savings and reduced schedules**. For the Bayou Sarah Swing Bridge Replacement for CSX Transportation in Mobile AL, HDR provided plans and construction support for the replacement of the swing span superstructure, mechanical, and electrical systems. The new movable span was floated in with the pivot bearing, rack, track and grillage beams installed, and cast in-place on the existing pivot pier cap. The bridge was open to traffic in less than 15 hours from the start of the outage. This innovative project was designed by HDR in New Jersey by our proposed team and it won the **ACEC NJ Large Project Grand Award in 2020.**The accelerated bridge construction lessons learned on this, and other projects will aid HDR in producing innovative solutions for LADOTD.

Example of unique resources and proprietary technologies, methods or approaches that will be used on this project to improve quality or efficiency: Task Orders (TO) can include a great variety of topics and HDR has resources to cover any need. HDR focuses on innovative construction approaches to minimize outage impacts. An example of where we have done this is the NE 79th Street Movable Bridge Rehabilitation in Miami, FL. For this project, HDR was tasked with the complete replacement of 4 mechanical systems. HDR realized that **significant cost could saved by reusing the existing systems as temporary systems on adjacent bridges**. This focus will benefit these projects by reducing construction time, reducing/ eliminating closures, and improving construction quality.

Steel Painting. Following Paint Assessment recommendations described in Bridge Inspection Services, we will address proper lead abatement in the plans. We will minimize impacts on span operation due to weight and wind resistance of painting enclosures. We will consider replacing lighter deteriorated members with galvanized ones in lieu of painting to reduce blasting/painting time and effort while extending its life.

Steel Deck Systems . Fatigue failures typically occur in open welded grid decks and repairing these welds doesn't address the root cause. HDR has remediated fatigue issues in deck design for several NJDOT projects as well as assisting FDOT with an aluminum deck installation pilot program, and sandwich plate system study. Both technologies are light weight and rapidly replaceable solid decks which preserve main member and bearing capacity while improving rideability, floor system protection, and deck maintenance.

Concrete Repairs. HDR has experience developing plans and specifications that provide lasting repairs for hundreds of bridges across the US. Typical anticipated repairs include preventive sealing, crack injection, and spall repair.

Machinery Repairs. Many older bridge systems do not meet current AASHTO guidelines. We will identify the expected life of key machinery components and the cost and construction impacts associated with upgrades. Obsolescence of brakes, limit switch mounts and anchor bolts can be the root cause of operational reliability issues. Our team will detail rehabilitation of components with new brakes, bushings, bearings, liners, couplings, and gears as required. Machinery supports will be looked at, focusing on anchor bolts, improving alignment and adjustability for proper machinery operation. Our team is experienced in performing span balance testing via strain gauge and hydraulic system pressure readings, and trunnion alignment measurement via piano wiring and 3D scanning.

Motor Drives . Replacing motors and drives can have a cascading effect on other systems such as mechanical, electrical power distribution, and controls systems. Our team will analyze all options including whether rehabilitating the existing motors and/or converting the drives are economical options, and whether increasing power/torque capacity is required due to any structural improvements requiring span weight changes, or new AASHTO wind load criteria. Key issues include future component availability and obsolescence, and proper redundancies and reliability. In case of the hydraulic bridge, our team will consider the use of Variable Frequency Drives to control and power hydraulic pumps eliminating proportional valve controls, which include electronics that become obsolete within 10 years and require complex tuning.

Span-locks. HDR's **innovative wedge-based adjustment system** for span locks allows for simple and precise adjustments. Our span-lock design improves live load transmission between leaves and avoids resulting impact stresses. HDR has designed systems that are easy to construct, maintain, access and highly reliable for clients such as Pinellas County, and FDOT Districts 4 and 6.

Electrical System . In case of deteriorated distribution systems and/or change in power requirements, our team will study repairing, rehabilitating, and/ or modifying existing systems. Improvements may include system voltage upgrades to reduce conductor sizes, multipoint distribution systems, and new generator systems that meet new acoustic and thermal requirements. New generator system sizing will also consider options such as single leaf or reduced speed operation to lower power demand, if needed due to space constraints. In addition, **HDR's innovative submarine duct design** using multiconductor cables pulled through HDPE ducts reduces initial construction costs and lead times, allows for directional drilling installation (eliminating costly and environmental sensitive trenching installation), and future replacement of cables and relining of ducts to extend system life.

Control Systems Upgrade. Our team will provide the latest, proven bridge control systems options so that a new PLC and/or Relay based Systems are reliable, maintenance friendly and have a long lifecycle. Again, an important factor the Department will want to consider is standardization across its movable bridges, for familiarity of its operators, maintenance personnel, service providers, and consultants. Our team will prepare a "Theory of Operation" document summarizing the system's operation for inclusion in the Bridge Operation Manual, to facilitate repairing and troubleshooting of control systems by maintenance staff.

Control House Improvements. Our team of architects and engineers understand the design requirements for improving bridge control house elements such as windows with ineffective seals and locking mechanisms, doors, ceilings, bathrooms and HVAC systems, plumbing and area lighting. We will provide solutions that improve not only operator and maintenance staff comfort, but also operator's sight range, and durability of new elements. Impact-resistant windows for hurricane prone areas will be added if required. Our rehabilitation plans will address handling of hazardous materials such as asbestos, potentially present in existing facility building materials or vintage electrical systems.

Fender System. After assessing whether the current design is adequate to protect the bridge structure – and vessels using the waterway – against the anticipated design loads, our team will determine a cost-effective solution to either repair or replace existing fender systems as needed. HDR has delivered solutions from replacing damaged members with long lasting marine plastic to

full replacement, and innovative solutions like pier mounted fenders to protect against subaqueous impacts. We have also installed monitoring systems that aid in insurance claims for barge impact damage.

Maintenance Access Improvements. We know that if equipment cannot be accessed, it will not be maintained. We have provided cost effective access improvements for many of our clients. Recent examples include machinery access platforms on over a dozen movable bridges for CSX, and for multiple FDOT bridges: Control house access stairs and ladders, and span locks in barrier enclosures that can be accessed from the top of deck.

Roadway Lighting. Our new, replacement and improvement roadway and bridge lighting systems design will include cost-efficient LED lighting systems. Lighting calculations and rendering will be developed to make sure the lighting design is adequate and meets the requirements of Illuminating Engineering Society (IES), local codes, and local agencies and communities. Temporary lighting to adequately light the bridge and approaches during construction will be designed when required. **Our team is also mindful of the need to preserve and enhance historic settings with a lighting design that is not only constructible, efficient and cost effective, but also aesthetically appealing and respectful of the environment in which that design will live.**

SAMPLING, INSTRUMENTATION, AND NDT.

Our team has expertise in advanced inspection techniques, Non-Destructive Testing, Sampling and Instrumentation through Bridge Diagnostics, Inc. (BDI). After planning, BDI will use our in-house resources to support approved NDE, Testing, Monitoring, and Engineering. The success of NDE, testing, and monitoring projects resulting from inspection findings is a well-prepared instrumentation and work plan. **BDI has been performing these engineering services for more than 30 years and is currently developing the FHWA Structural Health Monitoring (SHM) Current Practice and Web Manual to better define these goals industry wide.**

GEOTECHNICAL SERVICES. The engineering team at APS has a diverse background designing both shallow and deep foundations. Led by Sergio Aviles, our geotechnical engineers have extensive training and more than 25 years of field and design experience throughout the state. APS proudly offers a full range of geotechnical analyses and soil testing services, including environmental site assessments, laboratory testing and analysis, soil borings, bridge, building, & road geotechnical design, construction materials testing and construction inspection.

ROAD DESIGN AND TRAFFIC SERVICES. Our subconsultant, CHF engineers have extensive experience in roadway design, hydraulic analysis and design, traffic engineering, traffic control and transportation management plan development. The roadway design will consist of the at-grade portions of the roadway associated with the required construction, replacement, rehabilitation, maintenance, repair and lighting of the bridge structures; while the hydraulic analysis and design and traffic engineering, traffic control and transportation management plans would impact the entire task order. Our engineers will work through LADOTD's project development process. Once the topographic survey is complete, our roadway designers will begin coordinating with HDR on the details of each task order as requested. CHF's engineers will then determine the extent to which the at-grade services, hydraulic analysis and traffic will be required. The design process, if required, would proceed through the standard 30%, 60%, and 90% preliminary and final plans for design development and reviews with LADOTD. Throughout the process, close coordination with HDR would be maintained to verify that the designs connect seamlessly. Appropriate drainage analyses will be conducted to verify runoff from the roadway is conveyed appropriately. Our designers will develop plans and profiles for the roadway as well as cross-sections which allow us to verify constructability of the design and identify any utility conflicts. This prevents delays once the project goes to construction.

Transportation Management Plan (TMP) - The preparation of the TMP will prioritize the safety of vehicles, vessels, pedestrians, and the contractors while complying with required LADOTD standards and criteria. CHF staff supervising the design of TMP have taken the LADOTD Traffic Control Supervisor training, and are familiar with special issues related to TMP near movable spans and are well versed in LADOTD requirements for traffic engineering and the development of TMP's.

BRIDGE INSPECTION SERVICES. There are variations in the NBIS element-based condition criteria between the Movable and Fixed bridge Inspection manuals. Our team will work with LADOTD staff to reconcile the inconsistencies as we have done with VDOT and other agencies in support of asset management system requirements. We will perform the inspections in accordance with NBIS and LADOTD's Bridge Inspection Manual (BIM), including but not limited to Non-Destructive Testing (NDT), Fracture Critical Bridge Members (FCM's), safety practices, inspection and reporting procedures, and QA/QC.

Structural, Mechanical, Electrical, and Architectural inspections will be performed in accordance with the requirements detailed in the Advertisement. The proposed team has inspected hundreds of movable bridges assessing condition and performance of their systems and components to provide recommendations to avoid incipient failures that can affect operational reliability. This provides continuity between inspection, report, & design. In addition, our engineers will evaluate architectural and facilities elements of Control Houses and Machinery Areas.

We will inspect the state of the bridges' paint systems and provide practical recommendations and details for preservation of steel structures. HDR's Gregory Mieczkowski and his team are available to test the existing paint system for adhesion, coating thickness and condition, hazardous material content, and advise on environmentally safe, effective, and economical solutions (full coating removal, overcoat, or spot painting).

After the inspection is completed and before the team departs the site, we will review the findings to verify all elements have been inspected and sufficient detail has been collected to determine staging needs and outage impacts in support of repair cost estimates. We will report critical findings to LADOTD within 24 hours of discovery. We will provide inspection reports that document and quantify inspection findings in a clear, concise and consistent manner, and in accordance with the BIM. Task leads will review and finalize Inspection Reports per our project quality plan.

ENVIRONMENTAL AND PERMITTING SERVICES.

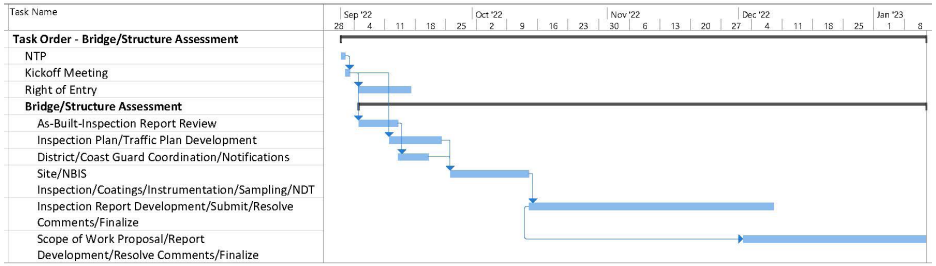
The HDR Team, supported by CHF, will conduct appropriate GIS database evaluations and field surveys for natural and cultural resource to define potential permitting constraints, and work closely with the engineering team to help avoid and minimize impacts to the extent practicable. This approach will help streamline permitting and mitigation plan negotiation. For unavoidable impacts, the HDR Team will prepare and submit the appropriate permit applications and drawings to the regulatory agencies with jurisdiction and regulatory review responsibility over the project (bridge) location and activities. Our approach is to provide Follow-up correspondence will be provided to each regulatory agency until the permits are issued.

Additionally, where the project is in the vicinity of a Completed Federal Civil Works project, the HDR Team will support LADOTD in the evaluation of and submittals for USACE Section 408 reviews and approvals, as requested.

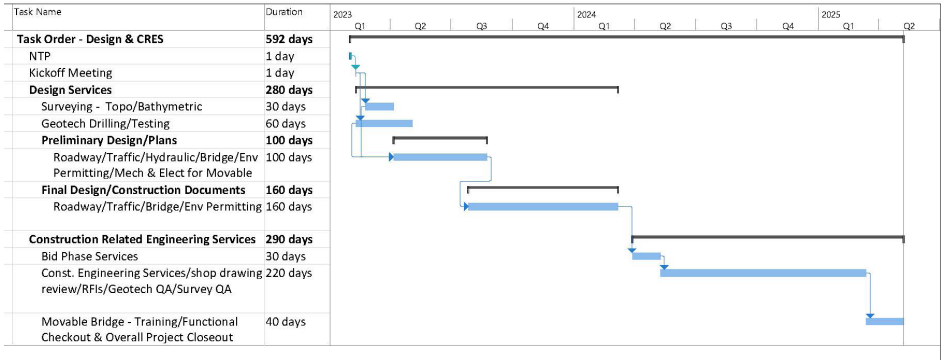
PROPOSED SCHEDULE OF SERVICES.

HDR has provided below a potential layout of tasks that will be necessary to undertake typical assessment and design/CRES task orders for this contract. Our team assumes that a typical process will take place in at least two phases: 1) Bridge/Structure Assessment and 2) Design (PS&E)/CRES.

For phase 1 it will be necessary to inspect/assess the bridge to document the deficiencies, report findings and develop a scope of work/cost for rehabilitation. This could be a combination of traditional site inspections to full NBIS/Fracture Critical Inspections. Our team will develop a comprehensive inspection report that will feed the scope of work proposal/report development with descriptions and repair recommendations.



For phase 2 our team will develop preliminary and final PS&E following the Stage 3 design steps/protocols in the LADOTD BDEM. We will coordinate with LADOTD to verify the traffic control approach and discuss any environmental/ permitting issues. We will determine the required topographic/bathymetric survey limits and potential geotechnical boring/testing needed to develop the preliminary designs. Existing aerial imagery can be used to expedite any preliminary roadway layouts while surveying data collection is taking place. Once final PS&E are developed, our team will work closely with LADOTD during the bidding phase to answer any RFI's or develop any plan addendums as well as attend pre-construction meetings. Once construction begins our engineers of record will review shop drawings/submittals, respond to RFI's and conduct site visits to verify compliance with the contract documents.



HDR WILL WORK AS AN **EXTENSION** OF **LADOTD** TO SUCCESSFULLY DELIVER PROJECTS.

19. Workload:

For all contracts where a firm on the team is a prime consultant or sub-consultant and where a) the consultant selection was made by DOTD, and b) a contract was executed by the consultant and the contracting entity by the date the advertisement for this proposal was posted, list all work meeting the following criteria:

1) one of the team's firms is responsible for the performance of the work;
2) authorization to perform the work has been provided, as provided in the contract between the consultant and the contracting entity;
3) the work has not yet been performed and invoiced; and
4) the work is not currently suspended for an indefinite period of time.

For indefinite delivery/indefinite quantity (IDIQ) contracts, list open Task Orders individually.
List only the portion of the fees attributable to firms on the team.

Firm(s)	Past Performance Evaluation Discipline(s) *	State project number	Project name	Remaining Unpaid Balance**
HDR Engineering, Inc. (Prime)	Other (Hydraulic Modeling)	No. 4400017091	Task Order No. 2 - Louisiana Watershed Initiative (LWI) Statewide Modeling, Region 5	$2,294,782
HDR Engineering, Inc. (Prime)	Other (Hydraulic Modeling)	No. 4400017091	Task Order No. 3 - Louisiana Watershed Initiative (LWI) Statewide Modeling, Region 5	$1,071,340
HDR Engineering, Inc. (Prime)	Planning	H.972419.1	Task Order No. 1 - State Highway Safety Plan (SHSP) Update and Regional SHSP Strategic Marketing and Advertising Support	$28,825
A P S Engineering and Testing, LLC	Geotech	H.013127	Retainer Contract for Geotechnical Services	$53,996
A P S Engineering and Testing, LLC	Geotech	H.013144	Retainer Contract for Geotechnical Services	$45,457
Bridge Diagnostics, Inc.	Bridge	H.009730.5 44 17163	IDIQ Non Destructive Evaluation of Structures via SounDAR Whiskey Bay and Pilot Channel – Task Order 10	$47,869
Bridge Diagnostics, Inc.	Bridge	H.014703.5 44-17163	IDIQ for Non-Destructive Evaluation of Structures Calcasieu Parish – Task Order 9	$25
Bridge Diagnostics, Inc.	Bridge	H.009730.5 44-17163	IDIQ I-10 for Non Destructive Evaluation of Structures Atchafalaya Floodway and I-10 over Whiskey Bay Pilot Channel Bridge decks – Task Order 8	$69,198
Bridge Diagnostics, Inc.	Bridge	H.012280.1 44-09224	IDIQ for testing of Unknown Foundations, Statewide – Task Order 3 – 1802005	$0
Bridge Diagnostics, Inc.	Bridge	H.009730.5 44-17163	Retainer for Non Destructive Evaluation of Structures Task Order 1 General Services BDI1904004	$3,679

Bridge Diagnostics, Inc.	Bridge	H.009730.5 44-17163	Retainer for Non Destructive Evaluation of Structures Task Order 7 Bonnet Carre Spillway 2006002	$94,864
Bridge Diagnostics, Inc.	Bridge	H.009859.5 44-02791	Bonnet Carre & Bayou Ramos Monitoring System Maintenance	$0
Bridge Diagnostics, Inc.	Bridge	H.010603.6 44-02538	Mississippi Bridge at Vicksburg GPS Monitoring – 150901	$2,934
Bridge Diagnostics, Inc.	Bridge	H.012485.1 44-10099	IDIQ for Bridge Load Rating Services Statewide	$0
C. H. Fenstermaker & Associates, L.L.C.	Data Collection, Planning, Survey	Contract No. 4400017090	IDIQ Contract for Louisiana Watershed Initiative (LWI) Region 4 (Task Order No. 2) Acadia, Allen, Beauregard, Calcasieu, Cameron, Sabine, and Vernon Parishes, LA	$1,486,566
C. H. Fenstermaker & Associates, L.L.C.	Data Collection, Planning, Survey	Contract No. 4400017090	IDIQ Contract for Louisiana Watershed Initiative (LWI) Region 4 (Task Order No. 3) Allen, Beauregard, Calcasieu, Cameron, DeSoto, Natchitoches, and Vernon Parishes, LA	$3,580,753
C. H. Fenstermaker & Associates, L.L.C.	Survey	Contract No. 4400017091	IDIQ Contract for Louisiana Watershed Initiative (LWI) Region 5 (Task Order No. 2) Acadia and Evangeline Parishes, LA	$91,206
C. H. Fenstermaker & Associates, L.L.C.	Survey	Contract No. 4400017092	IDIQ Contract for Louisiana Watershed Initiative (LWI) Region 6 (Task Order No. 2) Terrebonne Parish, LA	$153,532
C. H. Fenstermaker & Associates, L.L.C.	Survey	Contract No. 400017092	IDIQ Contract for Louisiana Watershed Initiative (LWI) Region 6 (Task Order No. 3) Assumption Parish, LA	$1,050,046
C. H. Fenstermaker & Associates, L.L.C.	Road	Contract No. 4400020291 S. P. No. H.012869	LA 182 (Univ) @ LA 723 (Renaud) Roundabout Lafayette Parish, LA	$323,697
C. H. Fenstermaker & Associates, L.L.C.	Road	Contract No. 4400005673 S.P. No. H.0011235	I-49 South @ Verot School Road Lafayette Parish, LA	$2,450
C. H. Fenstermaker & Associates, L.L.C.	Road	Contract No. 4400020016 S.P. No. H.011833.5	St. Mary Street Sidewalks Lafayette Parish, LA	$164
C. H. Fenstermaker & Associates, L.L.C.	Planning	Contract No. 4400020960	Discovery NFIP CTP Statewide	$19,974
Meyer Engineers, Ltd.	CE&I/OV	H.001498	LA 24 & LA 316 Company Canal Bridge	$377,489

Meyer Engineers, Ltd.	CE&I/OV	H.007331.6	Pakenham Drive (LA 46 – LA 39)	$4,783
Meyer Engineers, Ltd.	CE&I/OV	H.007175	Lapalco (Victory – Westwood)	$77,014
Meyer Engineers, Ltd.	Road	H.004727	Howard Avenue Extension (Loyola Avenue – LaSalle Street)	$5,693
Meyer Engineers, Ltd.	CE&I/OV	H.014048	S.Tangipahoa Roads Pavement Rehab	$707,683
Meyer Engineers, Ltd.	CE&I/OV	H.001498	LA 24 & LA 316 Company Canal Bridge	$377,489

(Add rows as needed) DO NOT SUM

* The only past performance evaluation disciplines to be used are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and Other. If a firm has more than one past performance evaluation discipline for any single project, the firm can use multiple rows to express the remaining unpaid balance per evaluation discipline.

** Round to the nearest dollar. **Do not** round to the nearest thousands. If there are no active contracts with a remaining unpaid balance, place N/A in the Remaining Unpaid Balance column. LEAVING THE "REMAINING UNPAID BALANCE" COLUMN BLANK IS NOT ACCEPTABLE.

20. Certifications/Licenses:

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

LOUISIANA UNIFIED CERTIFICATION PROGRAM

Disadvantaged Business Enterprise Program (DBE)

Small Business Element (SBE)

This is to certify that under Title 49, Part 26 of the Code of Federal Regulations & under the State of Louisiana United Certification Program (LAUCP)

APS Engineering & Testing, LLC.

Is a Certified Disadvantaged Business Enterprise (DBE) & Small Business Element (SBE) in the following specialties:

NC221310, NC221320, NC541330, NC541370, NC541380, NC541620, NC541690

NOTE: There may be other approved NAICS Codes. The online DBE Directory includes a complete list of approved codes.

Certificate Eligibility: October 2021 to October 2022

This certificate is valid through the above date provided. This firm meets the on-going programmatic standard and fulfills the annual update requirement to remain in good standing as a DBE. This certification is subject to annual verification and suspension or revocation based upon reasonable cause to believe that the firm is ineligible.

Rhonda Wallace

Rhonda Wallace, DBE/SBE Programs Manager

Louisiana Department of Transportation & Development

The American Traffic Safety Services Association

Hereby recognizes that

Sairam Eddanapudi

has attended

Traffic Control Technician-LA State Specific

Training Course

2/5/2019 to 2/5/2019
Date

Baton Rouge, LA
Location

ATSSA
SAFER ROADS SAVE LIVES

Training & Products Dept. Director

President, CEO

The American Traffic Safety Services Association

Hereby recognizes that

Surendra Pathak

has attended

Traffic Control Technician-LA State Specific

Training Course

2/5/2019 to 2/5/2019
Date

Baton Rouge, LA
Location

ATSSA
SAFER ROADS SAVE LIVES

Jessica Naughton
Training & Products Dept. Director

Ryan A. Wentz
President, CEO


ATSSA
AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION
SLOW
This is to affirm that
Brice Carpenter
has satisfied the requirements to be designated as a
CERTIFIED FLAGGER
Expiration Date 10/17/2020
State Issued in LA
Instructor Signature
Verification available by calling 1-877-642-4637 or at http://www.flagger.com

The American Traffic Safety Services Association

Hereby recognizes that

Brice Carpenter

has attended

Traffic Control Supervisor-LA State Specific

Training Course

11/10/16to 11/10/16
Date

New Orleans, LA
Location

SAFER ROADS SAVE LIVES

Training & Products Dept. Director

President, CEO

The American Traffic Safety Services Association

Hereby recognizes that

Charles Young

has attended

Traffic Control Supervisor-LA State Specific

Training Course

06/06/2018
Date

New Orleans, LA
Location

ATSSA
SAFER ROADS SAVE LIVES

Donna M. Clark
Training & Products Dept. Director

Ryn A. Wentz
President, CEO

The American Traffic Safety Services Association

Hereby recognizes that

Charles Young

has attended

Traffic Control Technician - LA State Specific

Training Course

06/05/2018
Date

New Orleans, LA
Location

Donna M. Clark
Training & Products Dept. Director

Ryan A. Wentz
President, CEO

ATSSA
SAFER ROADS SAVE LIVES

The American Traffic Safety Services Association

Hereby recognizes that

Justin Bordelon

has attended

Traffic Control Supervisor Refresher-LA State Specific Training Course

09/28/2018 to 09/28/2018
Date

Lafayette, LA
Location

ATSSA
SAFER ROADS SAVE LIVES

Training & Products Dept. Director

President, CEO


ATSSA
SAFER ROADS SAVE LIVES
AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION
SLOW
This is to affirm that
JUSTIN BORDELON
has satisfied the requirements
to be designated as a
CERTIFIED FLAGGER
Expiration Date 9/28/22
State Issued in LA
Instructor Signature
Verification available by calling 1-877-642-4637 or at http://www.flagger.com

ATSSA TRAINED

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Dax Douet

has attended

Traffic Control Supervisor Refresher-LA State Specific

Training Course

4/5/2021 to 4/5/2025
Training Valid Through

Director of Training

Baton Rouge, LA
Location

President, CEO

ATSSA provides training and certification but neither constitutes employment by ATSSA.

ATSSA American Traffic Safety Services Association ATSSA.com

Certificate of Completion

presented to

Dax Douet

for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: October 1, 2018
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 2.5

Authorized Instructor | *Authorized Instructor* | *Authorized instructor*

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Certificate of Completion

presented to

Dax Douet

for completing the

Traffic Engineering Analysis Process & Report
Module 2

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

Professional Development Hours (PDHs) Awarded: 3.5

Authorized Instructor

Authorized Instructor

Authorized instructor

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Certificate of Completion

presented to

Dax Douet

for completing the

Traffic Engineering Analysis Process & Report
Module 3

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

Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor

Authorized Instructor

Authorized instructor

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT


ATSSA
SAFER ROADS SAVE LIVES
AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION
SLOW
This is to affirm that
has satisfied the requirements
to be designated as a
CERTIFIED FLAGGER
Expiration Date 7/28/22
State Issued in CA
Instructor Signature
Verification available by calling 1-877-642-4637 or at http://www.flagger.com

ATSSA TRAINED

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Diane Hammonds

has attended

Traffic Control Supervisor-LA State Specific

Training Course

4/29/2020 to 4/30/2020
Date

,
Location

Vice President of Member Services

President, CEO

ATSSA American Traffic Safety Services Association ATSSA.com

ATSSA TRAINED

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Diane Hammonds

has attended

Traffic Control Technician-LA State Specific

Training Course

4/28/2020 to 4/28/2020
Date

Baton Rouge, LA
Location

Donna M. Clark
Vice President of Member Services

Alan Tichacek
President, CEO

ATSSA American Traffic Safety Services Association ATSSA.com

Certificate of Completion

presented to

Diane Hammonds

for completing the

Traffic Engineering Analysis Process & Report
Module 1

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

Professional Development Hours (PDHs) Awarded: 4

Authorized Instructor

Authorized Instructor

Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Certificate of Completion

presented to

Diane Hammonds

for completing the

Traffic Engineering Analysis Process & Report
Module 2

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

Professional Development Hours (PDHs) Awarded: 4

Authorized Instructor

Authorized Instructor

Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Certificate of Completion

presented to

Diane Hammonds

for completing the

Traffic Engineering Analysis Process & Report Module 3

Date: October 15, 2018
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor

Authorized Instructor

Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

21. QA/QC Plan and/or Work Plan:

If the advertisement requires submission of a QA/QC plan or Work plan, include them here. Otherwise, leave this section blank.

QA/QC Plan

LADOTD

IDIQ Contract for Movable Bridge Preservation

Contract No. 4400023909

Baton Rouge, LA

May 10, 2022

Contents

Tables

Appendices

1 General Project Information

This plan will be used throughout the duration of the project and will follow the guidelines depicted in the LADOTD Bridge Design and Evaluation Manual – Part I - Policies and Procedures and attachments herein. This project involves the inspection, rehabilitation/replacement of several movable bridge structures.

Client	Louisiana Department of Transportation and Development (LADOTD)
Project Name	*Contract No. 4400023909 – IDIQ Contract for Movable Bridge Preservation*
HDR Project Number	TBD

Rev No.	Description	Date
0	Initial - 4400023909	April 2022

2 Project Purpose and Objective

2.1 Project Background and Purpose

HDR will support the LADOTD with engineering services for bridge preservation as noted below:

From the Scope of Services noted in the advertisement:

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, and 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, analysis for heavy metals, 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

- *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 the 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. 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.*

5. Environmental and Permitting Services

Provide all environmental and permitting services necessary to obtain 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*
- *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*

2.2 Document Objective

The QA/QC Document objective is to describe the best practices for implementing HDR's QA and QC processes on bridge (all disciplines) and structural design work. It will layout a framework that will follow the requirements for the LADOTD Quality Control and Quality Assurance policies and guidance. The **QA/QC processes will be clearly described to verify accuracy in design, plan details, and construction related activities**. As defined in paragraph 3.2 of the Bridge Design and Evaluation Manual Part I – Policies and Procedures:

Quality Assurance (QA): Procedures of reviewing the work to ensure the quality control procedures are in place and effective in preventing mistakes, and consistency in the development of bridge design plans and specifications.

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. .

LADOTD's QA/QC process is outlined with the following steps:

1. Selection of a Qualified Design Team
2. Development of Project Design Criteria
3. Development of Designs and Plan Details by the Designer and Detailer (T,S, & L)
4. Quality Control (QC) of Designs and Plan Details by the Design Checker and The Detail Checker
5. Quality Assurance (QA) of Designs and Plan Details by the Reviewer
6. Peer Review
7. Sealing of Design Calculation Book and Plans by the Engineer of Record (EOR)
8. QA/QC for Design Activities after Final Plans are Signed by Chief Engineer
9. Archiving Bridge Design Files.

As part of the QA/QC Plan herein we will demonstrate the following **criteria**:

A. Understanding of our team's role and responsibility as part of the QA/QC process
B. Understanding of the QA/QC concepts in Bridge Design
C. Responsibilities of roles: Designer, Checker, Reviewer, and Engineer of Record

D. Provide a description of the QA and QC processes and their effectiveness to ensure accuracy in the designs and plan details

E. Identification of our team's personnel qualified to perform the bridge design QA/QC for the designs and plans

F. Illustrate use of QA/QC tools such as checklists, standard forms, training materials that HDR uses throughout the process

3 QA/QC Process and Development

3.1 Selection of a Qualified Team

The team presented in our form 24-102 for this contract describes our team organization and qualifications to deliver this project with the quality and timeliness LADOTD expects. Our team of experts has successfully delivered designs with similar scopes of work nationally for several DOT's. Our roster consists of strong national/regional expertise coupled with local senior staff who have worked with LADOTD for years. Our Project Manager, Wesley Jacobs has been involved with several LADOTD bridge designs over his 23-year career. He is currently serving as the HDR PM for our work on the In-Depth Complex Bridge Inspection contract (subconsultant). We have successfully executed two task orders for the inspection of vertical lift bridges – Red River Bridge in Alexandria, and the Teche Bayou Bridge in Loreauville. Ron Sanchez, our proposed Deputy PM and Structural Lead, has over 20 years of movable bridge design experience and will support Mr. Jacobs as the technical lead for executing this scope of services. Raphael Costa, HDR's National Movable Bridge Program Manager and electrical lead for this contract, has over 20 years' experience in the design and rehabilitation of movable bridges. Our other team members are noted in our organizational chart within our 24-102 and shows the depth of experience and team resources that we have to execute this work efficiently. Matt McGuire has over 20 years' experience and will serve as our mechanical engineering lead. Robert Moses led the HDR National Movable Bridge Program for over 5 years. Throughout his 30-year career he has been involved with numerous movable bridge rehabilitation projects. Robert will serve as our team's overall QA/QC Leader.

3.2 Development of Project Design Criteria

Development of design criteria for each bridge project, at the outset, will be key to the success and quality of the project. The team will use the LADOTD Design Criteria Checklist in *Appendix A* as a base document to build a comprehensive set of criteria to maximize performance of the rehabilitated structure. We will work closely with the LADOTD PM for review and approval of the criteria before any design work begins. The design criteria document will be a "living" document and kept up to date in the event scenarios change as part of the design process. Along with the criteria will be a list of design assumptions which will be referenced in the calculations package as well as the drawings when appropriate.

3.3 Development of Designs and Plan Details by the Designer and Detailer

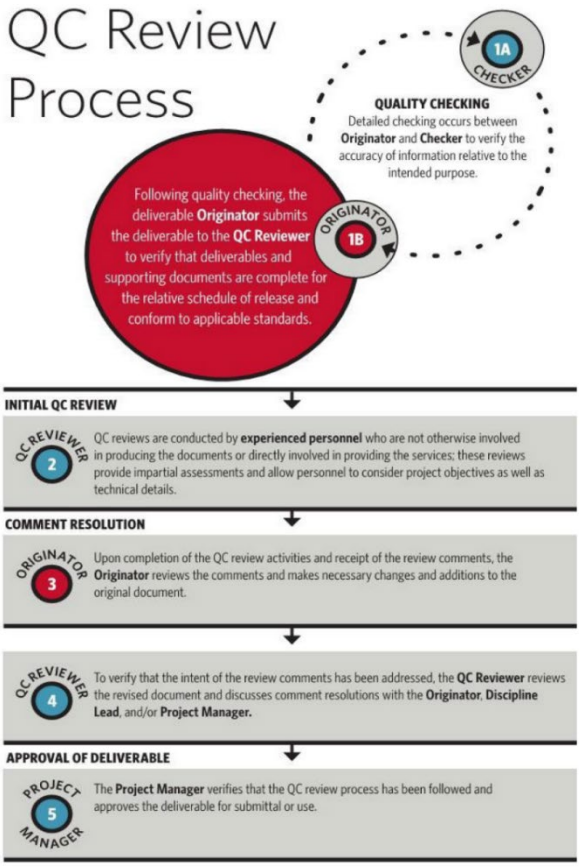
Our team has experience working cohesively to develop comprehensive design packages for multiple projects simultaneously if required. Our engineering leads will be directly responsible for the designs in their purview. They will direct their teams during the development of the design calculations, drawings, special provisions, and cost estimates. The project design criteria will be used as a framework to develop the preliminary plans and submitted to LADOTD for approval prior to proceeding to full design of the bridge components. The multi-disciplined design calculations will be organized in a clear and succinct manner for ease of reference/review. The calculations package will utilize the Final Calculation Book Checklist in *Appendix B* and will include the complete book therein. Close coordination between design engineer and CADD designers will be key to clear, concise sections and details that are consistent with the calculations. We understand that **LADOTD is not responsible for performing QA/QC of our work.**

3.4 Quality Control (QC) of Designs and Plan Details by the Design Checker and The Detail Checker

Our Quality process at HDR is similar to the requirements in the LADOTD BDEM. We **understand the QA/QC concepts that are needed for movable bridge design** in depth and employ them daily on our projects. Ours is a two-step process of checking and independent QC Review. Our design engineers will serve as “Originators” of the particular calculations or plans/details and will be submitted to design checkers as the initial step in the quality process prior to the package going to the independent reviewers. For any design component, we will confirm that the design engineer and the QC Check Engineer are Licensed in LA as Professional Engineers. The comments and markups on the calculations and drawings will be developed and resolved between the two for each discipline. This process will be completed prior to each submittal. The checkers will verify, at a minimum, the accuracy of the following:

- Calculations
- Pay items
- Quantities

- Special provisions
- Cost estimate
- Plans and details
- CAD standards adherence



Once the Checking Process is complete, the package can then be sent to the independent QA Reviewers. These reviewers will be experienced, licensed engineers and will be independent of the actual design to promote objectivity and a "fresh set of eyes" approach. Two methods we typically employ to capture comments/responses is use of a comment log denoting type of comment, location, and the referenced document or the use of Bluebeam Studio Sessions (efficient tool to capture comments/responses/closeout directly within the pdfs). The design engineer will be required to resolve each comment with a final backcheck/closeout (including revised design documents) by each QA reviewer. The overall QA/QC information package **checklist** will serve as the main items to be reviewed and is located in *Appendix C*. Each QA reviewer will be required to sign off that the review is complete, and comments were closed and resolutions verified. Our internal HDR QC Review Form will be used in conjunction with the LADOTD QA/QC Certification document, both located in *Appendix D.* **This process defines the roles and responsibilities of the Designer, Checker, and Reviewers.** Within HDR, we have as part of our Quality Management System (QMS), **best practices, guidelines and checklists** that will be used to supplement the documents provided by LADOTD within the appendices. These best practices not only include checklists and describe how checking/reviews are to be conducted, but they provide guidance on developing review comments:

POOR COMMENTS	GOOD COMMENTS
Have no basis in requirements Attempt to start a discussion (e.g., requests for meetings) Ask open-ended questions Have you thought about …? Why not…? Consider… It might be better to… Although what you show is fine, maybe… I do not understand… Please explain… Repeat earlier comments each time they apply	Cite a specific applicable project requirement Are detailed about what is non-compliant in the design Are clear about the parameters of the fix needed Are made once with references to other places in the document where they apply Can be understood by 3rd party Auditors based on the documents alone Are easily closed if preferential
Example: "As per the suggestions I emailed, have you considered increasing the doodad angle? Let's discuss."	***Example: "The doodad angle of 35 degrees shown on Detail A is below the TP 1.2.3 requirement of 45 degrees (min). Revise details to meet TP 1.2.3 requirements."***

3.5 Quality Assurance (QA) of Designs and Plan Details by the Reviewer

Our reviewers will execute the final step in the quality process and conduct the QA review of the QC and Checking documentation to verify that each area has been completed, applicable processes were followed and every comment was closed out with the appropriate sign-offs. Our reviewers will conduct a final overall cursory review which will focus on constructability of the design/details and look for any "big picture" items which could cause issues during bidding and construction. Certification/review forms will be signed and included with the final package as noted in the requirements. Robert Moses, Herbert Protin and Peter Davis will serve as our Reviewers.

3.6 Peer Review

HDR will work with LADOTD should a peer review be requested by the Bridge Design Administrator. Our team understands that an independent engineering entity will conduct this review and develop a separate set of calculations based on the drawings or perform a review of the provided designs per a set scope of work. Our team will work with LADOTD and peer review to close out any comments that arise out of the process and will use the Peer Review Resolution Agreement form included in *Appendix E*.

3.7 Sealing of Design Calculation Book and Plans by the Engineer of Record (EOR) and Responsibilities

Each project will be assigned one LA PE as the Engineer of Record **(EOR)**, who will be **responsible** to supervise the design, and sign/seal the general notes in the plan set.

The EOR will verify that the names of the designer, design checker, detailer, detail checker and reviewer are correctly shown on the title block of each plan sheets. The EOR will also stamp the plan sheets or designate a designer, design checker, or reviewer who shall be licensed in LA to stamp the sheets developed under their supervision. A seal sheet will be added as a sub-cover sheet to the calculation book which will also be signed by the EOR and the designated LA PE's for their areas of purview/discipline. Finally, the EOR will confirm that special provisions are stamped and accurately shown on the construction proposal.

3.8 QC/QA for Design Activities after Final Plans are Signed by Chief Engineer

Our team understands that the same QC/QA process, as noted herein, will be followed for any plan revisions, change orders or modifications that arise after the Chief Engineer signs the final plans.

3.9 Archiving Bridge Design Files

Our PM / EOR will work with LADOTD to properly archive the bridge design files within 30 days after the final stamped plans are submitted (calculation books, plans, special provisions, cost estimate and other pertinent documents such as plan revisions/modifications) in accordance with Bridge Design Section records retention policy. This policy document is shown in *Appendix F*.

3.10 Construction Related Engineering Services

If needed - Our approach during Construction Related Engineering Services (CRES) will mirror our quality process during design. Per the scope of services, we anticipate that CRES will encompass:

- Pre-construction Meeting
    - PM to coordinate with team members for attendance
- On-call Support/Coordination Meetings
    - PM to coordinate with team members for attendance
    - Minor plan revisions or design changes may be necessary. Any revisions will follow the same checking and reviewing process noted herein.
- Requests for Information (RFI) review and response
    - RFI's will be routed to each design lead as applicable for timely response back to LADOTD. RFI responses will be QC-checked and verified by a discipline-appropriate engineer and reviewed by the PM prior to sending to LADOTD.
- Shop Drawings Reviews
    - PM will route shop drawings to respective design leads for timely review and comment development. We will use a Bluebeam to develop pdf markups or employ the use of a comment log if necessary. Shop drawing

comments will be routed to QC checking reviews prior to submitting back to LADOTD.

- Change Order / Plan Modifications
    - Any change orders/plan modifications will be coordinated by the PM to the design leads and will follow the same quality review/checking process noted herein prior to submittal.
- Mechanical/Electrical Shop Inspections and Testing/Reports
    - PM will coordinate with design leads to perform shop inspections.
    - Testing reports will be routed to QC reviews prior to submitting to LADOTD
- Periodic Site Inspections
    - PM will coordinate with the respective discipline/design leads to attend as needed by the construction process.
    - For each site inspection, a trip report will be developed using a clear and concise template to capture any observations with photos, description of equipment, assemblies inspected and a list of any items not in compliance with the plans and specs. Trip reports will be reviewed by the PM at a minimum prior to submittal to LADOTD.
- Final Inspection/Testing/Report
    - PM will coordinate with the respective design leads to conduct final inspections and testing. The reports will contain observations with photos, descriptions of equipment, assemblies inspected, list of any items not in compliance with the contract documents and a description of testing performed on the mechanical and electrical systems. A summary of any adjustments made along with the performance results will be included. Final reports will be developed and routed to QC review with revisions made prior to submittal to LADOTD.

4 Project Team

The HDR team consists of highly qualified and experienced staff for this Project. Our team offers highly qualified professional personnel with a depth of experience combined with strong managerial skills. **Also as prime, we are responsible for the quality of each of our sub-consultants work and will require them to adhere to the framework of this QC/QA plan as a guide.** They will be expected to conduct their own internal QC reviews, with appropriate sign-offs, prior to submitting their work to us as prime for review**.**

We have presented, in our organizational chart, depth such that multiple rehab designs can be done simultaneously if required. However, the primary structure of our team will be such that the "Leads" will serve as the main engineering designers, with the other senior engineers serving as checkers. Should simultaneous projects be required, the teams will check and review each other's work throughout the design process with our additional engineers to support in reserve as needed. The reviewers are also noted in the org chart and will serve to review each project during the contract period. Our team is **clearly identified in specific roles for design and QC/QA** in Table 2 below. As evidenced by the resumes in our 24-102 form, **our team is highly qualified to perform this work** for LADOTD.

Table 1. LADOTD

Team Members	Address	Contact Information
PM TBD	LADOTD Bridge Design Section	

Table 2. HDR's Project Team

Name	Role	Telephone	Email
Wesley Jacobs	PM / Primary Engineer of Record	225-465-6361	Wesley.Jacobs@hdrinc.com
Robert Moses	Quality Lead / Electrical Reviewer	862-236-1710	Robert.Moses@hdrinc.com
Peter Davis	Constructability/Mechanical Reviewer	862-236-1735	Peter.Davis@hdrinc.com
Herbert Protin	Structural Reviewer	862-236-1717	Herbert.Protin@hdrinc.com
Raphael Costa	Lead Electrical Designer	813-282-5388	Raphael.Costa@hdrinc.com
Jonathan Kohler	Electrical Checker	763-278-5967	Jonathan.Kohler@hdrinc.com
Matt McGuire	Lead Mechanical Designer	503-727-3934	Matthew.McGuire@hdrinc.com
Mike Carlton	Mechanical Checker	813-282-2484	Mike.Carlton@hdrinc.com

Table 2. HDR's Project Team

Name	Role	Telephone	Email
Ronald Sanchez	Deputy PM/Lead Structural Designer	954-661-2032	Ronald.Sanchez@hdrinc.com
David Knickerbocker	Structural Checker	980-337-5061	David.Knickerbocker@hdrinc.com
Jason Clary	CADD/Detailer	225-465-6363	Jason.Clary@hdrinc.com
Jonathan Beaugh	CADD/Detail Checker	337-347-5608	Jonathan.Beaugh@hdrinc.com

Appendix A

Design Criteria Worksheet

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 Railing**

The design criteria, types, and test levels for bridge barrier railings shall be listed in this section. Standard Plans 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 should be listed if they are utilized.

__ **Approach Slab**

Design criteria for approach slab shall be included in this section. Standard Plans 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 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 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 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 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 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 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 should be listed if they are utilized.

__ **Mechanical Design**

All mechanical design criteria shall be included in this section if applicable. Standard Plans should be listed if they are utilized.

__ **Electrical/Lighting Design**

All electrical design criteria shall be included in this section if applicable. Standard Plans 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.

Appendix B

Final Calculation Book Index Checklist

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 (Including the As-Designed Rating Report)**

__ **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.

Appendix C

QA Information Package Checklist

APPENDIX C—QA INFORMATION PACKAGE CHECKLIST

Project No.:
Project Description:

_____ Calculation Book

_____ Plans

_____ Special Provisions

_____ Cost Estimate

_____ Other Documents _____

Appendix D

QA-QC Certification and HDR QC Review Form

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						

QUALITY CONTROL REVIEW FORM

Client: _____ Date Transmitted: _____

Project: _____ Review Deadline: _____

Project No: _____ Actual Review Date: _____

Project Mgr: _____

QC Reviewers: _____ Allocated Hours: _____

Deliverable Reviewed: _____ Actual Hours: _____

Scope of QC Review:

Project Type/Phase:

Study:
- ☐ Concept/Schematic
- ☐ Draft
- ☐ Final
- ☐ _____

Design:
- ☐ Conceptual Design
- ☐ Design Development
- ☐ _____ % Complete
- ☐ Specifications
- ☐ Bid Documents
- ☐ _____

Construction:
- ☐ Progress Review _____ %
- ☐ Site Visit
- ☐ Close Out Review
- ☐ _____

Other:
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Discipline/Area of Review:
- ☐ Architectural
- ☐ Structural
- ☐ Mechanical
- ☐ Electrical
- ☐ Civil
- ☐ Process
- ☐ Instrumentation & Control
- ☐ Geotechnical
- ☐ Environmental
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Denote Comment Method
- ☒ Comments and responses provided on a red-lined document
- ☐ Comments and responses provided on a log sheet
- ☒ Provided as "track changes" on report document
- ☐ Other

Best Practice/Technical Procedure/QC Checklists:
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
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- ☐ _____

Signatures:

_____ _____
QC Reviewer Date

_____ _____
QC Reviewer Acknowledgment of Comment Resolution Date

_____ _____
Project Manager Date

Instructions:
1. Project Manager (or designee) or document originator completes project information and Scope of Review portions of QC Review Form and transmits to QC Reviewer together with deliverable and supporting documentation.
2. QC Reviewer returns reviewed deliverable with comments and signed and dated QC Review Form to document originator.
3. Document originator is responsible for resolving comments with QC Reviewer. Document originator shall provide QC Reviewer with evidence that comments have been reviewed (e.g., reviewed and revised deliverables for verification, memorandum discussing comment resolution, verbal discussion or other form acceptable to QC Reviewer).
4. QC Reviewer signs and dates QC Review Form to acknowledge comment resolution.
5. Project Manager signs and dates QC Review Form acknowledging completion of QC review.
6. QC Review Form is maintained in project files.

NOTE: Signatures can be obtained via actual signatures, electronic confirmation, fax or verbal confirmation. In lieu of actual signatures, the date of verbal or electronic confirmation shall be recorded together with the initial of the recording individual.

Appendix E

Peer Review Resolution Agreement

APPENDIX E—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		

Appendix F

Bridge Design Section Records and Retention Policy

APPENDIX F—BRIDGE DESIGN SECTION RECORDS RETENTION POLICY

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (by General Files)	Archiving Instruction	Responsible Party
001	Design Manuals/Guidance and Bridge Design Technical Memoranda	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project-wise under Documents_Reference Materials\Bridge Design Section Archive\Design Manuals-Guidance	Assistant Bridge Design Administrator responsible for design manuals
002	Bridge Design Standard Plans	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project-wise under Documents_Standard Drawings	Bridge Design Standards Manager
003	Final Plans, Revisions, and Change Orders (CAD files)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project-wise under Project folder\Bridge-Facilities\Discipline\Plans *(Subfolders for each revision and change order should be created under Plans)*	Bridge Task Managers
004	Final Plans, Revisions, and Change Orders (Original signed hard copies)	ACT* + 1 CY**	Final Project Acceptance Date + 5 Years	Transmit to General Files and archive electronically in DOTD Network Plan Room by General Files	Bridge Task Managers
005	Final Plans, Revisions, and Change Orders (Digital signed copies in pdf format, to be implemented)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project-wise under Project folder_Published Submittals\Project Drawings_Final Plans	Bridge Task Managers
006	Shop Drawings , Erection Drawings, RFIs, and Other Construction Submittals (Final Distribution Copy in pdf format)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project-wise under Project folder_Published Submittals\Project Drawings\Construction Submittals\Shop Drawings or Erection Drawings or RFIs or Other Construction Submittals *(See BDTM.49 for instructions)*	Bridge Task Managers

*ACT = End of activity or final project acceptance date for project related items

**CY = Calendar Year

APPENDIX F—BRIDGE DESIGN SECTION RECORDS RETENTION POLICY (CONTINUED)

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (by General Files)	Archiving Instruction	Responsible Party
007	Shop Drawings (Final distribution hard copies and pdf files)	ACT* + 1 CY**	Life of the Agency	Transmit to General Files and archive electronically in DOTD Network Plan Room by General Files (See BDTM.49 for instructions)	Bridge Task Managers
008	Final Design Calculation Files for In-House and Consultant Projects (Stamped calculation book in pdf format, stamped final reports, and final electronic design models)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project-wise under Project Folder\ _Published Submittals\Project Documents\Final Design Calculations & Reports	Bridge Task Managers
009	Bridge Rating Reports	ACT* + 1 CY**	Life of the Agency	Archive electronically in Content Manager under Load Rating.	Bridge Rating Engineer
010	Truck Permits Calculations	ACT* + 1 CY**	Life of the Agency	Archive electronically in a designated folder on the Bridge Design server.	Bridge Rating Engineer
011	Chief Engineer Orders (Bridge Posting)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Content Manager under Chief Engineer Orders.	Bridge Rating Engineer
012	Project Related Correspondences (Original Hard Copies)	ACT* + 1 CY**	Final Project Acceptance Date + 5 Years	Archive electronically in Content Manager under Design Projects. At the end of in office retention period, the hard copies shall be boxed, marked with project number and record item No. with description, and then transmitted to General Files for their handling.	Project Managers/Bridge Task Managers

*ACT = End of activity or final project acceptance date for project related items.

**CY = Calendar Year

APPENDIX F—BRIDGE DESIGN SECTION RECORDS RETENTION POLICY (CONTINUED)

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (by General Files)	Archiving Instruction	Responsible Party
013	Project Related Correspondences (Emails) *(Note: If the email is considered as important project correspondence and needs to be kept for the life of agency, then the email should be printed and treated as item 012.)*	ACT* + 1 CY**	Final Project Acceptance Date + 5 Years	Archive electronically in Project-wise under Project Folder\ _Published Submittals\Project Documents\Project Correspondence Emails	Project Managers/Bridge Task Managers
014	Administrative or Other Types of Correspondences	ACT* + 1 CY**	Life of the Agency	Archive electronically in Content Manager under Bridge Design Subject Files	Everyone

*ACT = End of activity or final project acceptance date for project related items

**CY = Calendar Year

Appendix G

Evaluation Instructions For Consultants QA/QC Plan Document

G.1 - Instructions for Grading the QA/QC Plan

G.2 - QA/QC Plan Document Rating Matrix

G.3 - QA/QC Plan Document Grading Sheet

APPENDIX G—EVALUATION INSTRUCTIONS FOR CONSULTANT'S QC/QA PLAN DOCUMENT

G.1—Instructions for Grading the QC/QA Plan Document

The Bridge Task Manager for the project is responsible for evaluating the QC/QA plan document in accordance with the QC/QA plan document rating matrix (G.2) and completing the grading sheet (G.3). A score shall be given for each of the six evaluation criteria (A-F). An average score of the six evaluation criteria will be calculated. If the average score is above or equal to 3.5, an overall rating of "Excellent" shall be given. If the average score is above or equal to 3 and below 3.5, an overall rating of "Good" shall be given. If the average score is above or equal to 2.0 and below 3, the overall rating of "Acceptable" shall be given. If the average score is below 2.0, the overall rating of "Not Acceptable" shall be given. If an overall rating of "Not Acceptable" is given, justifications must be provided. The grading sheet shall be filled out by the Bridge Task Manager and signed by both the bridge task manager and his or her direct supervisor. The grading sheet for the QC/QA plan document, along with justifications when required, must be transmitted to the Project Manager in writing through a transmittal letter. The overall rating for the QC/QA plan document for each consultant team will be presented to the Secretary in addition to the shortlist.

Prior to performing the evaluation, the Bridge Task Manager must review the FHWA/AASHTO "Guidance on QC/QA in Bridge Design In Response to NTSB Recommendations (H-08-17)" and LADOTD Bridge Design Section QC/QA policies, which are the references for the Consultant to develop their QC/QA plan document. These documents can be downloaded from the DOTD Bridge Design website.

G.2—QC-QA Plan Document Rating Matrix

Evaluation Criteria	QC/QA Plan Document Rating Matrix			
	4 - Excellent	**3 - Good**	**2 -Acceptable**	**1- Not Acceptable**
A. Understanding of Consultant's and DOTD's role in QC/QA of Consultant's work	Demonstrate clear understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.	Demonstrate good understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.	Demonstrate basic understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.	Demonstrate poor understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.
B. Understanding of the QC/QA concepts in Bridge Design	Demonstrate clear understanding of QC/QA concepts in bridge design. Definitions of QC/QA are clearly defined.	Demonstrate good understanding of QC/QA concepts in bridge design. Definitions of QC/QA are clearly defined.	Demonstrate basic understanding of QC/QA concepts in bridge design. The definitions of QC/QA are defined.	Demonstrate poor understanding of QC/QA concepts in bridge design. The definitions of QC/QA are not clearly defined.
C. Responsibilities of Designer, Checker, Reviewer, and Engineer of Record	Responsibilities of Designer, Checkers, Reviewer, and Engineer of Record are clearly defined.	Responsibilities of Designer, Checker, Reviewer, and Engineer of Record are well defined.	Responsibilities of Designer, Checker, Reviewer, and Engineer of Record are defined.	Responsibilities of Designer, Checker, Reviewer, and Engineer of Record are not clearly defined.
D. Description of the QC and QA processes and its effectiveness to ensure the accuracy of the design and the plan details	QC/QA processes are clearly described and should be very effective to ensure the accuracy of the design and the plan details.	QC/QA processes are clearly described and should be effective to ensure the accuracy of the design and plan details.	QC/QA processes are described and should be effective to ensure the accuracy of the design and the construction plan details.	QC/QA processes are not clearly described and do not seems to be effective to ensure the accuracy of the design and the construction plan details.

G.2—QC-QA Plan Document Rating Matrix (Continued)

Evaluation Criteria	QC/QA Plan Document Rating Matrix			
	4 - Excellent	**3 - Good**	**2 -Acceptable**	**1- Not Acceptable**
E. Identification of personnel qualified to perform the bridge design and QC/QA of the design and plan details	The designers and QC/QA personnel are clearly identified and are exceedingly qualified to perform the work.	The designers and QC/QA personnel are clearly identified and are qualified to perform the work.	The designers and QC/QA personnel are identified and are qualified to perform the work.	The designers and QC/QA personnel are not clearly identified or not identified and the qualifications of the personnel identified are questionable.
F. Use of QC/QA tools, such as Checklists, Standard Forms, Training materials, etc.	QC/QA tools, such as checklists, standard forms, training materials, etc., have been developed and well documented. These tools are well suited for the scope and the complexity of the project.	QC/QA tools, such as checklists, standard forms, training materials, etc., have been developed and documented. These tools are suitable for the scope and the complexity of the project.	QC/QA tools, such as checklists, standard forms, training materials, etc., have been developed and are acceptable to be used for this project.	QC/QA tools, such as checklists, standard forms, training materials, etc., have not been developed or the developed ones are not suitable for this project.

G.3—Grading Sheet for the QC/QA Plan Document

Project No.:

Project description:

Prime Consultant	Evaluation Criteria	Score	Overall Rating	Justifications/Comments
Consultant 1	A			
	B			
	C			
	D			
	E			
	F			
	Average			
Consultant 2	A			
	B			
	C			
	D			
	E			
	F			
	Average			
Consultant 3	A			
	B			
	C			
	D			
	E			
	F			
	Average			
Consultant 4	A			
	B			
	C			
	D			
	E			
	F			
	Average			
Consultant 5	A			
	B			
	C			
	D			
	E			
	F			
	Average			

Prepared by: _____ _____ _____
Name Signature Date

Approved by: _____ _____ _____
Name Signature Date

Appendix H

Consultant Project Kick-Off Meeting Agenda Checklist

APPENDIX H—CONSULTANT PROJECT BRIDGE DESIGN KICK-OFF MEETING AGENDA CHECKLIST

A kick-off meeting with the Consultant's bridge design team shall be initiated by the LADOTD Bridge Design Task Manager once the project is awarded. The meeting agenda shall include, but not be limited to, the following items:

__ Introduce LADOTD Bridge Task Manager and the Consultant's Key Team Members (The Supervisor or Team Leader and Key Designers/Design Checkers/Reviewers)

__ Discuss Consultant's Staffing Plan and Implementation of QC/QA Plan Document
(The staffing plan should include names and responsibilities of the designers, detailers, checkers, reviewers, and the EOR.)

__ Determine Schedules for Project Submittals
(Design Criteria, TS & L, 30%, 60%, 90%, 100% of Preliminary Plans and Final Plans, Final Calculations, etc.)

__ Share Expectations and Consultant Rating Criteria
(Consultant rating will be performed for all project submittals shown on the project submittal schedule.)

__ Discuss Design Criteria

__ Discuss Budget, Supplemental Requests, Invoices, and Importance of Avoiding Claims (Staff shown on invoices will be reviewed in accordance with the staffing plan.)

Appendix I

Consultant Submittal QA-QC Certification

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

Appendix J

Project Log Sheet Template

APPENDIX J—PROJECT ACTIVITY LOG SHEET

Project No.:

Project Name:

Bridge Task Manager:

Date	Project Activity	Comments

Appendix K

Consultant Submittal Review Checklist

APPENDIX K—CONSULTANT SUBMITTAL REVIEW CHECKLIST

Items	Submittals												
	Design Criteria	**TS&L**	**30% PP**	**60% PP**	**90% PP**	**100% PP**	**30% FP**	**60% FP**	**90% FP**	**100% 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/Railing 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								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.

Appendix L

Request For Qualifications/Advertisement – Scope of Work/Services

ADVERTISEMENT FOR ENGINEERING AND RELATED SERVICES
APRIL 19, 2022

ADDENDUM NO. 1, APRIL 25, 2022
CONTRACT NO. 4400023909
IDIQ CONTRACT FOR MOVABLE BRIDGE PRESERVATION STATEWIDE

DBE GOAL = 3%

Under the authority granted by Title 48 of Louisiana Revised Statutes, the Louisiana Department of Transportation and Development (DOTD) hereby issues this advertisement for consulting firms to provide engineering and related services. **Consultants who are a Louisiana or foreign LLC or corporation should be appropriately registered with the Louisiana Secretary of State, as contemplated by Title 12 of the Louisiana Revised Statutes, and with the Louisiana Professional Engineering and Land Surveying (LAPELS) Board under its rules for firms. If a consultant is not in good standing in accordance with those provisions, it may be subject to consequences contemplated in Title 12 and/or the LAPELS rules. All requirements of LAPELS must be met at the time the proposal is submitted. Prime consultants must be registered with the Louisiana Secretary of State and the Federal Government, using SAM.gov, prior to contract execution.**

One (1) proposal will be selected for the contract solicited per this advertisement. Only one (1) DOTD Form 24-102 proposal is required for this advertisement, and it represents the prime consultant's qualifications and those of any and all sub-consultants proposed to be used for the referenced contract(s). All identifying contract number(s) should be listed in Section 2 of the DOTD Form 24-102. **USE THE DOTD FORM 24-102, DATED MARCH 1, 2022, PROVIDED WITH THE ADVERTISEMENT.**

Any questions concerning this advertisement must be sent in writing to DOTDConsultantAds80@la.gov no less than 48 hours (excluding weekends and holidays) prior to the proposal deadline.

SCOPE OF SERVICES

The general tasks that the consultant may be required to perform are described more specifically in Attachment A, which is incorporated herein by reference. The selected consultant will perform the specific services covered in an Indefinite Delivery/Indefinite Quantity (IDIQ) contract as detailed in individual Task Orders (TOs), which will specify TO-specific scope of services, contract time, and compensation.

The consultant shall perform the work in accordance with the requirements of this advertisement, the resulting contract, and any TOs issued thereunder. Deliverables shall be in such format as required in Attachment A, unless otherwise specified in an individual TO. The work performed by the consultant shall be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

MINIMUM PERSONNEL REQUIREMENTS (MPRs)

The requirements set forth in Attachment B must be met at the time the proposal is submitted.

EVALUATION CRITERIA

The criteria to be used by DOTD in evaluating responses for the selection of a consultant to perform these services are listed below:

1. firm experience on similar projects, weighting factor of three (3);
2. staff experience on similar projects, weighting factor of four (4);
3. firm size as related to the project magnitude, weighting factor of three (3);
4. past performance on similar DOTD projects, weighting factor of six (6)*****;
5. current work load with DOTD, weighting factor of five (5);
6. approach and methodology, weighting factor of nine (9).

*The consultant is to identify in the table below those evaluation disciplines consistent with the approach and methodology proposed in Section 18 of the DOTD Form 24-102.

THE FOLLOWING TABLE MUST BE COMPLETED AND INCLUDED IN SECTION 12 OF THE DOTD FORM 24-102 PROPOSAL.

Sub-consultants are allowed to be used for this proposal. Fill in the table by identifying only those evaluation disciplines consistent with the approach and methodology proposed in Section 18 of the DOTD Form 24-102*, the name of each firm that is part of the proposal, and the percentage of work in each past performance evaluation discipline to be performed by that firm. The percentage estimated for each evaluation discipline is for evaluation purposes only and will not control the actual performance or payment of the work. The percentages for the prime and sub-consultants must total 100% for each past performance evaluation discipline, as well as the overall total percent of the contract. (Add rows and columns as needed)							
Evaluation Discipline(s)	% of Overall Contract	Prime	Firm B	Firm C	Firm D	Firm E	Each Discipline must total to 100%
							100%
							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%						------

*The past performance evaluation disciplines are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and Other.

If sub-consultants are used, the prime consultant must perform greater than 50% of the work for the overall contract.

Proposals will be evaluated as set forth in the "Evaluation Criteria" section of this advertisement. The evaluation will be by means of a point-based rating system. Each of the above criteria will receive a rating on a scale of one (1) through five (5). The rating will then be multiplied by the corresponding weighting factor. The rating in each category will then be added to arrive at the proposal's final rating.

DOTD's Project Evaluation Team (PET) will be responsible for performing the above described evaluation, and will present a shortlist of the three (3) (if three are qualified), highest rated consultants to the Secretary of DOTD. The Secretary will make the final selection.

COMPLIANCE WITH SUPPLEMENTAL ETHICS REQUIREMENTS

DOTD has established supplemental ethics requirements applicable to consultants and PET members. These requirements are found in the "Supplemental Ethics Requirements" article of the sample contract linked to this advertisement, which are incorporated herein by reference. Any firm that is found to have violated these requirements may not be considered for this selection.

By submission of a proposal to perform services pursuant to this advertisement, the consultant agrees to comply with DOTD's Supplemental Ethics Requirements.

RULES OF CONTACT UPON ADVERTISEMENT

DOTD is the single source of information regarding the contract selection. Any official correspondence will be in writing, and any official information regarding the contract will be disseminated by DOTD's designated representative via the DOTD website. The following rules of contact will apply during the contract selection process, commencing on the advertisement posting date and ceasing at the time of final contract selection. Contact includes face-to-face communication, the use of a telephone, facsimile, electronic mail (email), or formal or informal written communications with DOTD. Any contact determined to be improper, at the sole discretion of DOTD, may result in the rejection of the proposal (i.e., DOTD Form 24-102).

Consultants and consultant organizations shall correspond with DOTD regarding this advertisement only through the email address designated herein; DOTDConsultantAds80@la.gov and during DOTD sponsored one-on-one meetings.

No consultant, or any other party on behalf of a consultant, shall contact any DOTD employee, other than as specified herein. This prohibition includes, but is not limited to, the contacting of: department, office, or section heads, project managers, members of the evaluation teams, and any official who may participate in the decision to award the contract resulting from this advertisement.

DOTD will not be responsible for any information or exchange that occurs outside the official process specified above.

By submission of a proposal to perform services pursuant to this advertisement, the consultant agrees to the communication protocol herein.

CONTRACT TIME

This IDIQ contract shall be in effect for **five (5) years**. **All TOs must be completed by the termination date of the IDIQ contract.** No TO will be initiated unless sufficient contract time remains to complete the TO.

COMPENSATION

The maximum compensation payable to the consultant under the IDIQ contract shall not exceed **$7,000,000**. Compensation to the consultant for services rendered in connection with each TO may be made on the basis of lump sum, actual cost plus a fixed fee, cost per unit of work, or specific rates of compensation, as specified in each TO, subject to the limitation set forth in the IDIQ contract.

Compensation may be either negotiated or non-negotiated as determined by DOTD for each individual TO. When the compensation is negotiated, it will be determined by DOTD based on work hours negotiated between DOTD and the consultant. After notification of selection, a kick-off meeting will be held with the selected consultant and appropriate DOTD personnel. The selected consultant will be required to submit a work hour proposal. All negotiations must be completed within the timeframe set forth in the Consultant Contract Services Manual, unless an abbreviated timeframe is specified in writing by the PM.

DIRECT EXPENSES

To the extent that the consultant is allowed to claim reimbursement for direct expenses, all direct expense items that are not paid for in the firm's indirect cost rate and are needed and will be consumed during the life of the contract must be identified by the consultant during contract development. Standard equipment or resources to be used in the provision of services rendered for this contract will not be considered for payment under direct expenses.

The consultant should own most of the equipment required to provide the work and services. The cost of this equipment should be included in the consultant's indirect cost rate. Equipment may be considered "specialized" if it cannot be considered standard equipment for that particular consultant's normal operating business needs. If a consultant believes special equipment is needed for the contract, the consultant must inquire through the Question and Answer process, as provided herein, whether the identified item will be considered specialized equipment for the individual contract.

To the extent that direct expenses are authorized to be compensated pursuant to a particular TO, all travel related expenses will be compensated under direct expenses, and will be in accordance with the most current Louisiana Office of State Travel regulations as promulgated in the Louisiana Administrative Code under the caption "PPM No. 49", with the exception that compensation for vehicle usage will be based on actual miles traveled directly and exclusively related to project needs. Vehicle rental rates will require prior approval from the PM.

QUALITY ASSURANCE/QUALITY CONTROL

The Scope of Services provided in Attachment A includes design of one (1) or more bridges and/or component parts thereof. The prime consultant shall submit a bridge design QA/QC plan document specifically developed for this contract as part of the DOTD Form 24-102. The QA/QC plan document must comply with the minimum requirements in the DOTD Bridge Design Section Policy for QA/QC as stated in Part I, Chapter 3 of the DOTD Bridge Design & Evaluation Manual (BDEM). The grading instructions, the rating matrix, and the grading sheet for the QA/QC plan document are included in Appendix G of the BDEM Part I, Chapter 3 – Policy for QA/QC. The QA/QC plan document shall be prepared to address all evaluation criteria included in the rating matrix. The QA/QC plan document must be implemented for all bridge design activities in both design phase and construction support phase of the contract. The prime consultant is fully responsible for QA/QC of their work as well as the work of all sub-consultants. All contract proposals must include a QA/QC certification that the proposals meet the requirements of the QA/QC plan document. Attach the QA/QC plan in Section 21 of the DOTD Form 24-102.

If Attachment A includes specific QA/QC requirements that contradict those set forth above, the requirements in Attachment A control.

TRAFFIC ENGINEERING PROCESS AND REPORT TRAINING REQUIREMENTS

As part of DOTD's on-going commitment to high quality traffic engineering reports, a traffic engineering training course must be taken by traffic engineering PEs and EIs in order to be eligible to work on DOTD projects. When traffic is included as a discipline on which past performance is evaluated, for consultants performing traffic engineering services (i.e., traffic analysis throughout all DOTD project stages and/or QC of traffic analysis), appropriate personnel must successfully complete the three (3) modules of the Traffic Engineering Process and Report Course offered by Louisiana Transportation Research Center (LTRC). This Course must be completed no later than the time the proposal is submitted or show proof of registration for the Course from the LTRC's Registration site. **Copies of training certificates or proof of registration are to be included in Section 22 of the proposal."** It will be the prime consultant's responsibility to ensure their staff and sub-consultants complete the training. Copies of training records may be obtained from the LTRC website https://registration.ltrc.lsu.edu/login.

WORK ZONE TRAINING REQUIREMENTS

As part of DOTD's on-going commitment to work zone safety, required work zone training courses must now be taken every four (4) years in order for personnel to remain eligible to work on DOTD projects. For consultants performing preconstruction services (*e.g.*, design, survey, subsurface utility, geotechnical, traffic, bridge inspection, environmental services), appropriate personnel must successfully complete these courses. In general, the person in responsible charge of traffic control plans shall be required to have Traffic Control Supervisor training. For preconstruction field services performed within the clear zone, at least one (1) member of the field crew shall have Traffic Control Supervisor or Traffic Control Technician training. The consultant should identify all personnel listed in the staffing plan for the contract who have completed the appropriate work zone training courses. All preconstruction work zone training requirements shall

be met **prior to contract execution**. It will be the prime consultant's responsibility to ensure their staff and sub-consultants have the appropriate work zone training.
In addition to the above requirements, if the Scope of Services set forth in Attachment A includes Construction Engineering and Inspection (CE&I), the following training requirements shall be met **at the time the proposal is submitted**:

Field Engineers:	Traffic Control Technician Traffic Control Supervisor Flagger
Field Engineer Interns:	Traffic Control Technician Traffic Control Supervisor Flagger
Field Senior Technicians, Survey Party Chiefs, and SUE Worksite Traffic Supervisors*:	Traffic Control Technician Traffic Control Supervisor Flagger
Other Field Personnel*:	Traffic Control Technician Flagger

* excluding Asphalt Plant Inspector, Paint Managers, and Paint Inspectors

Approved courses are offered by ATSSA and AGC. Substitutes for these courses must be approved by the DOTD Work Zone Task Force. For more information, please contact DOTD HQ Construction at 225-379-1584. Specific training course requirements are:

Flagger:	Successful completion every four (4) years of a work zone flagger course approved by the Department. The "DOTD Maintenance Basic Flagging Procedures Workshop" is not an acceptable substitute for the ATSSA and AGC flagging courses.
Traffic Control Technician (TCT):	Successful completion every four (4) years of a work zone traffic control technician course approved the Department. After initial successful completion, it is not necessary to retake this course every four (4) years if Traffic Control Supervisor training is completed every four (4) years.
Traffic Control Supervisor (TCS):	Successful completion of a work zone traffic control supervisor course approved by the Department. Following an initial completion, traffic control supervisors must either complete a one (1)-day TCS refresher course or retake the original two (2)-day TCS course every four (4) years.

ATSSA contact information: (877) 642-4637

REFERENCES

All services and documents will meet the standard requirements as to format and content of DOTD and will be prepared in accordance with the latest applicable editions, supplements, and revisions of the following:

1. AASHTO Standards – The American Association of State Highway Transportation Officials https://www.transportation.org/
2. AASHTO – A Policy on Geometric Design of Highways and Streets – https://bookstore.transportation.org/collection_detail.aspx?ID=110
3. AASHTO – LRFD Bridge Design Specifications
4. AASHTO – LRFD Moveable Highway Bridge Design Specifications
5. AASHTO – Manual for Bridge Evaluation
6. AASHTO – Manual for Maintenance Inspection for Bridges
7. AASHTO – Roadside Design Guide
8. AASHTO – Standard Specifications for Structural Supports of Highway Signs, Luminaires, and Traffic Signals
9. AASHTO – Standard Specifications for Transportation Materials and Methods of Sampling and Testing
10. AREMA – Manual for Railway Engineering
11. ASTM Standards – https://www.astm.org/BOOKSTORE/BOS/index.html
12. DOTD – "A Guide to Constructing, Operating, and Maintaining Highway Lighting Systems" http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Manuals/Other%20Manuals%20-%20Guidelines/Highway%20Lighting%20Systems%20Guide.pdf
13. DOTD – Bridge Design and Evaluation Manual (BDEM) – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/BDEM.aspx
14. DOTD – Bridge Design Technical Memoranda http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/Technical-Memoranda.aspx
15. DOTD – Complete Streets – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Highway_Safety/Complete_Streets/Pages/default.aspx
16. DOTD – Construction Contract Administration Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Pages/Engineering_Docs.aspx
17. DOTD – Consultant Contract Services Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Manuals/CCS%20Manual%20rev%20Dec%202020.pdf
18. DOTD – Geotechnical Engineering Services Document http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Pavement_Geotechnical/Geotechnical%20Guidelines/Geotechnical%20Services%20Document.pdf

19. DOTD – Guidelines for Bridge Rating and Evaluation - http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/ArchivedManuals.aspx?RootFolder=%2FInside%5FLaDOTD%2FDivisions%2FEngineering%2FBridge%5FDesign%2FArchived%20Manuals%2FArchived%20Manuals%20and%20Guidelines&FolderCTID=0x01200084340536722233488C440AF8CD1E3DFC&View={C2391445-456F-42D3-99F9-6FDF6156AF35}
20. DOTD – Hydraulics Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Public_Works/Hydraulics/Documents/Hydraulics%20Manual.pdf
21. DOTD – Location and Survey Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location_and_Survey_Manual.pdf
22. DOTD – Addendum "A" to the Location & Survey Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location%20and%20Survey%20Manual%20-%20Addendum%20A.pdf
23. DOTD – Louisiana Standard Specifications for Roads and Bridges – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Standard_Specifications/Pages/Standard%20Specifications.aspx
24. DOTD – Maintenance Directives – http://spindex-2:8181/Inside_LaDOTD/Divisions/Operations/BridgeMaintenance/Pages/ArchivedDocs.aspx
25. DOTD – Materials Sampling Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_MSM.aspx
26. DOTD – Minimum Design Guidelines – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Memoranda/Minimum%20Design%20Guidelines.pdf
27. DOTD – Off-System Highway Bridge Program Guidelines – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Manuals/Other%20Manuals%20-%20Guidelines/2019%20Federal%20Aid%20Off-System%20Highway%20Bridge%20Program%20Guidelines.pdf
28. DOTD – Roadway Design Procedures and Details Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Pages/Road-Design-Manual.aspx
29. DOTD – Stage 1 Planning/Environmental Manual of Standard Practice – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Environmental/Pages/Stage_1.aspx
30. DOTD – Testing Procedures Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_TPM.aspx

31. DOTD – Traffic Engineering Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Misc%20Documents/Traffic%20Engineering%20Manual.pdf
32. DOTD – Traffic Engineering Process and Report – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/ManualsPublications/Pages/TEPR.aspx
33. DOTD – Traffic Signal Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Traffic%20Control/Traffic%20Signal%20Manual%20V3%20-%207.1.20.pdf
34. e-CFR – Electronic Code of Federal Regulations (all applicable) – https://ecfr.io/
35. CFR 23 National Bridge Inspection Standard – https://www.fhwa.dot.gov/bridge/nbis.cfm
36. FHWA – Bridge Inspector's Reference Manual (BIRM) –
    website: https://www.fhwa.dot.gov/bridge/nbis.cfm
    manual: https://www.fhwa.dot.gov/bridge/nbis/pubs/nhi12049.pdf
37. FHWA – Inspection of Fracture Critical Bridge Members – https://rosap.ntl.bts.gov/view/dot/54168
38. FHWA-IF-09-014 Load Rating Guidance and Examples for Bolted and Riveted Gusset Plates in Truss Bridges, February 2009 – https://rosap.ntl.bts.gov/view/dot/49981
39. FHWA – Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) – http://mutcd.fhwa.dot.gov/
40. National Electrical Safety Code (NESC) – https://standards.ieee.org/products-services/nesc/index.html
41. NFPA 70 – National Electrical Code (NEC) – https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70
42. NEPA – National Environmental Policy Act – https://www.epa.gov/nepa

CONTRACT EXECUTION REQUIREMENTS

The selected consultant will be required to execute the contract within ten (10) days after receipt of the contract.

A sample of the contract provisions can be found at the following link: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Pages/Advertisements.aspx.

DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENT

This advertised contract has a Disadvantaged Business Enterprise (DBE) goal of **3%** of the contract fee. Credit for DBE participation will be limited to the firms certified pursuant to the Louisiana Unified Certification Program. For convenience, DOTD provides a list on its website

(http://www8.dotd.la.gov/UCP/UCPSearch.aspx) of firms that have been certified as eligible to participate as DBEs on US DOT assisted contracts. This list is not an endorsement of the quality of performance of any firm but is simply an acknowledgment of the listed firms' eligibility as a DBE. DOTD makes no representations of the accuracy or completeness of this list on any particular date or time. Prime consultants considering the use of a particular DBE sub-consultant are advised to obtain documentation of certification status from that sub-consultant prior to submission of DOTD Form 24-102.

Prime consultants must specify by firm name in Section 11 on the DOTD Form 24-102 all DBE firms which the prime intends will participate in providing services under the contract to meet the DBE goal and indicate for each the percent of the contract fee for the services that will be performed by each specified DBE firm. If the prime did not succeed in obtaining enough DBE participation to meet the goal, it must attach to the DOTD Form 24-102, behind Section 23, documentation of its good faith efforts to meet the goal.

SECONDARY SELECTION PROCESS

When multiple IDIQ contracts with similar scopes of service are available within a DOTD Section that is prepared to issue a TO, the TO selection procedures set forth in Attachment C shall be used to award that TO. Documentation of the selection process shall be retained by DOTD.

REVISIONS TO THE ADVERTISEMENT

DOTD reserves the right to revise any part of the advertisement by issuing addenda to the advertisement at any time. Issuance of this advertisement in no way constitutes a commitment by DOTD to award a contract. DOTD reserves the right to accept or reject, in whole or part, all DOTD Form 24-102s submitted, and/or cancel this consultant services procurement if it is determined to be in DOTD's best interest. All materials submitted in response to this advertisement become the property of DOTD, and selection or rejection of a proposal does not affect this right. DOTD also reserves the right, at its sole discretion, to waive administrative informalities contained in the advertisement.

CLARIFICATIONS

DOTD reserves the right to request clarification of ambiguities or apparent inconsistencies found within any proposal, if it is determined to be in DOTD's best interest.

PROPOSAL REQUIREMENTS

The consultant's proposal for this advertisement must be submitted by email to DOTDConsultantAds80@la.gov. **USE THE DOTD FORM 24-102, DATED MARCH 1, 2022, PROVIDED WITH THE ADVERTISEMENT.** Hard copies of the consultant's proposal are not required. All proposals must be in accordance with the requirements of this advertisement, and the Consultant Contract Services Manual. Unless otherwise stated in this advertisement, copies of licenses and certificates are not required to be submitted with the proposal.

If more than one (1) contract is to be selected based on this advertisement, no prime consultant is allowed to be a sub-consultant on any other consultant's 24-102. If a prime consultant is submitted as a sub-consultant on another consultant's 24-102, its proposal as a prime consultant may be deemed non-responsive.

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.

DOTD employees may not submit a proposal, nor be included as part of a consultant's proposal.

Contract and/or part-time employees are allowed. Such employees should be shown in Section 14 of the DOTD Form 24-102 with an asterisk denoting their employment status.

The DOTD Form 24-102 should be identified with **contract number 4400023909,** and must be received by DOTD via email **no later than 3:00 p.m. CST** on **Tuesday, May 10, 2022**.

ATTACHMENT A – SCOPE OF SERVICES

The project time is **typical**.
The route classification is **Non-NHS State.**

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, and 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:

<u>Sampling</u>

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

<u>Instrumentation</u>

- 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

- 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 the 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. 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.

5. Environmental and Permitting Services

Provide all environmental and permitting services necessary to obtain 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
- 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 Manger 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: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Electronic_Plans_Delivery/Pages/default.aspx

SERVICES TO BE PERFORMED / ITEMS TO BE PROVIDED BY DOTD

If available, the DOTD will provide the following information as applicable:

- Existing survey, plans, details, and design information
- Pavement design
- Hydraulic data
- Traffic data
- Standard Plans and Special Details
- As-built plans
- Access to General Files for viewing available plans, details, and records
- Access to Virtis input tables for On-System Bridges
- DOTD design and rating manuals, policies, and guidelines

ELECTRONIC DELIVERABLES

Consultant hereby agrees to produce electronic deliverables in conformance with DOTD Software and Deliverable Standards for Electronic Plans document in effect as of the effective date of the most recent contract action or modification, unless exempted in writing by the Project Manager. Consultant is also responsible for ensuring that sub-consultants submit their electronic deliverables in conformance with the same standards. DOTD Software and Deliverable Standards for Electronic Plans document and DOTD CAD Standards Downloads are available via links on the DOTD web site.

Consultant shall apply patches to CAD Standard Resources and install incremental updates of software as needed or required. Consultant hereby agrees to install major updates to software versions and CAD Standard Resources in a timely manner. Major updates of CAD standards and software versions shall be applied per directive or approval of the DOTD Design Automation Manager. Such updates will not have a significant impact on the plan development time or project delivery date, nor will they require Consultant to purchase additional software. Prior to proceeding with plan development, Consultant shall contact the Project Manager for any special instructions regarding project-specific requirements.

In the event that any Digital Plan Delivery Standard conflicts with written documentation, including DOTD plan-development Manuals, the Digital Plan Delivery Standard governs. Consultant is responsible for contacting the Project Manager should questions arise.

Consultant shall upload (or check in) electronic deliverables directly into the DOTD ProjectWise repository at each plan delivery milestone. Consultants are responsible for performing certain operations at each milestone including, but not limited to, the following:

- Upload (or check in) CAD plan deliverables to the discipline “Plans” folder
- Apply and maintain indexing attributes to CAD plans (and other deliverables as needed)

- Publish PDF format plan submittals in ProjectWise using automated publishing tools
- Digitally sign PDF format plan submittals in ProjectWise according to DOTD standards and procedures (Final Plans, Revisions and Change Orders). Signatures shall be applied in signature blocks provided with electronic seals and Title Sheets.

Additionally, after reviewing deliverables for each submittal milestone, the Project Manager shall notify Consultant regarding the availability of two automatically-generated informational reports in ProjectWise. These reports document the completion status and other information regarding indexing attributes and CAD standards. Consultants shall take these reports into account and make any necessary adjustments to plans before the next submittal milestone; or sooner, if directed by the Project Manager.

SPECIFIC SOFTWARE AND / OR EQUIPMENT DESIRED

A list of pre-approved commercially available software is posted on the bridge design website at the following location: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/QC-QA.aspx

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.

ATTACHMENT B – MINIMUM PERSONNEL REQUIREMENTS (MPRs)

The following requirements must be met at the time the proposal is submitted:

1. At least one (1) principal of the prime consultant shall be a registered professional engineer in the state of Louisiana.
2. At least one (1) principal or other responsible member of the prime consultant shall be currently registered in the state of Louisiana as a professional engineer in civil engineering.
3. At least one (1) principal or responsible member of the prime consultant shall be a professional civil engineer, registered in the state of Louisiana, and shall have a minimum of ten (10) years of experience in responsible charge of fixed and movable bridge design.
4. At least one (1) professional mechanical engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in designing and rehabilitating mechanical systems for movable bridges.
5. At least one (1) professional electrical engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in designing and rehabilitating electrical systems for movable bridges.
6. At least one (1) professional civil engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of structural experience in designing and rehabilitating movable bridges.
7. At least one (1) professional architect, licensed in the state of Louisiana, shall have a minimum of five (5) years of experience in designing movable bridge operator houses or commercial facilities.
8. At least one (1) professional civil engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of design experience in various bridge structures including, but not limited to, concrete and steel girder bridges.
9. At least one (1) professional mechanical engineer, registered in the state of Louisiana, shall have a minimum of five (5) years of experience in designing plumbing and HVAC systems.

MPRS ARE TO BE MET BY SEPARATE INDIVIDUALS OF THE PRIME CONSULTANT, UNLESS STATED OTHERWISE BELOW.

MPR Nos. 1 through 3 may be met by the same person.

MPR Nos. 4 and 9 may be met by the same person, if a member of the prime consultant.

MPR Nos. 7 through 9 may be satisfied through the use of a sub-consultant(s).

NOTE: WHEN SATISFYING A MINIMUM PERSONNEL REQUIREMENT, PLEASE ENSURE THE RÉSUMÉ REFLECTS REQUIRED EXPERIENCE AS REQUESTED.

- Please note the number of MPRs are minimal; however, all relevant personnel necessary to perform the Scope of Services must be identified in Section 14 of the DOTD Form 24-102 and their resumes included in Section 16 of the DOTD Form 24-102.

ATTACHMENT C – SECONDARY SELECTIONS FOR TASK ORDERS

Procedures for selecting among IDIQ contracts for issuance of Task Orders – Section 25 Bridge Design

If the proposed new TO is to be issued for the purpose of extending services related to services performed under a previously issued TO by a particular consultant with whom DOTD has an existing IDIQ contract containing the appropriate scope of services and with time and funding capacity available sufficient to support the issuance of the new TO under said contract, then that consultant's contract will be tasked.

Otherwise, when more than one IDIQ contract is available for the provision of the services required, the following procedure will be employed to determine which of the IDIQ contracts will be tasked.

1. Identify all IDIQ contracts that apply – type/scope of work in contract
    a. If applies, move to next step
    b. If does not apply, then cannot use the contract

2. Determine if there is sufficient time remaining on the contract to complete the work
    a. If yes, proceed to next step
    b. If no, then cannot use the contract

3. Determine if there is sufficient compensation remaining on contract to complete the work
    a. If yes, proceed to next step
    b. If no, cannot use the contract

4. Determine if specialty tasks are required or if timing of performance is critical
    a. If yes, can the consultant perform the work, as needed? (Consideration may be given to experience with task(s), current workload, and past performance.)
        i. If yes, the consultant can perform the work, then proceed to next step
        ii. If no, the consultant should not or is not able to perform the work, do not use the contract. Document the reasons, *e.g.*, the consultant is less experienced, past performance indicates that the consultant may have difficulty with task(s), the consultant has multiple jobs ongoing for DOTD so timeliness may be an issue, etc.
    b. If no specialty tasks or timeliness issues are present, then proceed to the next step.

5. If more than one IDIQ contract reaches this step, then they will be distinguished from one another by the consultants': 1) familiarity or experience with the services required; 2) locality, where a local presence will add value to the quality and efficiency of the project; or 3) the amount of remaining contract time or remaining available compensation.
    a. Select the contract whose consultant is most familiar or experienced with the services required.

b. If the consultants are equal regarding familiarity/unfamiliarity with the services required, then select the contract whose consultant is local to the project area, provided that a local presence will add value to the quality and efficiency of the project.
c. If the consultants are equal on the criteria of familiarity and experience with the services required and locality, if applicable, then select the contract with the most available time or the most available compensation on the contract, with due consideration given to the risks involved and the needs of the project.

22. Sub-consultant information:

If one or more sub-consultants will be used, provide the name, address, point of contact and phone number for each. Otherwise, leave this section blank.

Firm Name (as registered with Louisiana's Secretary of State)	**Address**	**Point of Contact and email address**	**Phone Number**
A P S Engineering and Testing, LLC	1645 Nicholson Drive, BR, LA 70802	Sergio Aviles sergio@aps-testing.com	225.456.5714
Bridge Diagnostics, Inc.	740 S. Pierce Ave, Unit 15 Louisville, CO 80027	Scott Aschermann scotta@bditest.com	303.494.3230
C. H. Fenstermaker & Associates, L.L.C.	135 Regency Square Lafayette, LA 70508	Dax Douet, P.E. dax@fenstermaker.com	337. 237.2200
Meyer Engineers, Ltd.	4937 Hearst Street, Suite 1B Metairie, LA 70001	James Papia, AIA, NCARB, CSI jpapia@meyer-e-l.com	504.885.9892

23. Location:

If location is an evaluation criterion for this advertisement and the prime consultant intends to establish a local presence, describe the plan for doing so. Otherwise, leave this section blank.